

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE FISCAL YEAR ENDED DECEMBER 31, 2020
OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE TRANSITION PERIOD FROM _____ TO _____
COMMISSION FILE NUMBER 001-34295

SIRIUS XM HOLDINGS INC.

(Exact name of registrant as specified in its charter)

Delaware
*(State or other jurisdiction of
incorporation or organization)*

38-3916511
(I.R.S. Employer Identification No.)

1221 Avenue of the Americas, 35th Floor, New York, NY
(Address of Principal Executive Offices)
10020
(Zip Code)

Registrant's telephone number, including area code: (212) 584-5100
Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of exchange on which registered
Common stock, \$0.001 par value	SIRI	NASDAQ Global Select Market

Securities registered pursuant to Section 12(g) of the Act: None.

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.:

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>	Non-accelerated filer	<input type="checkbox"/>
Smaller reporting company	<input type="checkbox"/>	Emerging growth company	<input type="checkbox"/>		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

The aggregate market value of the registrant's common stock held by non-affiliates as of June 30, 2020 was \$6,902,732,943. All executive officers and directors of the registrant have been deemed, solely for the purpose of the foregoing calculation, to be "affiliates" of the registrant.

The number of shares of the registrant's common stock outstanding as of January 29, 2021 was 4,139,978,947.

DOCUMENTS INCORPORATED BY REFERENCE

Information included in our definitive proxy statement for our 2021 annual meeting of stockholders scheduled to be held on Thursday, June 3, 2021 is incorporated by reference into Items 10, 11, 12, 13 and 14 of Part III of this report.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
2020 FORM 10-K ANNUAL REPORT
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PART I

ITEM 1. BUSINESS

This Annual Report on Form 10-K presents information for Sirius XM Holdings Inc. (“Holdings”), a Delaware corporation. The terms “Holdings,” “we,” “us,” “our,” and “our company” as used herein and unless otherwise stated or indicated by context, refer to Sirius XM Holdings Inc. and its subsidiaries. “Sirius XM” refers to our wholly owned subsidiary Sirius XM Radio Inc. and its subsidiaries other than Pandora. “Pandora” refers to Sirius XM’s wholly owned subsidiary Pandora Media, LLC and its subsidiaries.

Sirius XM Holdings Inc.

Holdings was incorporated in the State of Delaware on May 21, 2013. Holdings has no operations independent of its wholly owned subsidiaries, Sirius XM and Pandora.

Relationship with Liberty Media

As of December 31, 2020, Liberty Media Corporation (“Liberty Media”) beneficially owned, directly and indirectly, approximately 76% of the outstanding shares of Holdings’ common stock. Liberty Media owns interests in a range of media, communications and entertainment businesses.

Our Businesses

We operate two complementary audio entertainment businesses - our Sirius XM business and our Pandora business. We continue to expand the range of choices for our listeners – both in terms of compelling content and the array of ways in which it can be consumed. There are approximately 135 million vehicles in operation with Sirius XM radios, and the proliferation of smart speakers and other connected devices has increased the range of options consumers have for engaging with and consuming our content.

We also are focused on rapidly growing content categories, such as podcasting. A podcast is a digital audio recording in spoken-word format, usually part of a themed series, which is downloaded or streamed most often to mobile devices. In 2020, an estimated 104 million Americans listened to a podcast at least monthly.

Sirius XM

Our Sirius XM business features music, sports, entertainment, comedy, talk, news, traffic and weather channels and other content, as well as podcasts and infotainment services, in the United States on a subscription fee basis. Sirius XM’s premier content bundles include live, curated and certain exclusive and on demand programming. The Sirius XM service is distributed through our two proprietary satellite radio systems and streamed via applications for mobile devices, home devices and other consumer electronic equipment. Satellite radios are primarily distributed through automakers, retailers and our website. Our Sirius XM service is also available through our user interface which we call “360L,” that combines our satellite and streaming services into a single, cohesive in-vehicle entertainment experience.

The primary source of revenue from our Sirius XM business is subscription fees, with most of our customers subscribing to monthly, quarterly, semi-annual or annual plans. We also derive revenue from advertising on select non-music channels, direct sales of our satellite radios and accessories, and other ancillary services. As of December 31, 2020, our Sirius XM business had approximately 34.7 million subscribers.

In addition to our audio entertainment businesses, we provide connected vehicle services to several automakers. These services are designed to enhance the safety, security and driving experience of consumers. We also offer a suite of data services that includes graphical weather, fuel prices, sports schedules and scores and movie listings, a traffic information service that includes information as to road closings, traffic flow and incident data to consumers with compatible in-vehicle navigation systems, and real-time weather services in vehicles, boats and planes.

Sirius XM also holds a 70% equity interest and 33% voting interest in Sirius XM Canada Holdings Inc. (“Sirius XM Canada”).

Pandora

Our Pandora business operates a music, comedy and podcast streaming platform, offering a personalized experience for each listener wherever and whenever they want to listen, whether through mobile devices, car speakers or connected devices. Pandora enables listeners to create personalized stations and playlists, discover new content, hear artist- and expert-curated playlists, podcasts and select Sirius XM content as well as search and play songs and albums on-demand. Pandora is available as (1) an ad-supported radio service, (2) a radio subscription service (Pandora Plus) and (3) an on-demand subscription service (Pandora Premium). As of December 31, 2020, Pandora had approximately 6.3 million subscribers.

The majority of revenue from our Pandora business is generated from advertising on our Pandora ad-supported radio service. We also derive subscription revenue from our Pandora Plus and Pandora Premium subscribers.

Our Pandora business also sells advertising on audio platforms and in podcasts unaffiliated with us. Pandora has an arrangement with SoundCloud Holdings, LLC ("Soundcloud") to be its exclusive US ad sales representative. Through this arrangement Pandora is able to offer advertisers the ability to execute campaigns in the US across the Pandora and SoundCloud listening platforms. Pandora also has arrangements to serve as the ad sales representative for podcasts produced by certain third parties. In addition, through AdsWizz Inc., Pandora provides a comprehensive digital audio and programmatic advertising technology platform, which connects audio publishers and advertisers with a variety of ad insertion, campaign trafficking, yield optimization, programmatic buying, marketplace and podcast monetization solutions.

In June 2020, Sirius XM acquired Audios Ventures Inc. (which does business as Simplecast) ("Simplecast"), a podcast management and analytics platform. Simplecast complements AdsWizz's advertising technology platform, allowing the company to offer podcasters a solution for management, hosting, analytics and advertising sales. In October 2020, Sirius XM also acquired Stitcher and its Midroll advertising network from the E.W Scripps Company. Stitcher is a leader in production, distribution, and ad sales in the podcast area.

Our Sirius XM Business

Programming

We offer a dynamic programming lineup of commercial-free music plus sports, entertainment, comedy, talk, and news, including:

- an extensive selection of music genres, ranging from rock, pop and hip-hop to country, dance, jazz, Latin and classical;
- live play-by-play sports from major leagues and colleges;
- a multitude of talk, entertainment and comedy channels for a variety of audiences;
- a wide range of national, international and financial news; and
- exclusive limited run channels.

We believe that our diverse programming, including our lineup of exclusive content, is a significant differentiator from terrestrial radio and other audio entertainment providers. We make changes to our programming lineup from time to time as we strive to attract new subscribers and offer content which appeals to a broad range of audiences and to our existing subscribers. The channel lineups for our services are available at siriusxm.com.

Streaming Service

Our streaming service includes a variety of music and non-music channels, including channels that are not available on our satellite radio service, and podcasts. We offer applications to allow consumers to access our streaming service on smartphones, tablets, computers, home devices and other consumer electronic equipment.

Our streaming product currently features: the broad range of music, sports, talk, news and entertainment channels available on satellite radio; access to over 100 additional music channels, which we refer to as Xtra Music Channels; and video content, including video from The Howard Stern Show and performances and interviews from Sirius XM's archives, including in-studio performances and behind-the-scenes moments with artists, personalities and newsmakers.

Our Sirius XM service also includes a library of podcasts, some of which are exclusive to our service, and other on demand content. Our streaming service offers subscribers the ability to choose their favorite podcast episodes from a catalog of content as well as select material from a growing library of podcasts we are assembling.

Our streaming service is included as part of the price of the vast majority of Sirius XM's packages, including the Select and All Access packages. Our Personalized Stations Powered by Pandora feature, which allows subscribers to create their own customized commercial-free music stations within the Sirius XM app, is offered to consumers as part of the price of Sirius XM's All Access package. We also offer our streaming service in several standalone packages, which do not include a satellite radio subscription. These packages, which include the Premier Streaming Plan, Essentials Plan, Student Plan and Military Plan, are available to consumers at various prices and include a variety of content.

We have entered into agreements with third parties designed to increase the distribution and ease of use of our streaming service, including through connected devices. We also have arrangements with various services and consumer electronics manufactures to include the Sirius XM streaming functionality with their service and devices.

360L

Our next generation automotive platform, which we call "360L," combines our satellite and streaming services into a single, cohesive in-vehicle entertainment experience. We have agreements with many automakers to deploy our 360L interface in a variety of vehicles. We believe that 360L will be included in a majority of vehicles that include Sirius XM functionality in the future.

360L allows us to take advantage of advanced in-dash infotainment systems. 360L is intended to leverage the ubiquitous signal coverage and low delivery costs of our satellite infrastructure with the two-way communication capability of a wireless streaming service to provide consumers seamless access to our content, including our live channels, on demand service, podcasts and even more personalized music services. The wireless streaming connection included in 360L enables enhanced search and recommendations functions, making discovery of our content in the vehicle easier. In certain cases, 360L also allows consumers to manage aspects of their subscriptions directly through their vehicles' equipment and provides us data to better enable us to understand how our subscribers use our service and how we can more effectively market our service to consumers.

Distribution of Radios

New Vehicles

We distribute satellite radios through the sale and lease of new vehicles. We have agreements with every major automaker to offer satellite radios in their vehicles. Satellite radios are available as a factory-installed feature in substantially all vehicle makes sold in the United States.

Most automakers include a subscription to our service in the sale or lease of their new vehicles. In certain cases, we receive subscription payments from automakers in advance of the activation of our service. We share with certain automakers a portion of the revenues we derive from subscribers using vehicles equipped to receive our service. We also reimburse various automakers for certain costs associated with the satellite radios installed in new vehicles, including in certain cases hardware costs, engineering expenses and promotional and advertising expenses.

Previously Owned Vehicles

We acquire subscribers through the sale and lease of previously owned vehicles with factory-installed satellite radios. We have entered into agreements with many automakers to include a subscription to our service in the sale or lease of vehicles which include satellite radios sold through their certified pre-owned programs. We also work directly with franchise and independent dealers on programs for non-certified used vehicles.

We have developed systems and methods to identify purchasers and lessees of previously owned vehicles which include satellite radios and have established marketing plans to promote our services to these potential subscribers.

Retail

We sell satellite radios directly to consumers through our website. Satellite radios are also marketed and distributed through national, regional and online retailers, such as Amazon.com.

Our Satellite Radio Systems

Our satellite radio systems are designed to provide clear reception in most areas of the continental United States despite variations in terrain, buildings and other obstructions. We continually monitor our infrastructure and regularly evaluate improvements in technology.

Our satellite radio systems have three principal components:

- satellites, terrestrial repeaters and other satellite facilities;
- studios; and
- radios.

Satellites, Terrestrial Repeaters and Other Satellite Facilities

Satellites. We provide our service through a fleet of orbiting geostationary satellites. Two of these satellites, FM-5 and FM-6, transmit our service on frequencies originally licensed by the FCC to Sirius, and two of these satellites, XM-3 and XM-4, transmit our service on frequencies originally licensed by the FCC to XM. Our XM-5 satellite serves as a spare for both the XM and Sirius systems.

We have entered into agreements for the design, construction and launch of two additional satellites, SXM-7 and SXM-8. On December 13, 2020, SXM-7 was successfully launched. In-orbit testing of SXM-7 began on January 4, 2021. During in-orbit testing of SXM-7, events occurred which have caused failures of certain SXM-7 payload units. An evaluation of SXM-7 is underway. The full extent of the damage to SXM-7 is not yet known.

We do not expect our satellite radio service to be impacted by these adverse SXM-7 events. Our XM-3 and XM-4 satellites continue to operate and are expected to support our satellite radio service for several years. In addition, our XM-5 satellite remains available as an in-orbit spare. Construction of our SXM-8 satellite is underway and that satellite is expected to be launched into a geostationary orbit in 2021.

Satellite Insurance. We have procured insurance for SXM-7 and SXM-8 to cover the risks associated with each satellite's launch and first year of in-orbit operation. The aggregate coverage under those insurance policies with respect to SXM-7 is \$225 million. We have notified the underwriters of these policies of a potential claim with respect to SXM-7. We do not have insurance policies covering our other in-orbit satellites as we consider the premium costs to be uneconomical relative to the risk of satellite failure.

Terrestrial Repeaters. In some areas with high concentrations of tall buildings, such as urban centers, signals from our satellites may be blocked and reception of satellite signals can be adversely affected. In other areas with a high density of next generation wireless systems our service may experience interference. In many of these areas, we have deployed terrestrial repeaters to supplement and enhance our signal coverage and, in many other areas, we may deploy additional repeaters to mitigate interference. We operate over 1,000 terrestrial repeaters across the United States as part of our systems.

Other Satellite Facilities. We control and communicate with our satellites from facilities in North America. Our satellites are monitored, tracked and controlled by a third party satellite operator.

Studios

Our programming originates from studios in New York City, Los Angeles and Washington D.C. and, to a lesser extent, from smaller studios in Nashville and a variety of venues across the country. Our corporate headquarters is in New York City. We provide equipment to artists and hosts to enable remote creation and transmission of programming.

Radios

We do not manufacture radios. We have authorized manufacturers and distributors to produce and distribute radios, and have licensed our technology to various electronics manufacturers to develop, manufacture and distribute radios under certain brands. We do manage various aspects of the production of satellite radios. To facilitate the sale of radios, we may subsidize a portion of the radio manufacturing costs to reduce the hardware price to consumers.

Connected Vehicle Services

We provide connected vehicle services to several automakers. Our connected vehicle services are designed to enhance the safety, security and driving experience for vehicle operators while providing marketing and operational benefits to automakers and their dealers. We offer a portfolio of location-based services through two-way wireless connectivity, including safety, security, convenience, maintenance and data services, remote vehicles diagnostics, and stolen or parked vehicle locator services. Subscribers to our connected vehicle services are not included in our subscriber count or subscriber-based operating metrics.

In May 2020, we terminated the Automatic Labs Inc. (“Automatic”) service, which was part of our connected services business. Automatic operated a service for consumers and auto dealers and offered an install-it-yourself adapter and mobile application, which transformed vehicles into connected vehicles.

Other Services

Commercial Accounts. Our programming is available for commercial establishments. Commercial subscription accounts are available through providers of in-store entertainment solutions and directly from us.

Satellite Television Service. Certain of our music channels are offered as part of select programming packages on the DISH Network satellite television service.

Travel Link. We offer Travel Link, a suite of data services that includes graphical weather, fuel prices, sports schedules and scores and movie listings.

Real-Time Traffic Services. We offer services that provide graphic information as to road closings, traffic flow and incident data to consumers with compatible in-vehicle navigation systems.

Real-Time Weather Services. We offer several real-time weather services in vehicles, boats and planes.

Commercial subscribers are included in our subscriber count. Subscribers to the DISH Network satellite television service are not included in our subscriber count and subscribers to our Travel Link, real-time traffic services and real-time weather services are not included in our subscriber count, unless the applicable service is purchased by the subscriber separately and not as part of a radio subscription to our service.

Sirius XM Canada

Sirius XM holds a 70% equity interest and 33% voting interest in Sirius XM Canada, with the remainder of Sirius XM Canada's voting and equity interests held by two shareholders.

Sirius XM has entered into a Services Agreement and an Advisory Services Agreement with Sirius XM Canada. Each agreement has a thirty year term. Pursuant to the Services Agreement, Sirius XM Canada pays Sirius XM 25% of its gross revenues on a monthly basis and pursuant to the Advisory Services Agreement, Sirius XM Canada pays Sirius XM 5% of its gross revenues on a monthly basis.

As of December 31, 2020, Sirius XM Canada had approximately 2.6 million subscribers. Sirius XM Canada's subscribers are not included in our subscriber count or subscriber-based operating metrics.

Our Pandora Business

Pandora Media, LLC, which owns and operates our Pandora business, is a wholly owned subsidiary of Sirius XM.

Streaming Radio and On-Demand Music Services

Our Pandora business offers a personalized audio entertainment platform for each listener. Users are able to create personalized stations and playlists and search and play songs and albums on-demand. The Pandora service utilizes content programming algorithms, data collected from listeners, and attributes of the music managed in the Music Genome Project to predict user music preferences, play content suited to the tastes of each listener, and introduce each listener to music consistent with the consumer's preferences.

The Pandora service is available on iOS and Android mobile devices, web browsers, and other internet connected devices, The Pandora application is free to download and use. Our Pandora service is also available in vehicles in the United States with smartphone connectivity. Certain automakers now provide embedded streaming connectivity that supports and makes available the Pandora service in vehicles without the need for smartphone connectivity. In addition, our Pandora service is integrated into consumer electronic, voice-based devices and smart speakers.

Pandora service is available as an ad-supported radio service, a radio subscription service (Pandora Plus), or an on-demand subscription service (Pandora Premium). Local and national advertisers deliver targeted messages to our Pandora listeners on the ad-supported service.

Ad-Supported Radio Service

Our Pandora business offers an ad-supported radio service which allows listeners to access our catalog of music, comedy, live streams and podcasts through personalized stations. This service is free across all platforms and generates stations specific to each listener. Each listener can personalize his or her stations by adding variety to the content.

Listeners of the ad-supported service are provided with the option to temporarily access on-demand listening, including certain features of the Pandora Premium service. We refer to this temporary access as “Premium Access”.

Subscription Radio Service (Pandora Plus)

Our Pandora business offers Pandora Plus - an ad-free, subscription version of the radio service that includes options for replaying songs, skipping songs, offline listening, and higher quality audio on supported devices. Content provided to each listener of Pandora Plus is more tailored when the listener interacts more with the platform. Premium Access is also available to Pandora Plus listeners.

On-Demand Subscription Service (Pandora Premium)

Our Pandora business offers Pandora Premium - an on-demand subscription service that combines the radio features of Pandora Plus with an on-demand experience. The on-demand experience provides listeners with the ability to search, play and collect songs and albums, download content for offline listening, build playlists, listen to curated playlists and share playlists on social networks. Listeners can also create partial playlists that Pandora can complete based on the listener’s activity and the Music Genome Project. Listeners through mobile devices have access to customized profiles which identify information specific to each listener such as recent favorites, playlists and thumbs.

Pandora Premium incorporates social networking features including a centralized stream where listeners can view the music that their social connections are experiencing and provide and receive recommendations for songs, albums and playlists. Pandora Premium also includes a “share” feature where consumers can share their stations, songs, albums, podcasts or playlists through social media, messaging applications and email.

Advertising Revenue

Our Pandora business maintains a portfolio of proprietary advertising technologies which include order management, advertising serving and timing, native advertising formats, targeting and reporting. Pandora provides advertisers with the ability to target and connect with listeners based on various criteria including age, gender, geographic location and content preferences. The Pandora business’s primary source of revenue is the sale of audio, display and video advertising for connected device platforms, including computers and mobile devices. Our Pandora business also has agreements to sell the available advertising inventory in the United States for SoundCloud, one of the world’s largest open audio platforms, and other third parties.

Stitcher

Stitcher creates original podcasts and operates content networks that each target a specific genre and audience. Stitcher also provides podcast advertising services that generate revenue for approximately 200 shows and offers a mobile app listening platform where consumers can stream the latest in news, sports, talk, and entertainment on demand.

Stitcher earns revenue by distributing advertising on specific podcasts created by third parties, including placement based on an advertiser’s desired target audience, and from the sale of advertising on its owned podcasts and podcasts offered

within the Stitcher app. Stitcher creates and distributes original podcasts through platforms such as its Stitcher app and the iPhone podcast app.

Stitcher also earns subscription revenue from its Stitcher Premium subscription service. Users pay a monthly or annual fee for access on Stitcher Premium to premium content and ad-free archived podcast episodes.

AdsWizz

Through its AdsWizz subsidiary, our Pandora business is a leader in digital audio advertising technology. AdsWizz operates a digital audio advertising market with an end-to-end technology platform, including a digital audio software suite of solutions that connect audio publishers to the advertising community. AdsWizz offers a range of products -- from dynamic ad insertion to advanced programmatic platforms to innovative new audio formats. AdsWizz's advertising technology also includes ad campaign monitoring tools and other innovative audio advertising products, such as audio formats that can let consumers trigger an action while listening to an ad as well as other personalization-based technology.

AdsWizz's technology is employed by Pandora in its ad-supported business as well as by third party customers. AdsWizz's third party customers include well-known music platforms, podcasts and broadcasting groups worldwide.

In June 2020, Sirius XM acquired Simplecast, a podcast management and analytics platform that complements AdsWizz's audio advertising product offering.

Competition

We face significant competition for listeners and advertisers in our Sirius XM business and our Pandora business, including from providers of radio and other audio services.

Competition for Subscribers and Listeners

Traditional AM/FM Radio

Our Sirius XM services and Pandora services compete with traditional AM/FM radio. Traditional AM/FM radio has a well-established demand for its services and offers free broadcasts paid for by commercial advertising rather than by subscription fees. Many radio stations offer information programming of a local nature, such as local news and sports. The availability of traditional free AM/FM radio may reduce the likelihood that customers would be willing to pay for our subscription services and, by offering free broadcasts, it may impose limits on what we can charge for our services. Several traditional radio companies own large numbers of radio stations and other media properties, such as podcast networks.

Streaming and On-Demand Competitors

Streaming and on-demand services, including Amazon Prime, Apple Music, Spotify and YouTube, compete with our Sirius XM and Pandora services. Major online providers make high fidelity digital streams available at no cost or, in some cases, for less than the cost of a satellite radio subscription. Certain of these services include advanced functionality, such as personalization and customization and allow the user to access large libraries of content. These services, in some instances, are also offered through devices sold by the service providers including Apple, Google and Amazon. For some consumers, these services may compete with our services, at home, in vehicles, and wherever audio entertainment is consumed.

Advanced In-Dash Infotainment Systems

Nearly all automakers have deployed integrated multimedia systems in dashboards, including Apple CarPlay and Android Auto. These systems combine control of audio entertainment from a variety of sources, including AM/FM/HD radio broadcasts, satellite radio, streaming radio, smartphone applications and stored audio, with navigation and other advanced applications. Streaming radio and other data are typically connected to the system through an Internet-enabled smartphone or wireless modem installed in the vehicle, and the entire system may be controlled by touchscreen or voice recognition. These systems enhance the attractiveness of Internet-based competitors by making such applications more prominent, easier to access, and safer to use in vehicles.

Direct Broadcast Satellite and Cable Audio

A number of providers offer specialized audio services through either direct broadcast satellite or cable audio systems. These services are targeted to fixed locations, mostly in-home, but also include mobile entertainment. The radio service offered by direct broadcast satellite and cable audio is often included as part of a package of digital services with video service, and video customers generally do not pay an additional monthly charge for the audio service. In addition, other

services offered by these providers, such as cable television, on-demand video streaming, and interactive video games compete with our services to the extent they utilize existing or potential users' and listeners' time that could otherwise be allocated to the use of our Sirius XM or Pandora services.

Other Digital Media Services

The audio entertainment marketplace continues to evolve rapidly, with a steady emergence of new media platforms that compete with both our Sirius XM and Pandora services now or that could compete with those services in the future.

Traffic Services

For our Sirius XM business, a number of providers compete with our traffic services. In-dash navigation is threatened by smartphones offering GPS mapping with sophisticated data-based turn navigation.

Connected Vehicle Services

Our Sirius XM connected vehicle services business operates in a highly competitive environment and competes with several providers as well as with products being developed for vehicles by automakers and other third parties. OnStar, a division of General Motors, also offers connected vehicle services in GM vehicles. Wireless devices, such as mobile phones, are also competitors. We compete against other connected vehicle service providers for automaker arrangements on the basis of innovation, service quality and reliability, technical capabilities and system customization, scope of service, industry experience, past performance and price.

Competition for Advertisers

Our competition for advertisers includes large scale online advertising platforms such as Amazon, Facebook and Google; traditional media companies such as television broadcasters and national print outlets; broadcast radio providers; podcast distributors and networks; and companies in the broadcast radio market. We compete against these providers for advertisers on the basis of several factors, including advertisers' overall budgets, perceived return on investment, effectiveness and relevance of our advertising platforms, price, delivery of large volumes or precise types of advertisements to targeted demographics, transactional capabilities and reporting capabilities.

The online advertising marketplace continues to evolve rapidly, particularly with the introduction of new digital advertising technologies and expanding capabilities of larger internet companies.

Government Regulation

General

We are subject to a number of foreign and domestic laws and regulations relating to consumer protection, information security and data protection. There are several States that require specific information security controls to protect certain types of information and specific notifications to consumers in the event of a security breach that compromises certain categories of personal information. Certain of our services are also subject to laws in the United States and abroad pertaining to privacy of user data and other information, including the California Consumer Protection Act and the European General Data Protection Regulation. Our Privacy Policies and customer agreements describe our practices pertaining to the foregoing. We believe we comply with all of our obligations under all applicable laws and regulations.

Our Sirius XM Business

As operators of a privately-owned satellite system, we are regulated by the FCC under the Communications Act of 1934, principally with respect to:

- the licensing of our satellite systems;
- preventing interference with or to other users of radio frequencies; and
- compliance with FCC rules established specifically for U.S. satellites and satellite radio services.

Any assignment or transfer of control of our FCC licenses must be approved by the FCC. The FCC's order approving our merger with XM Satellite Radio Holdings Inc. in July 2008 requires us to comply with certain voluntary commitments we made as part of the FCC merger proceeding. We believe we comply with those commitments.

In 1997, we were the winning bidders for FCC licenses to operate a satellite digital audio radio service and provide other ancillary services. Our FCC licenses for our Sirius satellites expire in 2022 and 2025. Our FCC licenses for our XM satellites expire in 2021, 2022 and 2026. The FCC has also granted us licenses to construct, deploy and operate SXM-7 and SXM-8 as replacement satellites. We anticipate that, absent significant misconduct on our part, the FCC will renew our licenses to permit operation of our satellites for their useful lives, and grant licenses for any replacement satellites.

In some areas, we have installed terrestrial repeaters to supplement our satellite signal coverage. The FCC has established rules governing terrestrial repeaters and has granted us a license through 2027 to operate our repeater network.

In certain cases, we obtain FCC certifications for satellite radios, including satellite radios that include FM modulators. We believe our radios that are in production comply with all applicable FCC rules.

We are required to obtain export licenses or other approvals from the United States government to export certain equipment, services and technical data related to our satellites and their operations. The transfer of such equipment, services and technical data outside the United States or to foreign persons is subject to strict export control and prior approval requirements from the United States government (including prohibitions on the sharing of certain satellite-related goods and services with China).

Changes in law or regulations relating to communications policy or to matters affecting our services could adversely affect our ability to retain our FCC licenses or the manner in which we operate.

Copyrights to Programming

In connection with our businesses, we must enter into royalty arrangements with two sets of rights holders: holders of musical compositions copyrights (that is, the music and lyrics) and holders of sound recordings copyrights (that is, the actual recording of a work). Our Sirius XM business and our Pandora business use both statutory and direct music licenses as part of their businesses. We license varying rights - such as performance and mechanical rights - for use in our Sirius XM and Pandora businesses based on the various radio and interactive services they offer. Set forth below is a brief overview of the music composition and sound recording licenses employed by our Sirius XM and Pandora businesses. These music licensing arrangements are complex and the description below is only a summary of these complicated licensing schemes.

Musical Compositions: Performance Rights and Mechanical Rights

The holders of performance rights in musical compositions, generally songwriters and music publishers, are represented by performing rights organizations such as the American Society of Composers, Authors and Publishers (“ASCAP”), Broadcast Music, Inc. (“BMI”), SESAC, Inc. (“SESAC”) and Global Music Rights LLC (“GMR”). These organizations negotiate fees with copyright users, collect royalties and distribute them to the rights holders.

The holders of the mechanical rights in musical compositions, generally songwriters and their music publishers, have traditionally licensed these rights through the statutory license set forth in Section 115 of the United States Copyright Act; however, mechanical rights can also be licensed directly.

The changing market for musical compositions may have an adverse effect on our Sirius XM business and our Pandora business, including increasing our costs and limiting the musical works available to us.

Sirius XM Business. We have arrangements with ASCAP, BMI, SESAC, and GMR to license the musical compositions we use on our satellite radio and streaming services. These arrangements generally include fixed payments during the term of the agreement. Our Sirius XM business does not require a mechanical license.

Pandora Business. We have arrangements with ASCAP, BMI, SESAC, GMR and a variety of other copyright owners to license the musical compositions performance rights we use on our Pandora services. For our Pandora ad-supported radio service, each copyright holder receives as a performance royalty its usage-based and ownership-based share of a royalty pool equal to 21.5% of the content acquisition costs that we pay for sound recordings on our ad-supported service.

Pandora must also license reproduction rights, which are also referred to as mechanical rights, to offer the interactive features of the Pandora services. For our Pandora subscription services, copyright holders receive payments for these rights at the rates determined in accordance with the statutory license set forth in Section 115 of the United States Copyright Act. In January 2018, the Copyright Royalty Board (the “CRB”) set a new rate structure for the five-year period commencing January

1, 2018 and ending on December 31, 2022. The rate was 13.3% of revenues or 24.1% of record label payments in 2020. The rate was scheduled to increase over the five-year period to 15.1% of revenues or 26.2% of record label payments by 2022.

In August 2020, the United States Court of Appeals for the District of Columbia Circuit concluded that the CRB failed to provide adequate notice of the rate structure it adopted, failed to explain its rejection of a past settlement agreement as a benchmark for going forward, and never identified the source of its asserted authority to substantively redefine a material term of its initial determination. For these reasons, the Court of Appeals overturned the CRB's adopted rate structure and percentage rates and remanded the proceeding to the CRB for further proceedings. The CRB has announced further proceedings to consider and address the Court of Appeals' decision.

Sound Recordings

Operators of a non-interactive satellite radio or streaming service are entitled to license sound recordings under the statutory license contained in Section 114 of the United States Copyright Act (the "statutory license"). Under the statutory license, we may negotiate royalty arrangements with the owners of sound recordings or, if negotiation is unsuccessful, the royalty rate is established by the CRB. Sound recording rights holders, typically large record companies, are primarily represented by SoundExchange, Inc. ("SoundExchange"), an organization which negotiates licenses, and collects and distributes royalties on behalf of record companies and performing artists.

Interactive streaming services, such as Pandora Plus and Pandora Premium, do not qualify for the statutory license and the services must negotiate direct license arrangements with the owners of copyrights in sound recordings.

Sirius XM Business. For the ten-year period commencing January 1, 2018 and ending on December 31, 2027, the CRB set the royalty rate payable by us under the statutory license covering the performance of sound recordings over our Sirius XM satellite radio service, and the making of ephemeral (server) copies in support of such performances, to be 15.5% of gross revenues, subject to exclusions and adjustments. The revenue subject to royalty includes subscription revenue from our U.S. satellite digital audio radio subscribers, and advertising revenue from channels other than those channels that make only incidental performances of sound recordings. The rates and terms permit us to reduce the payment due each month for those sound recordings directly licensed from copyright owners and exclude from our revenue certain other items, such as royalties paid to us for intellectual property, sales and use taxes, bad debt expense and generally revenue attributable to areas of our business that do not involve the use of copyrighted sound recordings.

In 2020, we paid a per performance rate for the streaming of certain sound recordings of \$0.0024 on our Sirius XM streaming service.

Pandora Business. For our Pandora business, we have entered into direct license agreements with major and independent music labels and distributors for a significant majority of the sound recordings that stream on the Pandora ad-supported service, Pandora Plus and Pandora Premium.

For sound recordings that we stream and for which we have not entered into a direct license agreement with the sound recording rights holders, the sound recordings are streamed pursuant to the statutory license, and applicable rates thereunder, set by the CRB for the period commencing on January 1, 2016 and ending on December 31, 2020. Effective January 1, 2020, the rate for our non-subscription services, such as our ad-supported radio service, was adjusted for inflation to \$0.0018 per play, and the rate for our subscription services, such as Pandora Plus and Pandora Premium, was adjusted for inflation to \$0.0024. Sound recordings subject to the statutory license can only be played through our radio services and not through services that are offered on-demand or offline or through any replay or additional skip features. The CRB has completed a proceeding to determine the rates and terms for the sound recordings streamed pursuant to the statutory license for the period commencing on January 1, 2021 and ending on December 31, 2025. We expect the CRB to issue its determination of these rates and terms on or prior to April 15, 2021.

Prior to the enactment of the Orrin G. Hatch-Bob Goodlatte Music Modernization Act in October 2018, our rights to perform certain sound recordings that were fixed before February 15, 1972 were governed by state law. We still face a class action lawsuit brought by plaintiffs who allege that Pandora violated their alleged exclusive copyright ownership rights to the reproduction and public performance of sound recordings created prior to February 15, 1972. See "Item 3. Legal Proceedings" of this Annual Report on Form 10-K for information on this action.

Trademarks

Sirius XM Business

We have registered, and intend to maintain, the trademarks “Sirius”, “XM”, “SiriusXM” and “SXM” with the United States Patent and Trademark Office in connection with the services we offer. We are not aware of any material claims of infringement or other challenges to our right to use the “Sirius”, “XM”, “SiriusXM” or “SXM” trademarks in the United States. We also have registered, and intend to maintain, trademarks for the names of certain of our channels. We have also registered the trademarks “Sirius”, “XM” and “SiriusXM” in Canada. We have granted a license to use certain of our trademarks in Canada to Sirius XM Canada.

Pandora Business

We have registered, and intend to maintain, the trademarks “Pandora,” “Ampeast” and “Music Genome Project,” in addition to a number of other Pandora logos and marks, with the United States Patent and Trademark Office in connection with the services we offer. We also have registered the trademark “Pandora” in Australia, Canada, Chile, the European Union, India, Israel, Mexico, New Zealand, Switzerland, Taiwan and other countries, and the trademark “Music Genome Project” in Australia, Canada, China and New Zealand.

Human Capital Resources

General

As of December 31, 2020, we had 5,726 full-time and part-time employees, the overwhelming majority of which were full-time employees. During 2020, our workforce increased by approximately 450 employees compared to the prior year, and our core voluntary full-time employee turnover rate was approximately 6%.

Our business relies on our ability to attract and retain talented employees. To attract and retain talent, we strive to create a diverse, inclusive and supportive workplace, with opportunities for our employees to grow and develop in their careers, supported by competitive compensation, benefits and health and wellness programs, and by programs that build connections between our employees and their communities.

Corporate Culture

We are focused on creating a corporate culture of integrity and respect, with the goal of working together to drive our business to be creative, innovative and competitive. To achieve these objectives, we have adopted and regularly communicate to our employees the following core values, which we call “AMPLIFY”:

- Applaud and encourage new thinking
- Move forward and be purposeful in our desire to win
- Prioritize honesty, integrity and respectful communication
- Lean on each other and learn from one another
- Invest in our actions and commit to the follow through
- Find ways to give back by focusing on community and feeding your individuality
- You Matter. We embrace our differences, empower each other and include everyone

We operate a performance-based environment where results matter and financial discipline is enforced. We have tried to create a highly collaborative culture in which employees feel a sense of pride that their input is sought after and valued. At the same time, we believe in holding individuals accountable and have tried to create a culture in which employees “do what they say they are going to do.” Still, we believe that our culture is a long-term competitive advantage for us, fuels our ability to execute and is a critical underpinning of our employee talent strategy.

Diversity and Inclusion

We believe that a diverse workforce is critical to our success. We cultivate an inclusive environment where human differences are valued, respected, supported and amplified. We have taken actions to recruit, retain, develop and advance a diverse and talented workforce. Our diversity and inclusion efforts are led by our Vice President, Head of Diversity & Inclusion. This position regularly reports to our Chief Executive Officer and works with our executive officers.

We are focused on increasing women and minority representation at all levels of our organization. We recruit talent in diverse communities, including by engaging as a sponsor of professional conferences, such as Sistas in Sales, Tech Intersections, and AfroTech. We have created a program, that we call Pathways, that provides recent graduates of Historically Black Colleges and Universities with entry-level full-time opportunities. We also have agreements with third parties designed to offer leadership development for Black, Latinx and Native American employees. Additionally, we provide a mentoring program to help underrepresented employees benefit from coaching, guidance, and feedback. We have six employee resource groups, including groups supporting Women, People of Color, Africans and African Americans, Latinx and Hispanic, Veterans, the LGBTQIA+ community and employees with disabilities.

We also periodically request our employees to voluntarily self-identify personal information related to gender, race, ethnicity, veteran and disability status. This information about the demographics of our employee population allows us to assess and evaluate our diversity and inclusion efforts.

Health, Safety and Wellness

We are committed to the health, safety and wellness of our employees. We provide our employees and their families with access to a variety of health and wellness programs, including benefits that support their physical and mental health.

In response to the COVID-19 pandemic, we implemented changes that we consider to be in the best interest of our employees, as well as the communities in which we operate, and which comply with government regulations. As a result of the COVID-19 pandemic, the vast majority of our employees are working from home. We have implemented additional safety measures for employees continuing critical on-site work. We believe we have been able to preserve our business continuity without sacrificing our commitment to keeping our employees safe during the COVID-19 pandemic.

Compensation and Benefits

We operate in a highly competitive and technologically challenging environment. We provide competitive compensation and benefits programs for our employees. In addition to salaries, these programs (which vary by employee level and by the country where the employees are located) include, among other items, bonuses, stock awards, a 401(k) plan and a non-qualified deferred compensation plan, healthcare and insurance benefits, health savings and flexible spending accounts, paid time off, paid parental leave, advocacy resources, flexible work schedules and employee assistance programs.

Talent Development

We provide numerous training opportunities for our employees, with a focus on continuous learning and development and methodologies to manage performance, provide feedback and develop talent. We also have an internal digital workplace which provides employees with quick access to learning resources that cover a variety of topics.

Our talent development programs attempt to provide employees resources to achieve career goals and build management and leadership skills. We offer mentoring programs, management training and leadership sessions to support the professional growth of our employees.

Building Connections — With Each Other and our Communities

Building connections between our employees, their families and our communities can, in our view, create a more meaningful, fulfilling and enjoyable workplace. Through our engagement programs, employees can pursue their interests and hobbies, and connect to each other and to volunteering and giving opportunities.

Our corporate giving and volunteering programs encourage employees to give to the causes most meaningful to them. We have a charitable matching program which offers employees a dollar for dollar match on their charitable contributions up to a specific cap. In addition, full-time employees are eligible to receive five days of paid time off to volunteer with charitable organizations of their choice. During 2020, over 400 employees volunteered almost 4,500 hours, while over 800 employees utilized our charitable matching program, benefiting almost 1,000 charitable organizations.

In 2020, we donated over \$1.5 million to a number of hospitals in support of COVID-19 relief efforts as well as various charities to support racial equality and address racial and social injustice. In 2020, we also contributed \$25 million to a donor advised fund to support our planned charitable contributions over the next five years, an effort we call SiriusXM Cares. We expect to use these funds to contribute to organizations and take actions which promote and further social equality, education,

hiring, and combat racial injustice. Separately, in 2020, we made contributions to the Black Lives Matter Global Network, the Pillsbury Communities Foundation, the Equal Justice Initiative and the NAACP Legal Defense and Educational Fund.

Corporate Information and Available Information

Our executive offices are located at 1221 Avenue of the Americas, 35th floor, New York, New York 10020 and our telephone number is (212) 584-5100. Our internet address is www.siriusxm.com. Our annual, quarterly and current reports, and any amendments to those reports, filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), may be accessed free of charge through our website as soon as reasonably practicable after we have electronically filed or furnished such material with the SEC. The SEC maintains an Internet site (<http://www.sec.gov>) that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC. [siriusxm.com](http://www.siriusxm.com) (including any other reference to such address in this Annual Report) is an inactive textual reference only, meaning that the information contained on or accessible from the website is not part of this Annual Report on Form 10-K and is not incorporated in this report by reference. We may use our website as a distribution channel of material company information. Financial and other important information regarding us is routinely posted on and accessible through our website at <https://www.siriusxm.com>. In addition, you may automatically receive email alerts and other information about us when you enroll your email address by visiting the “Email Alerts” section under the “Shareholder Services” heading at <http://investor.siriusxm.com/investor-overview>.

Information About Our Executive Officers

Certain information regarding our executive officers as of January 29, 2021 is provided below:

Name	Age	Position
Jennifer C. Witz	52	Chief Executive Officer
Scott A. Greenstein	61	President, Chief Content Officer
Dara F. Altman	62	Executive Vice President and Chief Administrative Officer
Patrick L. Donnelly	59	Executive Vice President, General Counsel and Secretary
Sean S. Sullivan	53	Executive Vice President and Chief Financial Officer

Jennifer C. Witz has served as our Chief Executive Officer since January 1, 2021. From March 2019 through December 2020, she was our President, Sales, Marketing and Operations. From August 2017 until March 2019 she was our Executive Vice President, Chief Marketing Officer. Ms. Witz joined us in March 2002 and has served in a variety of senior financial and operating roles. Before joining Sirius XM, Ms. Witz was Vice President, Planning and Development, at Viacom Inc., a global media company, and prior to that she was Vice President, Finance and Corporate Development, at Metro-Goldwyn-Mayer, Inc., an entertainment company focused on the production and global distribution of film and television content. Ms. Witz began her career in the Investment Banking Department at Kidder, Peabody & Co Inc. She is a member of the board of directors of LendingTree, Inc., a leading online marketplace that connects consumers with financial products, and serves on its compensation committee.

Scott A. Greenstein has served as our President and Chief Content Officer since May 2004. Prior to May 2004, Mr. Greenstein was Chief Executive Officer of The Greenstein Group, a media and entertainment consulting firm. From 1999 until 2002, he was Chairman of USA Films, a motion picture production, marketing and distribution company. From 1997 until 1999, Mr. Greenstein was Co-President of October Films, a motion picture production, marketing and distribution company. Prior to joining October Films, Mr. Greenstein was Senior Vice President of Motion Pictures, Music, New Media and Publishing at Miramax Films, and held senior positions at Viacom Inc.

Dara F. Altman has served as our Executive Vice President and Chief Administrative Officer since September 2008. From January 2006 until September 2008, Ms. Altman served as Executive Vice President, Business and Legal Affairs, of XM. Ms. Altman was Executive Vice President of Business Affairs for Discovery Communications from 1997 through 2005. From 1993 to 1997, Ms. Altman served as Senior Vice President and General Counsel of Reiss Media Enterprises, which owned Request TV, a national pay-per-view service. Before Request TV, Ms. Altman served as counsel for Home Box Office. Ms. Altman started her career as an attorney at the law firm of Willkie Farr & Gallagher LLP.

Patrick L. Donnelly has served as our Executive Vice President, General Counsel and Secretary, since May 1998. From June 1997 to May 1998, he was Vice President and Deputy General Counsel of ITT Corporation, a hotel, gaming and entertainment company that was acquired by Starwood Hotels & Resorts Worldwide, Inc. in February 1998. From October

1995 to June 1997, he was assistant general counsel of ITT Corporation. Prior to October 1995, Mr. Donnelly was an attorney at the law firm of Simpson Thacher & Bartlett LLP.

Sean S. Sullivan has served as our Executive Vice President and Chief Financial Officer since October 2020. From June 2011 to October 2020, he was the Executive Vice President and Chief Financial Officer of AMC Networks Inc., a global entertainment company. From September 2010 to June 2011, he was the Chief Corporate Officer of Rainbow Media Holdings LLC, the predecessor of AMC Networks Inc. and then a subsidiary of Cablevision Systems Corp. Prior to that, Mr. Sullivan was Chief Financial Officer of HiT Entertainment, a children's entertainment company, from 2009 to 2010; the Chief Financial Officer and President of the Commercial Print and Packaging division of Cenveo, Inc., a diversified manufacturing company focused on print-related products, from 2005 to 2008; and Executive Vice President and Chief Financial Officer of Spencer Press, Inc., a catalogue printing company, from 2004 to 2005. He is a member of the board of directors of Acushnet Holdings Corp., a leader in the design, development, manufacturing and distribution of golf products, and serves on its nominating and corporate governance committee and is the chair of its audit committee.

ITEM 1A. RISK FACTORS

In addition to the other information in this Annual Report on Form 10-K, including the information under the caption Item 1. Business "Competition," the following risk factors should be considered carefully in evaluating us and our business. This Annual Report on Form 10-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Actual results and the timing of events could differ materially from those projected in forward-looking statements due to a number of factors, including those set forth below and elsewhere in this Annual Report on Form 10-K. See "Special Note About Forward-Looking Statements" following this Item 1A. Risk Factors.

The COVID-19 pandemic is adversely impacting our business.

We are monitoring and continue to assess the ongoing effects of the COVID-19 pandemic on our businesses and operations. The scope of the effects of the COVID-19 pandemic and its related economic impact on our businesses depends on many factors beyond our control, and the effects are difficult to assess or predict with meaningful precision both generally and specifically as to our Sirius XM and Pandora businesses.

We have taken actions to help ensure the continuity of our audio entertainment service through the COVID-19 pandemic, including activating our business continuity plans and implementing other steps to enable employees to work remotely. The impact of these steps on our workforce has presented new challenges for our employees as they balance the demands of the pandemic with their daily operating responsibilities.

In addition, the COVID-19 pandemic has created various uncertainties in our business, including:

- Limits on our ability to fully staff our customer service operations and certain of our marketing efforts, particularly telemarketing,
- Changes to our sales and marketing practices as we react to shifts in the volume of auto sales and subscriber expectations, particularly in customer service and billing operations,
- Possible increases in bad debts as the pandemic broadly affects employment and consumer spending,
- The loss of sales and orders in our advertising business, particularly as industries that are disproportionately affected by the pandemic - such as the travel and travel-related industries - curtail and in many cases stop their advertising spending, and
- Other consequences in our marketing, sales and other operations which we have not yet identified.

Importantly, the COVID-19 pandemic may have a material adverse effect on other third parties upon which we rely, and our ability to assess those effects in any meaningful manner are difficult at this time. In addition, a number of third parties upon which we depend may experience financial difficulties or file for bankruptcy protection. Such third parties may not be able to perform their obligations or may be relieved of their obligations to us as part of the bankruptcy process, which in either case could adversely affect our business.

Lastly, the negative impact on consumer spending in the United States due to the COVID-19 pandemic may, depending upon the severity, adversely affect several areas of our Sirius XM and Pandora businesses and may negatively impact our operating results.

Risks Relating to our Business and Operations

We face substantial competition and that competition is likely to increase over time.

We compete for the time and attention of our listeners with other content providers on the basis of a number of factors, including quality of experience, relevance, acceptance and perception of content quality, ease of use, price, accessibility, brand awareness, reputation and, in the case of our ad-supported Pandora service, perception of ad load, features and functionality. Our ability to attract and retain subscribers and listeners depends on our success in creating and providing popular or unique programming. A summary of certain services that compete with us is contained in the section entitled “Item 1. Business - Competition” of this Annual Report on Form 10-K.

Our subscribers and listeners can obtain similar content for free through terrestrial radio stations, YouTube and other internet services. We also compete for the time and attention of our listeners with providers of other in-home and mobile entertainment services, and we compete for advertising sales with large scale online advertising platforms, such as Amazon, Facebook and Google, and with traditional media outlets.

Our streaming services also compete for listeners on the basis of the presence and visibility of our apps, which are distributed via app stores operated by Apple and Google. We face significant competition for listeners from these companies, which also promote their own music and content. In addition, our competitors’ streaming products may be pre-loaded or integrated into consumer electronics products or automobiles more broadly than our streaming products, creating a visibility advantage. If we are unable to compete successfully for listeners against other media providers, then our business may suffer. Additionally, the operator of an app store may reject our app or amend the terms of their license in a way that inhibits our ability to distribute our apps, negatively affects our business, or limits our ability to increase subscribers and listeners.

Competition could result in lower subscription, advertising or other revenue and an increase in our expenses and, consequently, lower our earnings and free cash flow. We cannot assure you we will be able to compete successfully with our existing or future competitors or that competition will not have an adverse impact on our operations and financial condition.

If our efforts to attract and retain subscribers and listeners, or convert listeners into subscribers, are not successful, our business will be adversely affected.

Our business will be adversely affected if we are unable to attract new subscribers and listeners and retain our current subscribers and listeners.

Our ability to increase the number of subscribers and listeners to our services, retain our subscribers and listeners or convert listeners into subscribers, is uncertain and subject to many factors, including:

- the price of our service;
- the ease of use of our service;
- the effectiveness of our marketing programs;
- with respect to our Sirius XM service, the sale or lease rate of new vehicles in the United States;
- the rate at which our self-pay subscribers to our Sirius XM service buy and sell new and used vehicles in the United States;
- our ability to convince owners and lessees of new and used vehicles that include satellite radios to purchase subscriptions to our Sirius XM service;
- the perceived value of our programming and the packages and services we offer;
- our ability to introduce features in a manner that is favorably received by consumers;
- our ability to keep up with rapidly evolving technology and features in audio entertainment;
- our ability to respond to evolving consumer tastes; and
- actions by our competitors, such as Spotify, Apple, Google, Amazon, Facebook and other audio entertainment and information providers.

We engage in extensive marketing efforts and the continued effectiveness of those efforts is an important part of our business.

We engage in extensive marketing efforts across a broad range of media to attract and retain subscribers and listeners to our services. We employ a wide variety of communications tools as part of our marketing campaigns, including telemarketing efforts and email solicitations. The effectiveness of our marketing efforts is affected by a broad range of factors, including creative and execution factors. Our ability to reach consumers with radio and television advertising, direct mail materials, email solicitations and telephone calls is an important part of our efforts and a significant factor in the effectiveness of our marketing. If we are unable to reach consumers through email solicitations or telemarketing, including as a result of “spam” and email filters, call blocking technologies or “do-not-call” or other marketing regulations, our marketing efforts will be adversely affected. A decline in the effectiveness of our marketing efforts could have an adverse impact on our operations and financial condition.

We rely on third parties for the operation of our business, and the failure of third parties to perform could adversely affect our business.

Our business depends, in part, on various third parties, including:

- manufacturers that build and distribute satellite radios;
- companies that manufacture and sell integrated circuits for satellite radios;
- third-party software that we incorporate in and include with our apps and service;
- programming providers, including agreements with owners of various copyrights in music, and on-air talent;
- vendors that operate our call centers;
- vendors that have designed or built, and vendors that support or operate, other important elements of our systems, including our satellites and cloud-based systems we use;
- Apple, who distributes our apps through its App Store and who, in the case of our Pandora service, we rely on to collect fees and approve the terms of our consumer offers; and
- Google, who distributes our apps through its App Store and who, in the case of our Pandora service, we rely on to collect fees and approve the terms of our consumer offers, and who plays an important role in the fulfillment of the ads we sell on our Pandora platform.

If one or more of these third parties do not perform in a satisfactory or timely manner, including complying with our standards and practices relating to business integrity, personnel and cybersecurity, our business could be adversely affected.

The operation of our apps and service offerings could be impaired if errors occur in the third party software that we use. It is difficult for us to correct any defects in third party software because the development and maintenance of the software is not within our control. Our third party licensors may not continue to make their software available to us on acceptable terms, invest the appropriate levels of resources in their software to maintain and enhance its capabilities, or remain in business. Failure of these third party licensors could harm our streaming services.

In addition, a number of third parties on which we depend have experienced, and may in the future experience, financial difficulties or file for bankruptcy protection. Such third parties may not be able to perform their obligations to us in a timely manner, if at all, as a result of their financial condition or may be relieved of their obligations to us as part of seeking bankruptcy protection.

We may not realize the benefits of acquisitions or other strategic investments and initiatives.

Our strategy includes selective acquisitions, other strategic investments and initiatives that allow us to expand our business. The success of any acquisition depends upon effective integration, cultural assimilation and management of acquired businesses and assets into our operations, which is subject to risks and uncertainties, including realizing the growth potential, the anticipated synergies and cost savings, the ability to retain and attract personnel, the diversion of management’s attention for other business concerns, and undisclosed or potential legal liabilities of the acquired business or assets.

We are devoting significant management attention and resources to integrate the businesses and operations of certain acquisitions. The integration process could result in the distraction of our management, the disruption of our ongoing business or inconsistencies in our services, standards, controls, procedures and policies, any of which could adversely affect our ability to maintain relationships with customers, vendors and employees or to achieve the anticipated benefits of the acquisition.

Risks Relating to our Sirius XM Business

A substantial number of our Sirius XM service subscribers periodically cancel their subscriptions and we cannot predict how successful we will be at retaining customers.

As part of our business, we experience, and expect to experience in the future, subscriber turnover (i.e., churn). If we are unable to retain current subscribers at expected rates, or the costs of retaining subscribers are higher than expected, our financial performance and operating results could be adversely affected.

We cannot predict how successful we will be at retaining customers who purchase or lease vehicles that include a subscription to our Sirius XM service. A substantial percentage of our Sirius XM subscribers are on discounted pricing plans and our ability to retain these subscribers or migrate them to higher priced plans is uncertain. Our discounted pricing strategy is widely known, and this may interfere with our ability to collect our ordinary subscription prices. In addition, a substantial number of those subscribers periodically cancel their subscriptions when offered a subscription at a higher price.

Our ability to profitably attract and retain subscribers to our Sirius XM service as our marketing efforts reach more price-sensitive consumers is uncertain.

Our efforts to acquire subscribers purchasing or leasing used vehicles may attract price sensitive consumers. For example, consumers purchasing or leasing used vehicles may be more price sensitive than consumers purchasing or leasing new vehicles, may convert from trial subscribers to self-paying subscribers at a lower rate, and may cancel their subscriptions more frequently than consumers purchasing or leasing new vehicles. Some of our marketing efforts may also attract more price sensitive subscribers, and our efforts to increase the penetration of satellite radios in new, lower-priced vehicle lines may result in the growth of more economy-minded subscribers. In addition, over time the changing demographics of our subscriber base, such as the expected increase in “Millennial generation customers,” may increase the number of subscribers accustomed to consuming entertainment through ad-supported products. Each of these factors may harm our revenue or require additional spending on marketing efforts to demonstrate the value of our Sirius XM service.

Our business depends in part upon the auto industry.

A substantial portion of the subscription growth for our satellite radio service has come from purchasers and lessees of new and used automobiles in the United States, and we expect this to be an important source of subscribers for our satellite radio service in the future.

We have agreements with every major automaker to include satellite radios in new vehicles, although these agreements do not require automakers to install specific or minimum quantities of radios in any given period. Our business could be adversely affected if automakers do not continue to include our Sirius XM service in their products.

Automotive production and sales are dependent on many factors, including the availability of consumer credit, general economic conditions, consumer confidence and fuel costs. To the extent vehicle sales by automakers decline, or the penetration of factory-installed satellite radios in those vehicles is reduced, subscriber growth for our satellite radio service may be adversely impacted.

Sales of used vehicles represent a significant source of new subscribers for our satellite radio service. We have agreements with auto dealers and companies operating in the used vehicle market to provide us with data on sales of used satellite radio enabled vehicles, including in many cases the consumer’s name and address. The continuing availability of this data is important to our future growth, and the loss of such data may harm our revenue and business.

Failure of our satellites would significantly damage our business.

The lives of the satellites required to operate our Sirius XM service vary depending on a number of factors, including:

- degradation and durability of solar panels;
- quality of construction;
- random failure of satellite components, which could result in significant damage to or loss of a satellite;
- amount of fuel the satellite consumes; and
- damage or destruction as a result of electrostatic storms, terrorist attacks, collisions with other objects in space or other events, such as nuclear detonations, occurring in space.

In the ordinary course of operation, satellites experience failures of component parts and operational and performance anomalies. Components on several of our in-orbit satellites have failed, and from time to time we have experienced anomalies in the operation and performance of these satellites. These failures and anomalies are expected to continue in the ordinary course, and we cannot predict if any of these possible future events will have a material adverse effect on our operations or the life of our existing in-orbit satellites. In addition, our Sirius network of terrestrial repeaters communicates with a single third party satellite. Our XM network of terrestrial repeaters communicates with a single XM satellite. If the satellites communicating with the applicable repeater network fail unexpectedly, the services would be disrupted for several hours or longer.

On December 13, 2020, our SXM-7 satellite was successfully launched. In-orbit testing of SXM-7 began on January 4, 2021. During in-orbit testing of SXM-7, events occurred which have caused failures of certain SXM-7 payload units. An evaluation of SXM-7 is underway. The full extent of the damage to SXM-7 is not yet known. We have purchased insurance policies covering SXM-7 through launch and the first year of in-orbit operation. The aggregate coverage under those insurance policies is \$225 million. We have notified the underwriters of these policies of a potential claim with respect to SXM-7.

Any material failure of our operating satellites could cause us to lose customers for our Sirius XM service and could materially harm our reputation and our operating results. With the exception of the insurance we have purchased covering the launch and the first year of in-orbit operation of SXM-7 and SXM-8, we do not have insurance for our in-orbit satellites. Additional information regarding our fleet of satellites is contained in the section entitled “Item 1. Business - Satellites, Terrestrial Repeaters and Other Satellite Facilities” of this Annual Report on Form 10-K.

Our Sirius XM service may experience harmful interference from wireless operations.

The development of applications and services in spectrum adjacent to the frequencies licensed to us, as well as the combination of signals in other frequencies, may cause harmful interference to our satellite radio service in certain areas of the United States. Certain operations or combination of operations permitted by the FCC in spectrum, other than our licensed frequencies, results in the loss of signal to our service, and the reception of our satellite radio service can be adversely affected in certain areas. Elimination of this interference may not be possible in all cases. In other cases, our efforts to reduce this interference may require extensive engineering efforts and additions to our terrestrial infrastructure. These mitigation efforts may be costly and take several years to implement and may not be entirely effective. In certain cases, we are dependent on the FCC to assist us in preventing harmful interference to our service.

Risks Relating to our Pandora Business

Our Pandora ad-supported business has suffered a substantial and consistent loss of monthly active users, which may adversely affect our Pandora business.

The number of monthly active users to our ad-supported Pandora business has declined consistently for several years, and may further contract in the future.

The size of our ad-supported listener base is an important element of our Pandora business. The decline in our listener base has resulted in fewer listener hours and available advertising spots on our Pandora service, which ultimately may result in declines in our advertising revenue, and adversely affect our Pandora business. The contraction of our ad-supported listener base also decreases the size of demographic groups targeted by advertisers, which may hurt our ability to deliver advertising in a manner that maximizes advertisers’ return on investment and compete with other digital advertising platforms.

Our failure to convince advertisers of the benefits of our Pandora ad-supported service could harm our business.

We derive substantial revenue on our Pandora service from the sale of advertising. Our ability to attract and retain advertisers, and ultimately to sell our advertising inventory, depends on a number of factors, including:

- the number of listener hours on the Pandora ad-supported service, particularly the number of listener hours attributable to high-value demographics;
- keeping pace with changes in technology and our competitors, some of which have significant influence over the distribution of our Pandora app;
- competing effectively for advertising with other dominant online services, such as Spotify, Google and Facebook, as well as other marketing and media outlets, some of which provide services to us that we depend upon to fulfill the advertising we sell;
- successfully competing for local radio advertising;

- demonstrating the ability of advertisements to reach targeted audiences, including the value of mobile digital advertising;
- ensuring that new ad formats and ad product offerings are attractive to advertisers and that inventory management decisions (such as changes to ad load, frequency, prominence and quality of ads that we serve listeners) do not have a negative impact on listener hours; and
- adapting to technologies designed to block the display of our ads.

Our agreements with advertisers are generally short-term and may be terminated at any time by the advertiser. Advertisers may leave us for competing alternatives at any time. Failure to demonstrate to advertisers the value of our Pandora service would result in reduced spending by, or loss of, advertisers, which would harm our revenue and business.

If we are unable to maintain revenue growth from our advertising products, particularly in mobile advertising, our results of operations will be adversely affected.

In order to effectively monetize listener hours, we must, among other things, convince advertisers to migrate spending to nascent advertising markets, penetrate local advertising markets and develop compelling ad product solutions.

The substantial majority of the total listening to our Pandora service occurs on mobile devices. We are engaged in efforts to continue to convince advertisers of the capabilities and value of mobile digital advertising and to direct an increasing portion of their advertising spend to our ad-supported Pandora service.

We are continuing to build our sales capability to penetrate local advertising markets, which places us in competition with terrestrial radio. We may not be able to capture an increasing share of local and audio advertising revenue, which may have an adverse impact on our future revenue.

Changes to mobile operating systems and browsers may hinder our ability to sell advertising and market our services.

We use shared common device identifiers that are universal in the advertising technology ecosystem, such as Apple's Identifier for Advertisers, a random device identifier assigned by Apple to a user's device. We use these common device identifiers for targeting, advertising effectiveness and measurement for the Pandora's advertising business and for Pandora's consumer marketing purposes. These common device identifiers enable us to match audiences, including with second- and third-party data providers and measurement vendors, and enhance Pandora's advertising targeting segments with additional data. In our programmatic advertising business, we use common identifiers for several important functions, such as targeting and bidding. We also use common device identifiers to evaluate the success of our Pandora brand consumer marketing campaigns.

Apple, as well as mobile operating system and browser providers, have announced product features and plans that may adversely impact our ability to use these common identifiers and data collected in connection with these common identifiers in our Pandora business.

If we fail to accurately predict and play music, comedy or other content that our Pandora listeners enjoy, we may fail to retain existing and attract new listeners.

A key differentiating factor between our Pandora service and other music content providers is our ability to predict music that our listeners will enjoy. The effectiveness of our personalized playlist generating system depends, in part, on our ability to gather and effectively analyze large amounts of listener data and feedback. We have no assurance that we will continue to be successful in enticing listeners to our Pandora service to give a thumbs-up or thumbs-down to enough songs to effectively predict and select new and existing songs. In addition, our ability to offer listeners songs that they have not previously heard and impart a sense of discovery depends on our ability to acquire and appropriately categorize additional tracks that will appeal to our listeners' diverse and changing tastes. Many of our competitors currently have larger music and content catalogs than we offer and they may be more effective in providing their listeners with an appealing listener experience.

We also provide comedy and podcast content on our Pandora service, and we try to predict what our listeners will enjoy using technology similar to the technology that we use to generate personalized playlists for music. The risks that apply to our ability to satisfy our listeners' musical tastes apply to comedy, podcasts and other content to an even greater extent, particularly since we do not yet have as large a data set on listener preferences for comedy, podcasts and other content, and have a smaller catalog of such content as compared to music.

Our ability to predict and select music, comedy, podcasts and other content that our listeners enjoy is important to the perceived value of our Pandora service to consumers and the failure to make accurate predictions would adversely affect our ability to attract and retain subscribers and listeners, increase listener hours and sell advertising.

Risks Relating to Laws and Governmental Regulations

Privacy and data security laws and regulations may hinder our ability to market our services, sell advertising and impose legal liabilities.

We receive a substantial amount of data on purchasers and lessees of new and used vehicles from third parties. We use this data to market our services. We collect and use demographic and other information, including location information, from and about our listeners through the internet. Further, we and third parties use tracking technologies, including “cookies” and related technologies, to help us manage and track our listeners’ interactions with our services and deliver relevant advertising.

Various federal and state laws and regulations, as well as the laws of foreign jurisdictions, govern the collection, use, retention, sharing and security of the data we receive. Privacy groups and government authorities have increasingly scrutinized the ways in which companies collect and share data, including linking personal identities and data associated with particular users or devices with data collected through the internet, and we expect such scrutiny to increase. Alleged violations of laws and regulations relating to privacy and data may expose us to potential liability, may require us to expend significant resources in responding to and defending such allegations and claims and could in the future result in negative publicity and a loss of confidence in us by our subscribers, listeners and advertisers.

Privacy-related laws and regulations, such as the California Consumer Privacy Act and the European General Data Protection Regulation, are evolving and subject to potentially differing interpretations. Various federal and state legislative and regulatory bodies as well as foreign legislative and regulatory bodies may expand current or enact new laws regarding privacy and data security-related matters. New laws, amendments to or re-interpretations of existing laws and contractual obligations, as well as changes in our listeners’ expectations and demands regarding privacy and data security, may limit our ability to collect and use consumer data. Restrictions on our ability to collect, access and harness listener data, or to use or disclose listener data or profiles that we develop using such data, could limit our ability to deliver personalized content to our listeners and offer targeted advertising opportunities to our advertising customers, each of which are important to the success of our business. Increased regulation of data utilization and distribution practices could increase our costs of operation or otherwise adversely affect our business.

Consumer protection laws and our failure to comply with them could damage our business.

Federal and state consumer protection laws, rules and regulations cover nearly all aspects of our marketing efforts, including the content of our advertising, the terms of consumer offers and the manner in which we communicate with consumers. The nature of our business requires us to expend significant resources to try to ensure that our marketing activities comply with consumer protection laws, including laws relating to telemarketing activities and privacy. These efforts may not be successful, and we may have to expend even greater resources in our compliance efforts.

Modifications to consumer protection laws, including decisions by courts and administrative agencies interpreting these laws, could have an adverse impact on our ability to attract and retain subscribers and listeners to our services. There can be no assurance that new laws or regulations will not be enacted or adopted, preexisting laws or regulations will not be more strictly enforced or that our operations will comply with all applicable laws, which could have an adverse impact on our operations and financial condition.

Failure to comply with FCC requirements could damage our business.

We hold FCC licenses and authorizations to operate commercial satellite radio services in the United States, including satellites, terrestrial repeaters and related authorizations. The FCC generally grants licenses and authorizations for a fixed term. Although we expect our licenses and authorizations to be renewed in the ordinary course upon their expiration, there can be no assurance that this will be the case. Any assignment or transfer of control of any of our FCC licenses or authorizations must be approved in advance by the FCC.

The operation of our satellite radio systems is subject to significant regulation by the FCC under authority granted through the Communications Act of 1934 and related federal law. We are required, among other things, to operate only within specified frequencies; to coordinate our satellite radio services with radio systems operating in the same range of frequencies in neighboring countries; and to coordinate our communications links to our satellites with other systems that operate in the same frequency band.

Noncompliance by us with these requirements or other conditions or with other applicable FCC rules and regulations could result in fines, additional license conditions, license revocation or other detrimental FCC actions. There is no guarantee that Congress will not modify the statutory framework governing our services, or that the FCC will not modify its rules and regulations in a manner that would have an adverse impact on our operations.

Risks Associated with Data and Cybersecurity and the Protection of Consumer Information

If we fail to protect the security of personal information about our customers, we could be subject to costly government enforcement actions and private litigation and our reputation could suffer.

The nature of our business involves the receipt and storage of personal information about our subscribers and listeners including, in many cases, credit and debit card information. We have a program in place to detect and respond to data security incidents. However, the techniques used to gain unauthorized access to data systems are constantly evolving and may be difficult to detect for long periods of time. We may be unable to anticipate or prevent unauthorized access to data pertaining to our customers, including credit card and debit card information and other personally identifiable information. Our services, which are supported by our own systems and those of third-party vendors, are vulnerable to computer malware and attacks, any of which could lead to system interruptions, delays, or shutdowns, causing loss of critical data or the unauthorized access to personally identifiable information.

If we fail to protect the security of personal information about our customers or if an actual or perceived breach of security occurs on our systems or a vendor's systems, we could be exposed to costly government enforcement actions and private litigation and our reputation could suffer. We may also be required to expend significant resources to address these problems, including notification under various data privacy regulations, and our reputation and operating results could suffer. In addition, our subscribers and listeners, as well as potential customers, could lose confidence in our ability to protect their personal information, which could cause them to discontinue the use of our services. This loss of confidence would also harm our efforts to attract and retain advertisers, and unauthorized access to our programming would potentially create additional royalty expense with no corresponding revenue. Such events could adversely affect our results of operations. The costs of maintaining adequate protection, including insurance protection, against such threats as they develop in the future (or as legal requirements related to data security increase) could be material.

In addition, hardware, software, or applications we develop or procure from third parties may contain defects in design or manufacture or other problems that could unexpectedly compromise information security. Unauthorized parties may also attempt to gain access to our systems or facilities, or those of third parties with whom we do business, through fraud, trickery, or other forms of deceiving our employees, contractors or other agents. We may not be able to effectively control the unauthorized actions of third parties who may have access to the data we collect.

We may integrate the Pandora service with apps provided by third parties. In such case, we may not be able to control such third parties' use of listeners' data, ensure their compliance with the terms of our privacy policies, or prevent unauthorized access to, or use or disclosure of, information, any of which could expose us to potential liability and negative publicity and could cause our listeners and advertisers to discontinue use of our services.

To date, we have not had a significant cyber-attack or breach that has had a material impact on our business or results of operations. We have implemented systems and processes intended to secure our information technology systems and prevent unauthorized access to or loss of sensitive, confidential and personal data, including through the use of encryption and authentication technologies. Additionally, we have increased our monitoring capabilities to enhance early detection and timely response to potential security anomalies.

The cyber security measures we have implemented, however, may not be sufficient to prevent all possible attacks and may be vulnerable to hacking, employee error, malfeasance, system error, faulty password management or other irregularities. Further, the development and maintenance of these measures are costly and require ongoing monitoring and updating as technologies change and efforts to overcome security measures become increasingly sophisticated.

Interruption or failure of our information technology and communications systems could impair the delivery of our service and harm our business.

We rely on systems housed at our own premises and at those of third party vendors to enable subscribers and listeners to access our Pandora and Sirius XM services in a dependable and efficient manner. Any degradation in the quality, or any failure, of our systems could reduce our revenues, cause us to lose customers and damage our brands. Although we have implemented practices designed to maintain the availability of the information technology systems we rely on and mitigate the harm of any unplanned interruptions, we cannot anticipate all eventualities. We occasionally experience unplanned outages or technical difficulties. We could also experience loss of data or processing capabilities, which could cause us to lose customers and could harm our reputation and operating results.

We rely on internal systems and external systems maintained by manufacturers, distributors and service providers to take, fulfill and handle customer service requests and host certain online activities. Any interruption or failure of our internal or external systems could prevent us from servicing customers or cause data to be unintentionally disclosed. Our services have

experienced, and we expect them to continue to experience, periodic service interruptions and delays involving our own systems and those of our third-party vendors.

Our data centers and our information technology and communications systems are vulnerable to damage or interruption from natural disasters, malicious attacks, fire, power loss, telecommunications failures, computer viruses or other attempts to harm our systems. The occurrence of any of these events could result in interruptions in our services and unauthorized access to, or alteration of, the content and data contained on our systems and that these third party vendors store and deliver on our behalf.

Damage or interruption to our data centers and information technology and communications centers could expose us to data loss or manipulation, disruption of service, monetary and reputational damages, competitive disadvantage and significant increases in compliance costs and costs to improve the security and resiliency of our computer systems. The compromise of personal, confidential or proprietary information could also subject us to legal liability or regulatory action under evolving cybersecurity, data protection and privacy laws and regulations enacted by the U.S. federal and state governments or other foreign jurisdictions or by various regulatory organizations. As a result, our ability to conduct our business and our results of operations might be adversely affected.

Risks Associated with Certain Intellectual Property Rights

The market for music rights is changing and is subject to significant uncertainties.

We must maintain music programming royalty arrangements with, and pay license fees to, owners of rights in musical works in order to operate our services. Traditionally, BMI, ASCAP and SESAC have negotiated for these copyright users, collected royalties and distributed them to songwriters and music publishers. These traditional arrangements are changing. The fracturing of the traditional system for licensing rights in musical works may have significant consequences to our business, including increasing licensing costs and reducing the availability of certain pieces for use on our services.

Under the United States Copyright Act, we also must pay royalties to copyright owners of sound recordings for the performance of such sound recordings on our Sirius XM service. Those royalty rates may be established through negotiation or, if negotiation is unsuccessful, by the Copyright Royalty Board. Owners of copyrights in sound recordings have created SoundExchange, a collective organization, to collect and distribute royalties. SoundExchange is exempt by statute from certain U.S. antitrust laws and exercises significant market power in the licensing of sound recordings. Under the terms of the Copyright Royalty Board's existing decision governing sound recording royalties for satellite radio, we are required to pay a royalty based on our gross revenues associated with our satellite radio service, subject to certain exclusions, of 15.5% per year for each of the next seven years.

Our Pandora services depend upon maintaining complex licenses with copyright owners, and these licenses contain onerous terms.

Pandora has direct license agreements with many sound recording copyright and musical work copyright owners. These agreements grant us the right to operate Pandora Premium, and add interactive features, such as replays, additional skips and offline play, to Pandora's ad-supported service and to Pandora Plus.

The economic terms of these direct licenses are onerous and, as a result, we may not be able to profitably operate the Pandora services. However, the economic terms of these direct licenses may be "market," given the rates paid by Pandora's competitors. Competition for Pandora's services are primarily offered by entities that provide music and entertainment services as a small part of a larger business, such as Apple, Google and Amazon. These competitors have the ability to bear these onerous economic provisions to a much greater extent than our Pandora business. We may not be able to negotiate or obtain lower royalty rates under these direct licenses.

These direct licenses are complex. We may not be in compliance with the terms of these licenses, which could result in the loss of some or all of these licenses and some or all of the rights they convey. Similarly, many of these licenses provide that if the licensor loses rights in a portion of the content licensed under the agreement, that content may be removed from the license going-forward.

If Pandora fails to maintain these direct licenses, or if rights to certain music were no longer available under these licenses, then we may have to remove the affected music from Pandora's services, or discontinue certain interactive features for such music, and it might become commercially impractical for us to operate Pandora Premium, Pandora Plus or certain features of our advertising supported service. Any of these occurrences could have an adverse effect on our business, financial condition and results of operations.

Several of these direct licenses also include provisions related to the terms of those agreements relative to other content licensing arrangements, which are commonly referred to as “most favored nation” clauses. These provisions have caused, and may in the future cause, our payments under those agreements to escalate substantially. In addition, many record labels, music publishers and performing rights organizations have the right to audit our royalty payments, and audits often result in disputes over whether we have paid the proper amounts. As a result of such audits, we could be required to pay additional amounts, audit fees and interest or penalties, and the amounts involved could adversely affect our business, financial condition and results of operations.

There is no guarantee that these direct licenses will be renewed in the future or that such licenses will be available on the economic terms associated with the current licenses. If we are unable to secure and maintain direct licenses for the rights to provide music on our Pandora services on terms similar to those under our current direct licenses, our content costs could rise and adversely affect our business, financial condition and results of operations.

The rates we must pay for “mechanical rights” to use musical works on our Pandora service have increased substantially and these rates may adversely affect our business.

Pandora has direct licenses with thousands of music publishers. Those licenses provide that the royalty rate for “reproduction rights” or “mechanical rights”, which are required to offer the interactive features of our Pandora services, are determined by the rate formula set by the Copyright Royalty Board for the compulsory license made available by Section 115 of the Copyright Act. These royalty rates also apply to Pandora’s use of musical works for which we do not have a direct license with the copyright owners.

The Copyright Royalty Board has issued a rate formula for the period from January 1, 2018 through December 31, 2022. Pursuant to that decision, the rate that we expected to pay to music publishers and songwriters for the mechanical rights and performance rights needed in connection with interactive streaming would have increased annually between 2018 and 2022. On August 11, 2020, the United States Court of Appeals for the District of Columbia Circuit concluded that the CRB failed to provide adequate notice of the rate structure it adopted, failed to explain its rejection of a past settlement agreement as a benchmark for going forward, and never identified the source of its asserted authority to substantively redefine a material term of its initial determination. For these reasons, the Court of Appeals overturned the CRB’s adopted rate structure and percentage rates and remanded the proceeding to the CRB for further proceedings. The CRB has announced further proceedings to consider and address the Court of Appeals’ decision.

Our use of pre-1972 sound recordings on our Pandora service could result in additional costs.

Federal copyright protection previously did not apply to sound recordings created prior to February 15, 1972. The protection of such recordings was instead governed by a patchwork of state statutory and common laws. Copyright owners of pre-1972 sound recordings have brought litigation against Pandora alleging violations of state statutory and common laws arising from the reproduction and public performance of pre-1972 sound recordings.

If Pandora is found liable for the violation of the exclusive rights of any pre-1972 sound recording copyright owners, then we could be subject to liability, the amount of which could be significant.

Failure to protect our intellectual property or actions by third parties to enforce their intellectual property rights could substantially harm our business and operating results.

Development of our systems has depended upon the intellectual property that we have developed, as well as intellectual property licensed from third parties. If the intellectual property that we have developed or use is not adequately protected, others will be permitted to and may duplicate portions of our systems or services without liability. In addition, others may challenge, invalidate, render unenforceable or circumvent our intellectual property rights, patents or existing licenses or we may face significant legal costs in connection with defending and enforcing those intellectual property rights. Some of the know-how and technology we have developed, and plan to develop, is not now, nor will it be, covered by U.S. patents or trade secret protections. Trade secret protection and contractual agreements may not provide adequate protection if there is any unauthorized use or disclosure. The loss of necessary technologies could require us to substitute technologies of lower quality performance standards, at greater cost or on a delayed basis, which could harm us.

Other parties may have patents or pending patent applications, which will later mature into patents or inventions that may block or put limits on our ability to operate our system or license our technologies. We may have to resort to litigation to enforce our rights under license agreements or to determine the scope and validity of other parties’ proprietary rights in the subject matter of those licenses. This may be expensive and we may not succeed in any such litigation.

Third parties may assert claims or bring suit against us for patent, trademark or copyright infringement, or for other infringement or misappropriation of intellectual property rights. Any such litigation could be costly, divert our efforts from our business, subject us to significant liabilities to third parties, require us to seek licenses from third parties, block our ability to operate our services or license our technology, or otherwise adversely affect our ability to successfully develop and market our services.

Some of our services and technologies may use “open source” software, which may restrict how we use or distribute our services or require that we release the source code subject to those licenses.

We may incorporate in some products software licensed under “open source” licenses. Open source licenses often require that the source code be made available to the public and that any modifications or derivative works to the open source software continue to be licensed under open source licenses. Few courts have interpreted open source licenses, and the manner in which these licenses may be interpreted and enforced is therefore subject to uncertainty. In the event that portions of our proprietary technology are determined to be subject to an open source license, we may be required to publicly release portions of our source code, be forced to re-engineer all or a portion of our technologies, or otherwise be limited in the licensing of our technologies, each of which could adversely affect our ability to sustain and grow our business.

Rapid technological and industry changes and new entrants could adversely impact our services.

The audio entertainment industry is characterized by rapid technological change, frequent product and feature innovations, changes in customer requirements and expectations, evolving standards and new entrants offering products and services. If we are unable to keep pace with these changes, our business may not succeed. Products using new technologies could make our services less competitive in the marketplace.

Risks Related to our Capital and Ownership Structure

We have a significant amount of indebtedness, and our debt contains certain covenants that restrict our operations.

As of December 31, 2020, we had an aggregate principal amount of approximately \$8.5 billion of indebtedness outstanding.

Our indebtedness increases our vulnerability to general adverse economic and industry conditions; requires us to dedicate a portion of our cash flow from operations to payments on indebtedness, reducing the availability of cash flow to fund capital expenditures, marketing and other general corporate activities; limits our ability to borrow additional funds; and may limit our flexibility in planning for, or reacting to, changes in our business and the audio entertainment industry.

In addition, our borrowings under our Senior Secured Revolving Credit Facility carry a variable interest rate based on London Inter-bank Offered Rate (“LIBOR”) as a benchmark for establishing the rate of interest. LIBOR is the subject of national, international and other regulatory guidance and proposals for reform. In 2017, the United Kingdom’s Financial Conduct Authority the “FCA”), which regulates LIBOR, announced that it intends to phase out LIBOR. On November 30, 2020, ICE Benchmark Administration (“IBA”), the administrator of LIBOR, with the support of the United States Federal Reserve and the FCA, announced plans to consult on ceasing publication of LIBOR on December 31, 2021 for only the one week and two month LIBOR tenors, and on June 30, 2023 for all other LIBOR tenors. While this announcement extends the transition period to June 2023, the United States Federal Reserve concurrently issued a statement advising banks to stop new LIBOR issuances by the end of 2021. In light of these recent announcements, the future of LIBOR at this time is uncertain and any changes in the methods by which LIBOR is determined or regulatory activity related to LIBOR’s phaseout could cause LIBOR to perform differently than in the past or cease to exist. The consequences of these developments cannot be entirely predicted, but could include an increase in the cost of our borrowings under the Credit Facility.

We are a “controlled company” within the meaning of the NASDAQ listing rules and, as a result, qualify for, and rely on, exemptions from certain corporate governance requirements.

We are a “controlled company” for the purposes of the NASDAQ Stock Market listing rules. As such, we have elected not to comply with certain NASDAQ corporate governance requirements. Although a majority of our board of directors consists of independent directors, we do not have a compensation committee and nominating and corporate governance committee that consist entirely of independent directors. Accordingly, you may not have the same protections afforded to stockholders of companies that are subject to all of the corporate governance requirements of NASDAQ.

While we currently pay a quarterly cash dividend to holders of our common stock, we may change our dividend policy at any time.

We currently pay a quarterly cash dividend to holders of our common stock, although we have no obligation to do so, and our dividend policy may change at any time without notice to our stockholders. The declaration and payment of dividends is at the discretion of our board of directors in accordance with applicable law after considering various factors, including our financial condition, operating results, current and anticipated cash needs, limitations imposed by our indebtedness, legal requirements and other factors that our board of directors deems relevant.

Our principal stockholder has significant influence, including over actions requiring stockholder approval, and its interests may differ from the interests of other holders of our common stock.

As of December 31, 2020, Liberty Media beneficially owned approximately 76% of Holdings' common stock and has the ability to influence our affairs, policies and operations. One Liberty Media executive, one Liberty Media senior advisor, and one other member of the board of directors of Liberty Media are members of our board of directors. Our board of directors currently has fourteen members. Gregory B. Maffei, the President and Chief Executive Officer of Liberty Media, is the Chairman of Holdings' board of directors. Our board of directors is responsible for, among other things, the appointment of executive management, future issuances of common stock or other securities, the payment of dividends, if any, the incurrence of debt, and the approval of various transactions.

Liberty Media can also determine the outcome of all matters requiring general stockholder approval, including the election of the board of directors and changes to our certificate of incorporation or by-laws. Liberty Media can also cause or prevent a change of control of Holdings and could preclude any unsolicited acquisition of our company. The concentration of ownership could deprive our stockholders of an opportunity to receive a premium for their common stock as part of a sale of our company and might ultimately affect the market price of our common stock. In certain cases, the interests of Liberty Media may not be aligned with the interests of other stockholders of Holdings.

Other Operational Risks

If we are unable to attract and retain qualified personnel, our business could be harmed.

We believe that our success depends on our ability to attract and retain qualified management, sales, technical and other personnel. All of our employees, including our executive officers, are free to terminate their employment with us at any time, and their knowledge of our business may be difficult to replace.

Qualified individuals are in high demand, particularly in the media and technology industries in New York and in the San Francisco Bay Area, where we have substantial operations, and we may incur significant costs to attract and retain employees. If we are unable to attract and retain our key employees, we may not be able to achieve our objectives, and our business could be harmed.

Our facilities could be damaged by natural catastrophes or terrorist activities.

An earthquake, hurricane, tornado, flood, cyber-attack, terrorist attack, civil unrest or other catastrophic event could damage our data centers, studios, terrestrial repeater networks or satellite uplink facilities, interrupt our services and harm our business. We also have significant operations in the San Francisco Bay Area, a region known for seismic activity.

Any damage to the satellites that transmit to our terrestrial repeater networks would likely result in degradation of the affected service for some Sirius XM subscribers and could result in complete loss of Sirius XM satellite service in certain or all areas. Damage to our satellite uplink facilities could result in a complete loss of our Sirius XM satellite service until we could transfer operations to suitable back-up facilities.

The unfavorable outcome of pending or future litigation could have an adverse impact on our operations and financial condition.

We are parties to several legal proceedings arising out of various aspects of our business, including class actions arising out of our marketing practices. The outcome of these proceedings may not be favorable, and one or more unfavorable outcomes could have an adverse impact on our financial condition.

We may be exposed to liabilities that other entertainment service providers would not customarily be subject to.

We design, establish specifications, source or specify parts and components, and manage various aspects of the logistics of the production of satellite radios and our apps. As a result of these activities, we may be exposed to liabilities associated with the design, manufacture and distribution of radios that the providers of an entertainment service would not customarily be subject to, such as liabilities for design defects, patent infringement and compliance with applicable laws, as well as the costs of returned product.

Our business and prospects depend on the strength of our brands.

Maintaining and enhancing our brands is an important part of our strategy to expand our base of subscribers, listeners and advertisers. Our brands may be impaired by a number of factors, including service outages, data privacy and security issues and exploitation of our trademarks by others without permission. Our ability to maintain and enhance our brands also depends in part on our ability to continue to develop and provide an innovative and high-quality entertainment experience, which we may not do successfully.

Special Note About Forward-Looking Statements

We have made various statements in this Annual Report on Form 10-K that may constitute “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements may also be made in our other reports filed with or furnished to the SEC, in our press releases and in other documents. In addition, from time to time, we, through our management, may make oral forward-looking statements. For example, these forward-looking statements may include, among other things, our statements about our outlook and our future results of operations and financial condition; share repurchase plans; the impact of economic and market conditions; and the impact of recent acquisitions. The words “will likely result,” “are expected to,” “will continue,” “is anticipated,” “estimated,” “believe,” “intend,” “plan,” “may,” “should,” “could,” “would,” “likely,” “projection,” “outlook” and similar expressions are intended to identify forward-looking statements. Forward-looking statements are subject to risks and uncertainties, including those identified above, which could cause actual results to differ materially from such statements. We caution you that the risk factors described above are not exclusive. There may also be other risks that we are unable to predict at this time that may cause actual results to differ materially from those in forward-looking statements. New factors emerge from time to time, and it is not possible for us to predict which will arise or to assess with any precision the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date on which they are made. We undertake no obligation to update publicly or revise any forward-looking statements, except as required by law.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Below is a list of the principal properties that we own or lease:

Sirius XM

Location	Purpose	Own/Lease
New York, NY	Corporate headquarters, office facilities and studio/production facilities	Lease
Washington, DC	Office, studio/production facilities and data center	Own
Lawrenceville, NJ	Office and technical/engineering facilities	Lease
Deerfield Beach, FL	Office and technical/engineering facilities	Lease
Farmington Hills, MI	Office and technical/engineering facilities	Lease
Nashville, TN	Studio/production facilities	Lease
Vernon, NJ	Technical/engineering facilities	Own
Ellenwood, GA	Technical/engineering facilities	Lease
Fredericksburg, VA	Warehouse and technical/engineering facilities	Lease
Los Angeles, CA	Office and studio/production facilities	Lease
Irving, TX	Office and engineering facilities/call center	Lease
San Francisco, CA	Office and engineering facilities	Lease

We also lease other small facilities that we use as offices for our advertising sales personnel, studios and warehouse and maintenance space. These facilities are not material to our business or operations.

In addition, we lease or license space at approximately 540 locations for use in connection with the terrestrial repeater networks that support our satellite radio services. In general, these leases and licenses are for space on building rooftops and communications towers. None of these individual locations are material to our business or operations.

Pandora

Location	Purpose	Own/Lease
Oakland, CA	Office and technical/engineering facilities	Lease
New York, NY	Office, sales and studio/production facilities	Lease
Atlanta, GA	Office, sales and technical/engineering facilities	Lease
Santa Monica, CA	Office and sales facilities	Lease

We also lease other small facilities that we use as offices for our sales and office personnel. These facilities are not material to our business or operations.

ITEM 3. LEGAL PROCEEDINGS

For a discussion of our “Legal Proceedings,” refer to Note 17 in the notes to our audited consolidated financial statements of this Annual Report on Form 10-K.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II**ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES**

Our common stock is traded on the NASDAQ Global Select Market under the symbol "SIRI." On January 29, 2021, there were approximately 6,795 record holders of our common stock.

Issuer Purchases of Equity Securities

As of December 31, 2020, our board of directors had authorized us to repurchase an aggregate of \$16.0 billion of our common stock and have not establish an end date for this stock repurchase program. Shares of common stock may be purchased from time to time on the open market, pursuant to pre-set trading plans meeting the requirements of Rule 10b5-1 under the Exchange Act, in privately negotiated transactions, including transactions with Liberty Media and its affiliates, or otherwise. As of December 31, 2020, our cumulative repurchases since December 2012 under our stock repurchase program totaled 3.3 billion shares for approximately \$14.4 billion, and approximately \$1.6 billion remained available under our existing \$16.0 billion stock repurchase program. The size and timing of our repurchases will be based on a number of factors, including price and business and market conditions.

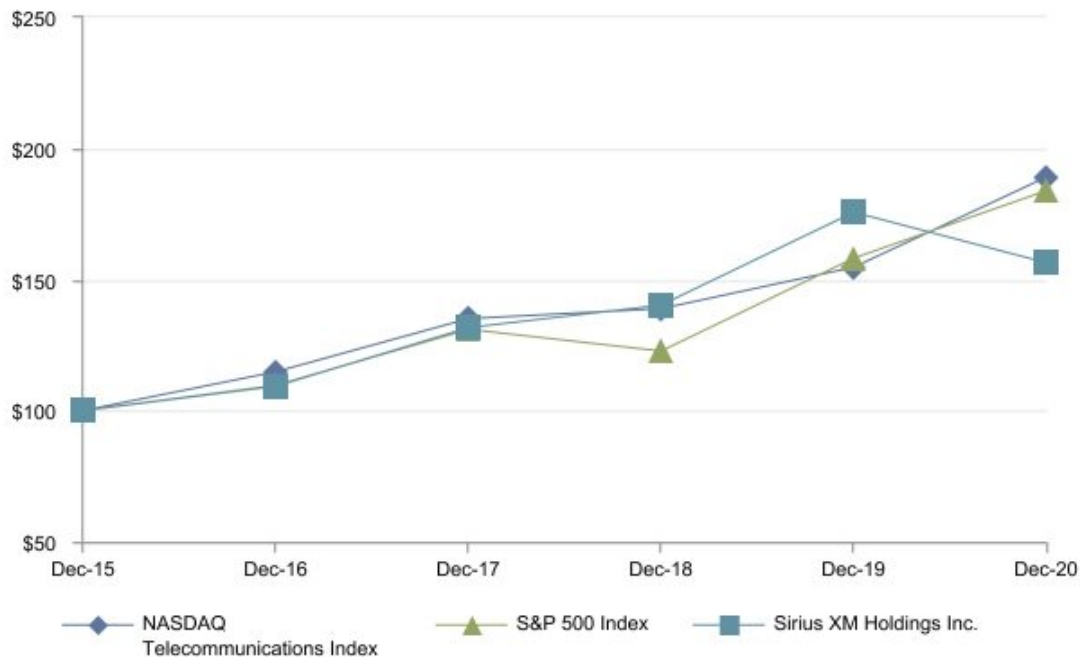
The following table provides information about our purchases of equity securities registered pursuant to Section 12 of the Exchange Act during the quarter ended December 31, 2020:

Period	Total Number of Shares Purchased	Average Price Paid Per Share (a)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (a)
October 1, 2020 - October 31, 2020	45,000,000	\$ 5.81	45,000,000	\$ 2,011,053,907
November 1, 2020 - November 30, 2020	33,500,000	\$ 6.23	33,500,000	\$ 1,802,510,457
December 1, 2020 - December 31, 2020	32,868,437	\$ 6.40	32,868,437	\$ 1,592,273,446
Total	111,368,437	\$ 6.11	111,368,437	

- (a) These amounts include fees and commissions associated with the shares repurchased. All of these repurchases were made pursuant to our share repurchase program.

COMPARISON OF CUMULATIVE TOTAL RETURNS

Set forth below is a graph comparing the cumulative performance of our common stock with the Standard & Poor's Composite-500 Stock Index, or the S&P 500, and the NASDAQ Telecommunications Index from December 31, 2015 to December 31, 2020. The graph assumes that \$100 was invested on December 31, 2015 in each of our common stock, the S&P 500 and the NASDAQ Telecommunications Index. In November 2016, we paid our first quarterly dividend. Our board of directors expects to declare regular quarterly dividends.



Stockholder Return Performance Table

	NASDAQ Telecommunications Index		S&P 500 Index		Sirius XM Holdings Inc.	
December 31, 2015	\$	100.00	\$	100.00	\$	100.00
December 31, 2016	\$	114.87	\$	109.54	\$	109.34
December 31, 2017	\$	134.90	\$	130.81	\$	131.70
December 31, 2018	\$	138.98	\$	122.65	\$	140.29
December 31, 2019	\$	154.80	\$	158.07	\$	175.68
December 31, 2020	\$	188.92	\$	183.77	\$	156.51

Equity Compensation Plan Information

Plan Category (<i>shares in millions</i>)	Number of Securities to be Issued upon Exercise of Outstanding Options, Warrants and Rights ⁽¹⁾	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights ⁽²⁾	Number of Securities Remaining Available for Future Issuance under Equity Compensation Plans
Equity compensation plans approved by security holders	259	\$ 4.73	160
Equity compensation plans not approved by security holders	—	—	—
Total	259	\$ 4.73	160

- (1) In addition to shares issuable upon exercise of stock options, amount also includes approximately 75 shares underlying restricted stock units, including performance-based restricted stock units (“PRSUs”) and dividend equivalents thereon. The number of shares to be issued in respect of PRSUs and dividend equivalents thereon have been calculated based on the assumption that the maximum levels of performance applicable to the PRSUs will be achieved.
- (2) The weighted-average exercise price of outstanding options, warrants and rights relates solely to stock options, which are the only currently outstanding exercisable security.

ITEM 6. SELECTED FINANCIAL DATA

The operating and balance sheet data included in the following selected financial data has been derived from our audited consolidated financial statements. The data below includes Pandora's results for the year ended December 31, 2020 and for the period from February 1, 2019 (the date of the Pandora acquisition) to December 31, 2019. This selected financial data should be read in conjunction with the audited Consolidated Financial Statements and related notes thereto included in Item 8 of this Annual Report on Form 10-K and "Management's Discussion and Analysis of Financial Condition and Results of Operations" included in Item 7 of this Annual Report on Form 10-K.

<i>(in millions, except per share data)</i>	As of and for the Years Ended December 31,				
	2020	2019	2018	2017	2016
Statements of Comprehensive Income Data:					
Total revenue	\$ 8,040	\$ 7,794	\$ 5,771	\$ 5,425	\$ 5,017
Net income ⁽¹⁾	\$ 131	\$ 914	\$ 1,176	\$ 648	\$ 746
Net income per share - basic ^(1, 2)	\$ 0.03	\$ 0.20	\$ 0.26	\$ 0.14	\$ 0.15
Net income per share - diluted ^(1, 2)	\$ 0.03	\$ 0.20	\$ 0.26	\$ 0.14	\$ 0.15
Weighted average common shares outstanding - basic	4,330	4,501	4,462	4,638	4,917
Weighted average common shares outstanding - diluted	4,429	4,616	4,561	4,724	4,965
Cash dividends declared per share	\$ 0.05457	\$ 0.04961	\$ 0.0451	\$ 0.0410	\$ 0.0100
Balance Sheet Data:					
Cash and cash equivalents	\$ 71	\$ 106	\$ 54	\$ 69	\$ 214
Restricted investments	\$ 12	\$ 14	\$ 11	\$ 10	\$ 10
Total assets ⁽²⁾	\$ 10,333	\$ 11,149	\$ 8,173	\$ 8,329	\$ 8,004
Long-term debt, net of current portion	\$ 8,499	\$ 7,842	\$ 6,885	\$ 6,741	\$ 5,843
Stockholders' (deficit) equity ⁽³⁾	\$ (2,285)	\$ (736)	\$ (1,817)	\$ (1,524)	\$ (792)

- (1) During the year ended December 31, 2020, we recorded a non-cash impairment of goodwill and indefinite-lived assets of \$956 and \$20, respectively. Refer to Note 9 to our consolidated financial statements for more information.
- (2) The 2017 net income per basic and diluted share includes the impact of \$185 in income tax expense, or a decrease of approximately \$0.04 per share, due to the reduction in our net Deferred tax asset balance as a result of the Tax Cut and Jobs Act signed into law on December 22, 2017.
- (3) For the year ended December 31, 2016, we recorded \$294 as an increase to our Deferred tax assets and decrease to our Accumulated deficit as a result of the adoption of Accounting Standards Update 2016-09, *Compensation-Stock Compensation (Topic 718)*.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

This Annual Report on Form 10-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Actual results and the timing of events could differ materially from those projected in forward-looking statements due to a number of factors, including those described under "Item 1A - Risk Factors" and elsewhere in this Annual Report on Form 10-K. See "Special Note About Forward-Looking Statements."

All amounts referenced in this Item 7 are in millions, except subscriber amounts are in thousands and per subscriber and per installation amounts are in ones, unless otherwise stated.

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our audited consolidated financial statements and related notes included elsewhere in this Annual Report on Form 10-K.

Executive Summary

We operate two complementary audio entertainment businesses - our Sirius XM business and our Pandora business.

Sirius XM

Our Sirius XM business features music, sports, entertainment, comedy, talk, news, traffic and weather channels and other content, as well as podcasts and infotainment services, in the United States on a subscription fee basis. Sirius XM's premier content bundles include live, curated and certain exclusive and on demand programming. The Sirius XM service is distributed through our two proprietary satellite radio systems and streamed via applications for mobile devices, home devices and other consumer electronic equipment. Satellite radios are primarily distributed through automakers, retailers and our website. Our Sirius XM service is also available through our user interface, which we call "360L," that combines our satellite and streaming services into a single, cohesive in-vehicle entertainment experience.

The primary source of revenue from our Sirius XM business is subscription fees, with most of our customers subscribing to monthly, quarterly, semi-annual or annual plans. We also derive revenue from advertising on select non-music channels, direct sales of our satellite radios and accessories, and other ancillary services. As of December 31, 2020, our Sirius XM business had approximately 34.7 million subscribers.

In addition to our audio entertainment businesses, we provide connected vehicle services to several automakers. These services are designed to enhance the safety, security and driving experience of consumers. We also offer a suite of data services that includes graphical weather, fuel prices, sports schedules and scores and movie listings, a traffic information service that includes information as to road closings, traffic flow and incident data to consumers with compatible in-vehicle navigation systems, and real-time weather services in vehicles, boats and planes.

In May 2020, we terminated the Automatic Labs Inc. ("Automatic") service, which was part of our connected services business. Automatic operated a service for consumers and auto dealers and offered an install-it-yourself adapter and mobile application, which transformed vehicles into connected vehicles. During the year ended December 31, 2020, we recorded \$24 of restructuring expenses in our consolidated statements of comprehensive income related to this termination of the service. We did not record any restructuring expenses during the years ended December 31, 2019 and 2018.

Sirius XM also holds a 70% equity interest and 33% voting interest in Sirius XM Canada Holdings Inc. ("Sirius XM Canada"). Sirius XM Canada's subscribers are not included in our subscriber count or subscriber-based operating metrics.

Pandora

Our Pandora business operates a music, comedy and podcast streaming discovery platform, offering a personalized experience for each listener wherever and whenever they want to listen, whether through mobile devices, car speakers or connected devices. Pandora enables listeners to create personalized stations and playlists, discover new content, hear artist- and expert-curated playlists, podcasts and select Sirius XM content as well as search and play songs and albums on-demand. Pandora is available as (1) an ad-supported radio service, (2) a radio subscription service (Pandora Plus) and (3) an on-demand subscription service (Pandora Premium). As of December 31, 2020, Pandora had approximately 6.3 million subscribers.

The majority of revenue from our Pandora business is generated from advertising on our Pandora ad-supported radio service. We also derive subscription revenue from our Pandora Plus and Pandora Premium subscribers.

Our Pandora business also sells advertising on audio platforms and in podcasts unaffiliated with us. Pandora is the exclusive US ad sales representative for SoundCloud. Through this arrangement Pandora offers advertisers the ability to execute campaigns in the US across the Pandora and SoundCloud listening platforms. We also have arrangements to serve as the ad sales representative for certain podcasts, such as the podcasts of NBC News. In addition, through AdsWizz, Pandora provides a comprehensive digital audio advertising technology platform, which connects audio publishers and advertisers with a variety of ad insertion, campaign trafficking, yield optimization, programmatic buying, marketplace and podcast monetization solutions. As of December 31, 2020, our Pandora business had approximately 58.9 million monthly active users.

In October 2020, Sirius XM acquired the assets of Stitcher from The E.W. Scripps Company and certain of its subsidiaries for a total consideration of \$296, which includes \$272 in cash and \$30 related to contingent consideration, partially offset by working capital adjustments of \$6. The acquisition of Stitcher, in conjunction with Simplecast, creates a full-service platform for podcast creators, publishers and advertisers. Refer to Note 3 to our consolidated financial statements for more information on this acquisition.

In June 2020, Sirius XM acquired Simplecast for \$28 in cash. Simplecast is a podcast management and analytics platform. Refer to Note 3 to our consolidated financial statements for more information on this acquisition.

In February 2020, Sirius XM completed a \$75 investment in SoundCloud. SoundCloud is the world's largest open audio platform, with a connected community of creators, listeners, and curators. SoundCloud's platform enables its users to upload, promote, share and create audio entertainment. The minority investment complements the existing ad sales relationship between SoundCloud and Pandora.

Liberty Media

As of December 31, 2020, Liberty Media beneficially owned, directly and indirectly, approximately 76% of the outstanding shares of our common stock. As a result, we are a "controlled company" for the purposes of the NASDAQ corporate governance requirements.

Results of Operations

Actual Results

Set forth below are our results of operations for the year ended December 31, 2020 compared with the year ended December 31, 2019 and for the year ended December 31, 2019 compared with the year ended December 31, 2018. The discussion of our results of operations for the year ended December 31, 2020 includes the financial results of Pandora for the entire period, while the results of operations for the year ended December 31, 2019 includes the financial results of Pandora from the date of the Pandora Acquisition, February 1, 2019. The inclusion of Pandora's results in the year ended December 31, 2020 for the entire period may render direct comparisons with results for prior year period less meaningful. The results of operations are presented for each of our reporting segments for revenue and cost of services and on a consolidated basis for all other items.

	For the Years Ended December 31,			2020 vs 2019 Change		2019 vs 2018 Change	
	2020	2019	2018	Amount	%	Amount	%
Revenue							
Sirius XM:							
Subscriber revenue	\$ 5,857	\$ 5,644	\$ 5,264	\$ 213	4 %	\$ 380	7 %
Advertising revenue	157	205	188	(48)	(23)%	17	9 %
Equipment revenue	173	173	155	—	— %	18	12 %
Other revenue	155	165	164	(10)	(6)%	1	1 %
Total Sirius XM revenue	6,342	6,187	5,771	155	3 %	416	7 %
Pandora:							
Subscriber revenue	515	476	—	39	8 %	476	nm
Advertising revenue	1,183	1,131	—	52	5 %	1,131	nm
Total Pandora revenue	1,698	1,607	—	91	6 %	1,607	nm
Total consolidated revenue	8,040	7,794	5,771	246	3 %	2,023	35 %
Cost of services							
Sirius XM:							
Revenue share and royalties	1,484	1,431	1,394	53	4 %	37	3 %
Programming and content	449	444	406	5	1 %	38	9 %
Customer service and billing	394	398	382	(4)	(1)%	16	4 %
Transmission	123	112	96	11	10 %	16	17 %
Cost of equipment	19	29	31	(10)	(34)%	(2)	(6)%
Total Sirius XM cost of services	2,469	2,414	2,309	55	2 %	105	5 %
Pandora:							
Revenue share and royalties	937	860	—	77	9 %	860	nm
Programming and content	32	18	—	14	78 %	18	nm
Customer service and billing	87	77	—	10	13 %	77	nm
Transmission	54	58	—	(4)	(7)%	58	nm
Total Pandora cost of services	1,110	1,013	—	97	10 %	1,013	nm
Total consolidated cost of services	3,579	3,427	2,309	152	4 %	1,118	48 %
Subscriber acquisition costs	362	427	470	(65)	(15)%	(43)	(9)%
Sales and marketing	957	937	484	20	2 %	453	94 %
Engineering, design and development	263	280	123	(17)	(6)%	157	128 %
General and administrative	511	524	354	(13)	(2)%	170	48 %
Depreciation and amortization	506	468	301	38	8 %	167	55 %
Acquisition and restructuring costs	28	84	3	(56)	(67)%	81	nm
Impairment charges	976	—	—	976	nm	—	nm
Total operating expenses	7,182	6,147	4,044	1,035	17 %	2,103	52 %
Income from operations	858	1,647	1,727	(789)	(48)%	(80)	(5)%
Other (expense) income:							
Interest expense	(394)	(390)	(350)	(4)	(1)%	(40)	(11)%
Loss on extinguishment of debt	(40)	(57)	—	17	30 %	(57)	nm
Other income (expense)	6	(3)	44	9	300 %	(47)	(107)%
Total other (expense) income	(428)	(450)	(306)	22	5 %	(144)	(47)%
Income before income taxes	430	1,197	1,421	(767)	(64)%	(224)	(16)%
Income tax expense	(299)	(283)	(245)	(16)	(6)%	(38)	(16)%
Net income	\$ 131	\$ 914	\$ 1,176	\$ (783)	(86)%	\$ (262)	(22)%

nm - not meaningful

Sirius XM Revenue

Refer to page 42 for our discussion on Sirius XM revenue.

Pandora Revenue

The year ended December 31, 2020 includes Pandora's revenue for the entire period while the year ended December 31, 2019 includes Pandora's revenue from the acquisition date, February 1, 2019. Refer to page 43 for our discussion on Pandora revenue.

Sirius XM Cost of Services

Refer to page 43 for our discussion on Sirius XM cost of services.

Pandora Cost of Services

The year ended December 31, 2020 includes Pandora's cost of services for the entire period while the year ended December 31, 2019 includes Pandora's cost of services from the acquisition date, February 1, 2019. Refer to page 45 for our discussion on Pandora cost of services.

Operating Costs

Subscriber Acquisition Costs are costs associated with our satellite radio service and include hardware subsidies paid to radio manufacturers, distributors and automakers; subsidies paid for chipsets and certain other components used in manufacturing radios; device royalties for certain radios and chipsets; product warranty obligations; and freight. The majority of subscriber acquisition costs are incurred and expensed in advance of acquiring a subscriber. Subscriber acquisition costs do not include advertising costs, marketing, loyalty payments to distributors and dealers of satellite radios or revenue share payments to automakers and retailers of satellite radios.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, subscriber acquisition costs were \$362 and \$427, respectively, a decrease of 15%, or \$65, and decreased as a percentage of total revenue. The decrease was driven by a decline in OEM installations as a result of the COVID-19 pandemic as well as lower hardware subsidies as certain subsidy rates decreased.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, subscriber acquisition costs were \$427 and \$470, respectively, a decrease of 9%, or \$43, and decreased as a percentage of total revenue. The decrease was driven by reductions to OEM hardware subsidy rates, lower subsidized costs related to the transition of chipsets, and a decrease in the volume of satellite radio installations.

We expect subscriber acquisition costs to fluctuate with OEM installations; however, the subsidized chipsets cost is expected to decline as we transition to a new generation of chipsets. We intend to continue to offer subsidies and other incentives to induce OEMs to include our technology in their vehicles.

Sales and Marketing includes costs for marketing, advertising, media and production, including promotional events and sponsorships; cooperative and artist marketing; and personnel related costs including salaries, commissions, and sales support. Marketing costs include expenses related to direct mail, outbound telemarketing, email communications, social media, television and digital performance media.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, sales and marketing expenses were \$957 and \$937, respectively, an increase of 2%, or \$20, and decreased as a percentage of total revenue. The increase was primarily due to the inclusion of Pandora for a full twelve months in 2020, and additional subscriber communications and acquisition campaigns; partially offset by lower travel, entertainment and personnel-related costs.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, sales and marketing expenses were \$937 and \$484, respectively, an increase of 94%, or \$453, and increased as a percentage of total revenue. The increase was primarily due to the inclusion of Pandora, and additional subscriber communications and acquisition campaigns.

We anticipate that sales and marketing expenses will increase with growth in our trial subscriber base, as we expand programs to retain our existing subscribers, win back former subscribers, attract new subscribers and listeners, and as we grow advertising revenue.

Engineering, Design and Development consists primarily of compensation and related costs to develop chipsets and new products and services, including streaming and connected vehicle services, research and development for broadcast information systems and the design and development costs to incorporate Sirius XM radios into new vehicles manufactured by automakers.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, engineering, design and development expenses were \$263 and \$280, respectively, a decrease of 6%, or \$17, and decreased as a percentage of total revenue. The decrease was driven primarily by lower personnel-related costs, partially offset by the inclusion of Pandora for a full twelve months in 2020.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, engineering, design and development expenses were \$280 and \$123, respectively, an increase of 128%, or \$157, and increased as a percentage of total revenue. The increase was driven primarily by the inclusion of Pandora.

We expect engineering, design and development expenses to increase in future periods as we continue to develop our infrastructure, products and services.

General and Administrative primarily consists of compensation and related costs for personnel and facilities, and include costs related to our finance, legal, human resources and information technologies departments.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, general and administrative expenses were \$511 and \$524, respectively, a decrease of 2%, or \$13, and decreased as a percentage of total revenue. The decrease was driven by a one-time \$25 legal settlement associated with Do-Not-Call litigation recorded in the first quarter of 2019, lower personnel-related costs, the closure of a sales and use tax audit in the second quarter of 2020, and lower travel and entertainment costs, partially offset by the inclusion of Pandora for a full twelve months in 2020, a \$25 million contribution to a donor advised fund that will be the source of our future charitable donations, and higher legal costs.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, general and administrative expenses were \$524 and \$354, respectively, an increase of 48%, or \$170, and increased as a percentage of total revenue. The increase was driven by the inclusion of Pandora and by a \$25 legal settlement associated with Do-Not-Call litigation.

We expect our general and administrative expenses to remain relatively flat.

Depreciation and Amortization represents the recognition in earnings of the cost of assets used in operations, including our satellite constellations, property, equipment and intangible assets, over their estimated service lives.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, depreciation and amortization expense was \$506 and \$468, respectively, an increase of 8%, or \$38, and increased as a percentage of total revenue. The increase was driven by additional assets placed in-service and the inclusion of Pandora for a full twelve months in 2020.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, depreciation and amortization expense was \$468 and \$301, respectively, an increase of 55%, or \$167, and increased as a percentage of total revenue. The increase was driven by the amortization of definite life intangibles resulting from the Pandora Acquisition and higher depreciation costs related to additional assets placed in-service.

Acquisition and Restructuring Costs represents expenses associated with the acquisitions of Pandora, Simplecast and Stitcher and restructuring costs.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, acquisition and restructuring costs were \$28 and \$84, respectively.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, acquisition and other related costs were \$84 and \$3, respectively.

Impairment Charges represents the amount by which the carrying amount of an asset exceeds the asset's fair value.

- *2020 vs. 2019:* For the year ended December 31, 2020, impairment charge was \$976. We recorded a goodwill impairment charge of \$956 during the year ended December 31, 2020 to reflect the carrying amount of the Pandora goodwill and an impairment charge of \$20 to write down the carrying value of our Pandora trademark. We did not record an impairment charge in 2019 or 2018.

Other Income (Expense)

Interest Expense includes interest on outstanding debt.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, interest expense was \$394 and \$390, respectively, an increase of 1%, or \$4. The increase was primarily driven by higher average debt due to the issuances of Sirius XM's 5.500% Senior Notes due 2029, 4.625% Senior Notes due 2024 in 2019, and 4.125% Senior Notes due 2030 in 2020; partially offset by the redemption of Sirius XM's 6.00% Senior Notes due 2024, redemption of the Pandora convertible notes in 2019, a lower average outstanding balance under the Credit Facility, and lower interest rates.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, interest expense was \$390 and \$350, respectively, an increase of 11%, or \$40. The increase was primarily driven by higher average debt due to the issuances of Sirius XM's 5.500% Senior Notes due 2029 and 4.625% Senior Notes due 2024 as well as the inclusion of Pandora debt, partially offset by the redemption of Sirius XM's 6.00% Senior Notes due 2024, lower interest rates and an increase in capitalized interest associated with construction of new satellites.

Loss on Extinguishment of Debt includes losses incurred as a result of the redemption of certain debt.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, loss on extinguishment of debt was \$40 and \$57, respectively. The loss on extinguishment of debt recorded in 2020 was due to the redemption of \$500 principal amount of Sirius XM's 4.625% Senior Notes due 2023 and \$1,000 principal amount of Sirius XM's 5.375% Senior Notes due 2025. The loss recorded in 2019 was due to the redemption of \$1,500 in principal amount of Sirius XM's 6.00% Senior Notes due 2024 and the repurchase of \$151 in principal amount of Pandora's 1.75% Convertible Senior Notes due 2020.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, loss on extinguishment of debt was \$57 and \$0, respectively. During the year ended December 31, 2019, we recorded losses due to the redemption of \$1,500 in principal amount of Sirius XM's 6.00% Senior Notes due 2024 and the repurchase of \$151 in principal amount of Pandora's 1.75% Convertible Senior Notes due 2020. There was no loss on extinguishment of debt in 2018.

Other Income (Expense) primarily includes realized and unrealized gains and losses from our Deferred Compensation Plan and other investments, interest and dividend income, our share of the income or loss from equity investments in Sirius XM Canada and SoundCloud, and transaction costs related to non-operating investments.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, other income (expense) was \$6 and \$(3), respectively. Other income for the year ended December 31, 2020 was driven by a one-time lawsuit settlement of \$7. Other expense for the year ended December 31, 2019 was driven by losses on other investments of \$21; partially offset by interest earned on our loan to Sirius XM Canada of \$10, trading gains associated with the investments held for our Deferred Compensation Plan of \$4 and interest income of \$3.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, other (expense) income was \$(3) and \$44, respectively. Other expense for the year ended December 31, 2019 was driven by losses on other investments of \$21; partially offset by interest earned on our loan to Sirius XM Canada of \$10, trading gains associated with the investments held for our Deferred Compensation Plan of \$4 and interest income of \$3. Other income for the year ended December 31, 2018 was driven by unrealized gains of \$43 from a fair value adjustment of our investment in Pandora, and interest earned on our loan to Sirius XM Canada of \$10, partially offset by losses on other investments of \$10.

Income Taxes

Income Tax Expense includes the change in our deferred tax assets, current federal and state tax expenses, and foreign withholding taxes.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, income tax expense was \$299 and \$283, respectively, and our effective tax rate was 69.5% and 23.6%, respectively.

Our effective tax rate of 69.5% for the year ended December 31, 2020 was primarily impacted by the nondeductible Pandora goodwill impairment charge, partially offset by the recognition of excess tax benefits related to share-based compensation, a benefit related to state and federal research and development and certain other credits and a worthless stock deduction associated with the termination of the Automatic service. Our effective tax rate of 23.6% for the year ended December 31, 2019 was primarily impacted by the recognition of excess tax benefits related to share-based compensation and benefits related to state and federal research and development and certain other credits, partially offset by the impact of nondeductible compensation.

- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, income tax expense was \$283 and \$245, respectively, and our effective tax rate was 23.6% and 17.2%, respectively.

Our effective tax rate of 23.6% for the year ended December 31, 2019 was primarily impacted by the recognition of excess tax benefits related to share-based compensation and benefits related to state and federal research and development and certain other credits, partially offset by the impact of nondeductible compensation. Our effective tax rate of 17.2% for the year ended December 31, 2018 was primarily impacted by the recognition of excess tax benefits related to share based compensation and a benefit related to state and federal research and development credits.

Unaudited Pro Forma Results

Set forth below are our pro forma results of operations for the year ended December 31, 2020 compared with the year ended December 31, 2019 and for the year ended December 31, 2019 compared with the year ended December 31, 2018. These pro forma results are based on estimates and assumptions, which we believe are reasonable. They are not the results that would have been realized had the Pandora Acquisition actually occurred on January 1, 2018 and are not indicative of our consolidated results of operations in future periods. The pro forma results primarily include adjustments related to amortization of acquired intangible assets, depreciation of property and equipment, acquisition costs, fair value gain or loss on the Pandora investment and associated tax impacts. Pro forma adjustments are not included for the acquisitions of Simplecast and Stitcher. Please refer to the Footnotes to Results of Operations (pages 49 through 53) following our discussion of results of operations.

	For the Years Ended December 31,			2020 vs 2019 Change		2019 vs 2018 Change	
	2020	2019	2018	Amount	%	Amount	%
<i>Revenue</i>	(Pro Forma)	(Pro Forma)	(Pro Forma)				
Sirius XM:							
Subscriber revenue	\$ 5,857	\$ 5,644	\$ 5,264	\$ 213	4 %	\$ 380	7 %
Advertising revenue	157	205	188	(48)	(23)%	17	9 %
Equipment revenue	173	173	155	—	— %	18	12 %
Other revenue	161	172	171	(11)	(6)%	1	1 %
Total Sirius XM revenue	6,348	6,194	5,778	154	2 %	416	7 %
Pandora:							
Subscriber revenue	515	527	478	(12)	(2)%	49	10 %
Advertising revenue	1,183	1,200	1,092	(17)	(1)%	108	10 %
Total Pandora revenue	1,698	1,727	1,570	(29)	(2)%	157	10 %
Total consolidated revenue	8,046	7,921	7,348	125	2 %	573	8 %
<i>Cost of services</i>							
Sirius XM:							
Revenue share and royalties	1,484	1,431	1,394	53	4 %	37	3 %
Programming and content	449	444	406	5	1 %	38	9 %
Customer service and billing	394	398	382	(4)	(1)%	16	4 %
Transmission	123	112	96	11	10 %	16	17 %
Cost of equipment	19	29	31	(10)	(34)%	(2)	(6)%
Total Sirius XM cost of services	2,469	2,414	2,309	55	2 %	105	5 %
Pandora:							
Revenue share and royalties	943	945	929	(2)	— %	16	2 %
Programming and content	32	18	11	14	78 %	7	64 %
Customer service and billing	87	85	95	2	2 %	(10)	(11)%
Transmission	54	63	50	(9)	(14)%	13	26 %
Total Pandora cost of services	1,116	1,111	1,085	5	— %	26	2 %
Total consolidated cost of services	3,585	3,525	3,394	60	2 %	131	4 %
Subscriber acquisition costs	362	427	470	(65)	(15)%	(43)	(9)%
Sales and marketing	957	973	883	(16)	(2)%	90	10 %
Engineering, design and development	263	294	266	(31)	(11)%	28	11 %
General and administrative	511	540	517	(29)	(5)%	23	4 %
Depreciation and amortization	506	483	465	23	5 %	18	4 %
Acquisition and restructuring costs	28	—	—	28	nm	—	nm
Impairment charges	976	—	—	976	nm	—	nm
Total operating expenses	7,188	6,242	5,995	946	15 %	247	4 %
Income from operations	858	1,679	1,353	(821)	(49)%	326	24 %
Other (expense) income:							
Interest expense	(394)	(392)	(377)	(2)	(1)%	(15)	(4)%
Loss on extinguishment of debt	(40)	(57)	(17)	17	30 %	(40)	(235)%
Other income (expense)	6	(2)	8	8	400 %	(10)	(125)%
Total other (expense) income	(428)	(451)	(386)	23	5 %	(65)	(17)%
Income before income taxes	430	1,228	967	(798)	(65)%	261	27 %
Income tax expense	(299)	(290)	(123)	(9)	(3)%	(167)	(136)%
Net income	\$ 131	\$ 938	\$ 844	\$ (807)	(86)%	\$ 94	11 %
Adjusted EBITDA	\$ 2,575	\$ 2,427	\$ 2,131	\$ 148	6 %	\$ 296	14 %

nm - not meaningful

Sirius XM Revenue

Sirius XM Subscriber Revenue includes fees charged for self-pay and paid promotional subscriptions, U.S. Music Royalty Fees and other ancillary fees.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, subscriber revenue was \$5,857 and \$5,644, respectively, an increase of 4%, or \$213. The increase was primarily driven by higher self-pay revenue as a result of increases in certain subscription plans and higher U.S. Music Royalty Fees due to a higher music royalty rate, partially offset by lower paid promotional revenue.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, subscriber revenue was \$5,644 and \$5,264, respectively, an increase of 7%, or \$380. The increase was primarily driven by higher U.S. Music Royalty Fees due to a higher music royalty rate, higher self-pay subscription revenue as a result of a 3% increase in the daily weighted average number of subscribers and higher revenue from our connected vehicle services.

We expect subscriber revenues to increase based on the growth of our subscriber base, increases in the average price charged and the sale of additional services to subscribers.

Sirius XM Advertising Revenue includes the sale of advertising on Sirius XM's non-music channels.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, advertising revenue was \$157 and \$205, respectively, a decrease of 23%, or \$48. The decrease was primarily due to lower advertising as a result of the impact of the COVID-19 pandemic.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, advertising revenue was \$205 and \$188, respectively, an increase of 9%, or \$17. The increase was primarily due to a greater number of advertising spots sold and transmitted as well as increases in rates charged per spot.

We expect our Sirius XM advertising revenue to grow as we continue our recovery to pre-COVID-19 levels.

Sirius XM Equipment Revenue includes revenue and royalties from the sale of satellite radios, components and accessories.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, equipment revenue was \$173 and \$173, respectively. Increased OEM royalty revenue was offset by lower direct sales to consumers and loss of revenue resulting from the termination of the Automatic service.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, equipment revenue was \$173 and \$155, respectively, an increase of 12%, or \$18. The increase was driven by an increase in royalty revenue due to our transition to a new generation of chipsets.

We expect equipment revenue to increase as royalty revenue associated with certain new chipsets increases.

Sirius XM Other Revenue includes service and advisory revenue from Sirius XM Canada, revenue from our connected vehicle services, and ancillary revenues.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, other revenue was \$161 and \$172, respectively, a decrease of 6%, or \$11. The decrease was due to lower revenue from our connected vehicle services, rental car revenue and royalty revenue from Sirius XM Canada.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, other revenue was \$172 and \$171, respectively, an increase of 1%, or \$1. The increase was primarily driven by higher royalty revenue generated from Sirius XM Canada, partially offset by a decrease in data usage revenue generated from our connected vehicle services.

We expect other revenue to decrease as royalties from Sirius XM Canada, rental car revenue and revenue generated from our connected vehicle services decline.

Pandora Revenue

Pandora Subscriber Revenue includes fees charged for Pandora Plus, Pandora Premium, Stitcher and Simplecast subscriptions.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, Pandora subscriber revenue was \$515 and \$527, respectively, a decrease of 2%, or \$12. The decrease was primarily due to the expiration of the one-year promotional subscriptions generated through an agreement with T-Mobile.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, Pandora subscriber revenue was \$527 and \$478, respectively, an increase of 10%, or \$49. The increase was primarily due to a greater weighted average number of subscribers and an increase in the average price per paid subscriber due to the growth of Pandora Premium.

We expect Pandora subscriber revenues to increase with growth of our Pandora and Stitcher subscriber base.

Pandora Advertising Revenue is generated primarily from audio, display and video advertising from on-platform and off-platform advertising.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, Pandora advertising revenue was \$1,183 and \$1,200, respectively, a decrease of 1%, or \$17. The decrease was primarily due to lower advertising as a result of the impact of the COVID-19 pandemic and a decrease in advertising revenue per thousand hours, partially offset by growth in our off-platform advertising and the inclusion of revenue from Stitcher.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, Pandora advertising revenue was \$1,200 and \$1,092, respectively, an increase of 10%, or \$108. The increase was primarily due to growth in our off-platform advertising revenue, an increased sell-through percentage, increases in the average price per ad and revenue growth in the AdsWizz business.

We expect Pandora advertising revenue to increase due to our off-platform advertising opportunities, recovery from the impact of the COVID-19 pandemic and the addition of Stitcher.

Total Consolidated Revenue

Total Consolidated Revenue for the years ended December 31, 2020 and 2019, was \$8,046 and \$7,921, respectively, an increase of 2%, or \$125. Total Consolidated Revenue for the years ended December 31, 2019 and 2018, was \$7,921 and \$7,348, respectively, an increase of 8%, or \$573.

Sirius XM Cost of Services

Sirius XM Cost of Services includes revenue share and royalties, programming and content, customer service and billing and transmission expenses.

Sirius XM Revenue Share and Royalties include royalties for transmitting content, including streaming royalties, as well as automaker, content provider and advertising revenue share.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, revenue share and royalties were \$1,484 and \$1,431, respectively, an increase of 4%, or \$53, and increased as a percentage of total Sirius XM revenue. The increase was driven by overall greater revenues subject to music royalties and revenue share to OEMs.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, revenue share and royalties were \$1,431 and \$1,394, respectively, an increase of 3%, or \$37, but decreased as a percentage of total Sirius XM revenue. The increase was driven by overall greater revenues subject to royalties and revenue share. The increase was partially offset by a \$69 charge during the second quarter of 2018 related to the legal settlement that resolved all outstanding claims, including ongoing audits, under Sirius XM's statutory license for sound recordings for the period January 1, 2007 through December 31, 2017.

We expect our Sirius XM revenue share and royalty costs to increase as our revenues grow.

Sirius XM Programming and Content includes costs to acquire, create, promote and produce content. We have entered into various agreements with third parties for music and non-music programming that require us to pay license fees and other amounts.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, programming and content expenses were \$449 and \$444, respectively, an increase of 1%, or \$5, but decreased as a percentage of total Sirius XM revenue. The increase was primarily driven by higher content licensing costs as well as greater personnel-related costs partially offset by one-time benefits for reduced sports programming as a result of shortened sports seasons due to the COVID-19 pandemic and lower costs associated with hosting live events.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, programming and content expenses were \$444 and \$406, respectively, an increase of 9%, or \$38, and increased as a percentage of total Sirius XM revenue. The increase was primarily driven by higher content licensing costs as well as greater personnel-related costs.

We expect our Sirius XM programming and content expenses to increase as we offer additional programming and renew or replace expiring agreements.

Sirius XM Customer Service and Billing includes costs associated with the operation and management of internal and third party customer service centers, and our subscriber management systems as well as billing and collection costs, bad debt expense, and transaction fees.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, customer service and billing expenses were \$394 and \$398, respectively, a decrease of 1%, or \$4, and decreased as a percentage of total Sirius XM revenue. The decrease was driven by reduced staffing resulting from stay at home orders issued in countries in which our vendors operate call centers.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, customer service and billing expenses were \$398 and \$382, respectively, an increase of 4%, or \$16, but decreased as a percentage of total Sirius XM revenue. The increase was driven by increased transaction fees from a larger subscriber base and higher bad debt expense.

We expect our Sirius XM customer service and billing expenses to increase as our subscriber base grows.

Sirius XM Transmission consists of costs associated with the operation and maintenance of our terrestrial repeater networks; satellites; satellite telemetry, tracking and control systems; satellite uplink facilities; studios; and delivery of our Internet streaming and connected vehicle services.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, transmission expenses were \$123 and \$112, respectively, an increase of 10%, or \$11, and increased as a percentage of total Sirius XM revenue. The increase was primarily driven by higher hosting and wireless costs associated with our 360L platform and our streaming and connected vehicle services.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, transmission expenses were \$112 and \$96, respectively, an increase of 17%, or \$16, and increased as a percentage of total Sirius XM revenue. The increase was primarily driven by higher hosting and other costs associated with our streaming services and higher repeater network costs.

We expect our Sirius XM transmission expenses to increase as costs associated with our 360L platform and investments in internet streaming grow.

Sirius XM Cost of Equipment includes costs from the sale of satellite radios, components and accessories and provisions for inventory allowance attributable to products purchased for resale in our direct to consumer distribution channels.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, cost of equipment was \$19 and \$29, respectively, a decrease of 34%, or \$10, and decreased as a percentage of equipment revenue. The decrease was primarily due to lower direct sales to consumers and reduced costs due to the termination of the Automatic service.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, cost of equipment was \$29 and \$31, respectively, a decrease of 6%, or \$2, and decreased as a percentage of equipment revenue. The decrease

was primarily due to lower direct sales to satellite radio and connected vehicle consumers, partially offset by an increase in our inventory reserve.

We expect our Sirius XM cost of equipment to fluctuate with the sales of our satellite radios.

Pandora Cost of Services

Pandora Cost of Services includes revenue share and royalties, programming and content, customer service and billing, and transmission expenses.

Pandora Revenue Share and Royalties includes licensing fees paid for streaming music or other content to our subscribers and listeners as well as revenue share paid to third party ad servers. We make payments to third party ad servers for the period the advertising impressions are delivered or click-through actions occur, and accordingly, we record this as a cost of service in the related period.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, revenue share and royalties were \$943 and \$945, respectively, a decrease of 0%, or \$2, but increased as a percentage of total Pandora revenue. The decrease was primarily attributable to a reversal of a pre-acquisition reserve of \$16 for royalties during the first quarter of 2020, lower listening hours, and the expiration during 2019 of certain minimum guarantees in direct license agreements with record labels; partially offset by the inclusion of Stitcher.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, revenue share and royalties were \$945 and \$929, respectively, an increase of 2%, or \$16, but decreased as a percentage of total Pandora revenue. The increase was primarily attributable to higher revenue share driven by growth of our off-platform revenue, partially offset by lower royalty costs resulting from renegotiated agreements with record labels, music and sound recording copyright holders and distributors.

We expect our Pandora revenue share to increase as off-platform revenue increases and our royalty costs to increase due to higher music royalty rates.

Pandora Programming and Content includes costs to produce live listener events and promote content.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, programming and content expenses were \$32 and \$18, respectively, an increase of 78%, or \$14, and increased as a percentage of total Pandora revenue. The increase was primarily attributable to higher production costs and personnel-related costs.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, programming and content expenses were \$18 and \$11, respectively, an increase of 64%, or \$7, and increased as a percentage of total Pandora revenue. The increase was primarily attributable to higher personnel-related and content costs.

We expect our Pandora programming and content costs to increase as we offer additional programming and produce live listener events and promotions.

Pandora Customer Service and Billing includes transaction fees on subscription purchases through mobile app stores and bad debt expense.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, customer service and billing expenses were \$87 and \$85, respectively, an increase of 2%, or \$2, and increased as a percentage of total Pandora revenue. The increase was primarily driven by higher bad debt expense, partially offset by lower transaction costs.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, customer service and billing expenses were \$85 and \$95, respectively, a decrease of 11%, or \$10, and decreased as a percentage of total Pandora revenue. The decrease was primarily driven by lower bad debt expense due to recoveries and lower transaction fees.

We expect our Pandora customer service and billing costs to increase as our subscriber base grows.

Pandora Transmission includes costs associated with content streaming, maintaining our streaming radio and on-demand subscription services and creating and serving advertisements through third-party ad servers.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, transmission expenses were \$54 and \$63, respectively, a decrease of 14%, or \$9, and decreased as a percentage of total Pandora revenue. The decrease was primarily driven by lower streaming costs due to lower listener hours and lower personnel-related costs.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, transmission expenses were \$63 and \$50, respectively, an increase of 26%, or \$13, and increased as a percentage of total Pandora revenue. The increase was primarily driven by web hosting and personnel-related costs.

We expect our Pandora transmission costs to fluctuate with changes in listener hours.

Operating Costs

Subscriber Acquisition Costs are costs associated with our satellite radio service and include hardware subsidies paid to radio manufacturers, distributors and automakers; subsidies paid for chipsets and certain other components used in manufacturing radios; device royalties for certain radios and chipsets; product warranty obligations; and freight. The majority of subscriber acquisition costs are incurred and expensed in advance of acquiring a subscriber. Subscriber acquisition costs do not include advertising costs, marketing, loyalty payments to distributors and dealers of satellite radios or revenue share payments to automakers and retailers of satellite radios.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, subscriber acquisition costs were \$362 and \$427, respectively, a decrease of 15%, or \$65, and decreased as a percentage of total revenue. The decrease was driven by a decline in OEM installations as a result of the COVID-19 pandemic as well as lower hardware subsidies as certain subsidy rates decreased.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, subscriber acquisition costs were \$427 and \$470, respectively, a decrease of 9%, or \$43, and decreased as a percentage of total revenue. The decrease was driven by reductions to OEM hardware subsidy rates, lower subsidized costs related to the transition of chipsets, and a decrease in the volume of satellite radio installations.

We expect subscriber acquisition costs to fluctuate with OEM installations; however, the subsidized chipsets cost is expected to decline as we transition to a new generation of chipsets. We intend to continue to offer subsidies and other incentives to induce OEMs to include our technology in their vehicles.

Sales and Marketing includes costs for marketing, advertising, media and production, including promotional events and sponsorships; cooperative and artist marketing; and personnel related costs including salaries, commissions, and sales support. Marketing costs include expenses related to direct mail, outbound telemarketing, email communications, social media, television and digital performance media.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, sales and marketing expenses were \$957 and \$973, respectively, a decrease of 2%, or \$16, and decreased as a percentage of total revenue. The decrease was primarily due to lower personnel-related costs and lower travel and entertainment costs, partially offset by additional subscriber communications and acquisition campaigns.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, sales and marketing expenses were \$973 and \$883, respectively, an increase of 10%, or \$90, and increased as a percentage of total revenue. The increase was primarily due to additional acquisition campaigns and subscriber communications as well as higher personnel-related costs.

We anticipate that sales and marketing expenses will increase with growth in our trial subscriber base, as we expand programs to retain our existing subscribers, win back former subscribers, attract new subscribers and listeners, and as we grow advertising revenue.

Engineering, Design and Development consists primarily of compensation and related costs to develop chipsets and new products and services, including streaming and connected vehicle services, research and development for broadcast information systems and costs associated with the incorporation of our radios into new vehicles manufactured by automakers.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, engineering, design and development expenses were \$263 and \$294, respectively, a decrease of 11%, or \$31, and decreased as a percentage of total revenue. The decrease was driven by lower personnel-related costs.

- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, engineering, design and development expenses were \$294 and \$266, respectively, an increase of 11%, or \$28, and increased as a percentage of total revenue. The increase was driven by higher personnel-related costs.

We expect engineering, design and development expenses to increase in future periods as we continue to develop our infrastructure, products and services.

General and Administrative primarily consists of compensation and related costs for personnel and facilities, and include costs related to our finance, legal, human resources and information technologies departments.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, general and administrative expenses were \$511 and \$540, respectively, a decrease of 5%, or \$29, and decreased as a percentage of total revenue. The decrease was primarily driven a one-time \$25 legal settlement associated with Do-Not-Call litigation recorded in the first quarter of 2019, lower personnel-related costs, the closure of a sales and use tax audit in the second quarter of 2020, and lower travel and entertainment costs, partially offset by a \$25 contribution in 2020 to a donor fund that will be the source of our future charitable donations and higher legal costs.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, general and administrative expenses were \$540 and \$517, respectively, an increase of 4%, or \$23, but decreased as a percentage of total revenue. The increase was primarily driven by a \$25 legal settlement associated with Do-Not-Call litigation and higher rent, partially offset by lower personnel-related costs.

We expect our general and administrative expenses to remain relatively flat.

Depreciation and Amortization represents the recognition in earnings of the cost of assets used in operations, including our satellite constellations, property, equipment and intangible assets, over their estimated service lives.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, depreciation and amortization expense was \$506 and \$483, respectively, an increase of 5%, or \$23, and increased as a percentage of total revenue. The increase was driven by additional assets placed in-service.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, depreciation and amortization expense was \$483 and \$465, respectively, an increase of 4%, or \$18, but decreased as a percentage of total revenue. The increase was driven by additional assets placed in-service.

Impairment Charges represents losses associated with the amount by which the carrying amount of an asset exceeds the asset's fair value.

- *2020 vs. 2019:* For the year ended December 31, 2020, impairment charge was \$976. We recorded a goodwill impairment charge of \$956 during the year ended December 31, 2020 to write down the carrying amount of the Pandora goodwill and an impairment charge of \$20 to write down the carrying value of our Pandora trademark. We did not record an impairment charge in 2019 or 2018.

Other (Expense) Income

Interest Expense includes interest on outstanding debt.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, interest expense was \$394 and \$392, respectively, an increase of 1%, or \$2. The increase was primarily driven by higher average debt due to the issuances of Sirius XM's 5.500% Senior Notes due 2029, 4.625% Senior Notes due 2024 in 2019, and 4.125% Senior Notes due 2030 in 2020; partially offset by the redemption of Sirius XM's 6.00% Senior Notes due 2024, redemption of the Pandora convertible notes in 2019, a lower average outstanding balance under the Credit Facility and lower interest rates.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, interest expense was \$392 and \$377, respectively, an increase of 4%, or \$15. The increase was primarily driven by higher average debt due to the issuances of Sirius XM's 5.500% Senior Notes due 2029 and 4.625% Senior Notes due 2024, partially offset by the redemption of Sirius XM's 6.00% Senior Notes due 2024, the repurchase of the Pandora 1.75% Convertible Senior Notes due 2020 and lower interest rates.

Loss on Extinguishment of Debt, includes losses incurred as a result of the redemption of certain debt.

- *2020 vs. 2019*: For the year ended December 31, 2020, we recorded a \$40 loss due to the redemption of \$500 principal amount of Sirius XM's 4.625% Senior Notes due 2023 and \$1,000 principal amount of Sirius XM's 5.375% Senior Notes due 2025. During the year ended December 31, 2019, we recorded a \$57 loss due to the redemption of \$1,500 in principal amount of Sirius XM's 6.00% Senior Notes due 2024 and the repurchase of \$151 in principal amount of Pandora's 1.75% Convertible Senior Notes due 2020.
- *2019 vs. 2018*: For the year ended December 31, 2019, we recorded a \$57 loss due to the redemption of \$1,500 in principal amount of Sirius XM's 6.00% Senior Notes due 2024 and the repurchase of \$151 in principal amount of Pandora's 1.75% Convertible Senior Notes due 2020. During the year ended December 31, 2018, we recorded a \$17 loss on extinguishment of debt primarily due to the exchange of Pandora's 1.75% Convertible Senior Notes due 2020 for new 1.75% Convertible Senior Notes due 2023.

Other Income (Expense) primarily includes realized and unrealized gains and losses, interest and dividend income, our share of the income or loss from equity investments, and transaction costs related to non-operating investments.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, other income (expense) was \$6 and \$(2), respectively. Other income for the year ended December 31, 2020 was driven by a one-time lawsuit settlement of \$7. Other expense for the year ended December 31, 2019 was driven by losses on other investments of \$21; partially offset by interest earned on our loan to Sirius XM Canada of \$10, trading gains associated with the investments held for our Deferred Compensation Plan of \$4 and interest income of \$3.
- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, other (expense) income was \$(2) and \$8, respectively. During the year ended December 31, 2019, other expense was driven by losses on other investments of \$21; partially offset by interest earned on our loan to Sirius XM Canada of \$10, trading gains associated with the investments held for our Deferred Compensation Plan of \$4 and interest income of \$3. During the year ended December 31, 2018, other income was driven by interest earned on our loan to Sirius XM Canada of \$10 and interest income of \$8, partially offset by losses on other investments of \$10.

Income Taxes

Income Tax Expense includes the change in our deferred tax assets, current federal and state tax expenses, and foreign withholding taxes.

- *2020 vs. 2019*: For the years ended December 31, 2020 and 2019, income tax expense was \$299 and \$290, respectively, and our effective tax rate was 69.5% and 23.6%, respectively. The effective tax rate of 69.5% for the year ended December 31, 2020 was primarily impacted by the nondeductible Pandora goodwill impairment charge, partially offset by the recognition of excess tax benefits related to share-based compensation, a benefit related to state and federal research and development and certain other credits and a worthless stock deduction associated with the termination of the Automatic service. The effective tax rate of 23.6% was primarily impacted by the recognition of excess tax benefits related to share-based compensation and benefits related to state and federal research and development and certain other credits, partially offset by the impact of nondeductible compensation.
- *2019 vs. 2018*: For the years ended December 31, 2019 and 2018, income tax expense was \$290 and \$123, respectively, and our effective tax rate was 23.6% and 12.7%, respectively. The effective tax rate of 23.6% for the year ended December 31, 2019 was primarily impacted by the recognition of excess tax benefits related to share-based compensation and benefits related to state and federal research and development and certain other credits, partially offset by the impact of nondeductible compensation. The effective tax rate of 12.7% for the year ended December 31, 2018 was primarily impacted by the recognition of excess tax benefits related to share based compensation and a benefit related to state and federal research and development credits under the Protecting Americans from Tax Hikes Act of 2015.

Footnotes to Pro Forma Results of Operations

The following tables reconcile our results of operations as reported to our *pro forma* results of operations for the years ended December 31, 2020, 2019 and 2018 which includes the Pandora pre-acquisition financial information for the applicable periods and the effects of purchase price accounting. These pro forma results are based on estimates and assumptions, which we believe are reasonable. They are not the results that would have been realized had the Pandora Acquisition actually occurred on January 1, 2018 and are not indicative of our consolidated results of operations in future periods. The pro forma results primarily include adjustments related to amortization of acquired intangible assets, depreciation of property and equipment, acquisition costs, fair value gain or loss on the Pandora investment and associated tax impacts.

	Unaudited for the Year Ended December 31, 2020				
	As Reported	Predecessor Financial Information	Purchase Price Accounting and Pro Forma Adjustments	Ref	Pro Forma
<i>Revenue</i>					
Sirius XM:					
Subscriber revenue	\$ 5,857	\$ —	\$ —		\$ 5,857
Advertising revenue	157	—	—		157
Equipment revenue	173	—	—		173
Other revenue	155	—	6	(a)	161
Total Sirius XM revenue	6,342	—	6		6,348
Pandora:					
Subscriber revenue	515	—	—		515
Advertising revenue	1,183	—	—		1,183
Total Pandora revenue	1,698	—	—		1,698
Total consolidated revenue	8,040	—	6		8,046
<i>Cost of services</i>					
Sirius XM:					
Revenue share and royalties	1,484	—	—		1,484
Programming and content	449	—	—		449
Customer service and billing	394	—	—		394
Transmission	123	—	—		123
Cost of equipment	19	—	—		19
Total Sirius XM cost of services	2,469	—	—		2,469
Pandora:					
Revenue share and royalties	937	—	6	(b)	943
Programming and content	32	—	—		32
Customer service and billing	87	—	—		87
Transmission	54	—	—		54
Total Pandora cost of services	1,110	—	6		1,116
Total consolidated cost of services	3,579	—	6		3,585
Subscriber acquisition costs	362	—	—		362
Sales and marketing	957	—	—		957
Engineering, design and development	263	—	—		263
General and administrative	511	—	—		511
Depreciation and amortization	506	—	—		506
Acquisition and restructuring costs	28	—	—		28
Impairment charges	976	—	—		976
Total operating expenses	7,182	—	6		7,188
Income (loss) from operations	858	—	—		858
Other (expense) income:					
Interest expense	(394)	—	—		(394)
Loss on extinguishment of debt	(40)	—	—		(40)
Other (expense) income	6	—	—		6
Total other (expense) income	(428)	—	—		(428)
Income (loss) before income taxes	430	—	—		430
Income tax expense	(299)	—	—		(299)
Net income	\$ 131	\$ —	\$ —		\$ 131

(a) This adjustment eliminates the impact of additional revenue associated with certain programming agreements recorded as part of the merger of Sirius and XM (the "XM Merger").

(b) This adjustment includes the impact of additional expense associated with minimum guarantee royalty contracts recorded as part of the Pandora Acquisition.

	Unaudited for the Year Ended December 31, 2019				
	As Reported	Predecessor Financial Information (c)	Purchase Price Accounting and Pro Forma Adjustments	Ref	Pro Forma
<i>Revenue</i>					
Sirius XM:					
Subscriber revenue	\$ 5,644	\$ —	\$ —		\$ 5,644
Advertising revenue	205	—	—		205
Equipment revenue	173	—	—		173
Other revenue	165	—	7	(d)	172
Total Sirius XM revenue	6,187	—	7		6,194
Pandora:					
Subscriber revenue	476	46	5	(e)	527
Advertising revenue	1,131	68	1	(e)	1,200
Total Pandora revenue	1,607	114	6		1,727
Total consolidated revenue	7,794	114	13		7,921
<i>Cost of services</i>					
Sirius XM:					
Revenue share and royalties	1,431	—	—		1,431
Programming and content	444	—	—		444
Customer service and billing	398	—	—		398
Transmission	112	—	—		112
Cost of equipment	29	—	—		29
Total Sirius XM cost of services	2,414	—	—		2,414
Pandora:					
Revenue share and royalties	860	71	14	(f)	945
Programming and content	18	—	—		18
Customer service and billing	77	8	—		85
Transmission	58	5	—		63
Total Pandora cost of services	1,013	84	14		1,111
Total consolidated cost of services	3,427	84	14		3,525
Subscriber acquisition costs	427	—	—		427
Sales and marketing	937	36	—		973
Engineering, design and development	280	14	—		294
General and administrative	524	16	—		540
Depreciation and amortization	468	6	9	(g)	483
Acquisition and restructuring costs	84	1	(85)	(h)	—
Total operating expenses	6,147	157	(62)		6,242
Income (loss) from operations	1,647	(43)	75		1,679
Other (expense) income:					
Interest expense	(390)	(2)	—		(392)
Loss on extinguishment of debt	(57)	—	—		(57)
Other (expense) income	(3)	1	—		(2)
Total other (expense) income	(450)	(1)	—		(451)
Income (loss) before income taxes	1,197	(44)	75		1,228
Income tax expense	(283)	—	(7)	(i)	(290)
Net income	\$ 914	\$ (44)	\$ 68		\$ 938

(c) Represents Pandora's results for the period January 1, 2019 through January 31, 2019.

(d) This adjustment eliminates the impact of additional revenue associated with certain programming agreements recorded as part of the XM Merger.

(e) This adjustment relates to the amortization of deferred subscription and deferred advertising revenue that was fair valued in purchase accounting.

(f) This adjustment includes the impact of additional expense associated with minimum guarantee royalty contracts recorded as part of the Pandora Acquisition.

(g) This adjustment includes the impact of the additional amortization associated with the acquired intangible assets recorded as part of the Pandora Acquisition that are subject to amortization, partially offset by normal depreciation associated with assets revalued in purchase accounting.

- (h) This adjustment eliminates the impact of acquisition and other related costs.
 (i) This adjustment to income taxes was calculated by applying Sirius XM's statutory tax rate at December 31, 2019 to the pro forma adjustments of \$75 and Pandora's pre-acquisition loss before income tax of \$(44).

	Unaudited for the Year Ended December 31, 2018				
	As Reported	Predecessor Financial Information (j)	Purchase Price Accounting and Pro Forma Adjustments	Ref	Pro Forma
<i>Revenue</i>					
Sirius XM:					
Subscriber revenue	\$ 5,264	\$ —	\$ —		\$ 5,264
Advertising revenue	188	—	—		188
Equipment revenue	155	—	—		155
Other revenue	164	—	7	(k)	171
Total Sirius XM revenue	5,771	—	7		5,778
Pandora:					
Subscriber revenue	—	478	—		478
Advertising revenue	—	1,092	—		1,092
Total Pandora revenue	—	1,570	—		1,570
Total consolidated revenue	5,771	1,570	7		7,348
<i>Cost of services</i>					
Sirius XM:					
Revenue share and royalties	1,394	—	—		1,394
Programming and content	406	—	—		406
Customer service and billing	382	—	—		382
Transmission	96	—	—		96
Cost of equipment	31	—	—		31
Total Sirius XM cost of services	2,309	—	—		2,309
Pandora:					
Revenue share and royalties	—	929	—		929
Programming and content	—	11	—		11
Customer service and billing	—	95	—		95
Transmission	—	50	—		50
Total Pandora cost of services	—	1,085	—		1,085
Total consolidated cost of services	2,309	1,085	—		3,394
Subscriber acquisition costs	470	—	—		470
Sales and marketing	484	399	—		883
Engineering, design and development	123	143	—		266
General and administrative	354	169	(6)	(l)	517
Depreciation and amortization	301	61	103	(m)	465
Acquisition and restructuring costs	3	12	(15)	(n)	—
Total operating expenses	4,044	1,869	82		5,995
Income (loss) from operations	1,727	(299)	(75)		1,353
Other (expense) income:					
Interest expense	(350)	(27)	—		(377)
Loss on extinguishment of debt	—	(17)	—		(17)
Other (expense) income	44	7	(43)	(o)	8
Total other (expense) income	(306)	(37)	(43)		(386)
Income (loss) before income taxes	1,421	(336)	(118)		967
Income tax expense	(245)	8	114	(p)	(123)
Net income	\$ 1,176	\$ (328)	\$ (4)		\$ 844

- (j) Represents Pandora's results for the period January 1, 2018 through December 31, 2018.
 (k) This adjustment eliminates the impact of additional revenue associated with certain programming agreements recorded as part of the XM Merger.
 (l) This adjustment eliminates the impact of contract termination fees.

- (m) This adjustment includes the impact of the additional amortization associated with the acquired intangible assets recorded as part of the Pandora Acquisition that are subject to amortization, partially offset by normal depreciation associated with assets revalued in purchase accounting.
- (n) This adjustment eliminates the impact of transaction related costs, recorded by Pandora, to advisers for the planned acquisition by Sirius XM.
- (o) This adjustment eliminates the unrealized gain for the fair value adjustment of our preferred stock investment in Pandora.
- (p) This adjustment to income taxes was calculated by applying Sirius XM's statutory tax rate at December 31, 2018 to the pro forma adjustments of \$(118) and Pandora's loss before income tax of \$(336).

Key Financial and Operating Performance Metrics

In this section, we present certain financial performance measures some of which are presented as Non-GAAP items, which include free cash flow and adjusted EBITDA. We also present certain operating performance measures. Our adjusted EBITDA excludes the impact of share-based payment expense and certain purchase price accounting adjustments related to the XM Merger and the Pandora Acquisition. Additionally, when applicable, our adjusted EBITDA metric excludes the effect of significant items that do not relate to the on-going performance of our business. We use these Non-GAAP financial and operating performance measures to manage our business, to set operational goals and as a basis for determining performance-based compensation for our employees. See the accompanying glossary on pages 62 through 65 for more details and for the reconciliation to the most directly comparable GAAP measure (where applicable).

We believe these Non-GAAP financial and operating performance measures provide useful information to investors regarding our financial condition and results of operations. We believe these Non-GAAP financial and operating performance measures may be useful to investors in evaluating our core trends because they provide a more direct view of our underlying costs. We believe investors may use our adjusted EBITDA to estimate our current enterprise value and to make investment decisions. We believe free cash flow provides useful supplemental information to investors regarding our cash available for future subscriber acquisitions and capital expenditures, to repurchase or retire debt, to acquire other companies and our ability to return capital to stockholders. By providing these Non-GAAP financial and operating performance measures, together with the reconciliations to the most directly comparable GAAP measure (where applicable), we believe we are enhancing investors' understanding of our business and our results of operations.

Our Non-GAAP financial measures should be viewed in addition to, and not as an alternative for or superior to, our reported results prepared in accordance with GAAP. In addition, our Non-GAAP financial measures may not be comparable to similarly-titled measures by other companies. Please refer to the glossary (pages 62 through 65) for a further discussion of such Non-GAAP financial and operating performance measures and reconciliations to the most directly comparable GAAP measure (where applicable). Subscribers and subscription related revenues and expenses associated with our connected vehicle services and Sirius XM Canada are not included in Sirius XM's subscriber count or subscriber-based operating metrics.

Set forth below are our subscriber balances as of December 31, 2020 compared to December 31, 2019 and as of December 31, 2019 compared to December 31, 2018.

	As of December 31,			2020 vs 2019 Change		2019 vs 2018 Change	
	2020	2019	2018 ⁽¹⁾	Amount	%	Amount	%
<i>(subscribers in thousands)</i>							
Sirius XM							
Self-pay subscribers	30,887	29,978	28,915	909	3 %	1,063	4 %
Paid promotional subscribers	3,827	4,931	5,124	(1,104)	(22)%	(193)	(4)%
Ending subscribers	34,714	34,909	34,039	(195)	(1)%	870	3 %
Traffic users	9,301	9,334	8,606	(33)	— %	728	8 %
Sirius XM Canada subscribers	2,622	2,707	2,644	(85)	(3)%	63	2 %
Pandora							
Monthly active users - all services	58,882	63,508	69,399	(4,626)	(7)%	(5,891)	(8)%
Self-pay subscribers	6,298	6,165	5,914	133	2 %	251	4 %
Paid promotional subscribers	43	49	756	(6)	(12)%	(707)	(94)%
Ending subscribers	6,341	6,214	6,670	127	2 %	(456)	(7)%

(1) Includes Pandora's results as of December 31, 2018.

The following table contains our Non-GAAP pro forma financial and operating performance measures which are based on our adjusted results of operations for the years ended December 31, 2020, 2019 and 2018.

<i>(subscribers in thousands)</i>	For the Years Ended December 31,			2020 vs 2019 Change		2019 vs 2018 Change	
	2020	2019 ⁽¹⁾	2018 ⁽²⁾	Amount	%	Amount	%
Sirius XM							
Self-pay subscribers	909	1,063	1,402	(154)	(14)%	(339)	(24)%
Paid promotional subscribers	(1,104)	(193)	(99)	(911)	(472)%	(94)	(95)%
Net additions	(195)	870	1,303	(1,065)	(122)%	(433)	(33)%
Weighted average number of subscribers	34,523	34,314	33,345	209	1 %	969	3 %
Average self-pay monthly churn	1.7 %	1.7 %	1.7 %	— %	— %	— %	— %
ARPU ⁽³⁾	\$ 14.10	\$ 13.82	\$ 13.34	\$ 0.28	2 %	\$ 0.48	4 %
SAC, per installation	\$ 18.65	\$ 22.91	\$ 25.66	\$ (4.26)	(19)%	\$ (2.75)	(11)%
Pandora							
Self-pay subscribers	133	251	436	(118)	(47)%	(185)	(42)%
Paid promotional subscribers	(6)	(707)	756	701	99 %	(1,463)	(194)%
Net additions	127	(456)	1,192	583	128 %	(1,648)	(138)%
Weighted average number of subscribers	6,315	6,654	6,080	(339)	(5)%	574	9 %
ARPU	\$ 6.76	\$ 6.61	\$ 6.53	\$ 0.15	2 %	\$ 0.08	1 %
Ad supported listener hours (in billions)	12.50	13.44	14.79	(0.94)	(7)%	(1.35)	(9)%
Advertising revenue per thousand listener hours (RPM)	\$ 79.24	\$ 80.41	\$ 71.60	\$ (1.17)	(1)%	\$ 8.81	12 %
Licensing costs per thousand listener hours (LPM)	\$ 40.14	\$ 38.94	\$ 37.80	\$ 1.20	3 %	\$ 1.14	3 %
Licensing costs per paid subscriber (LPU)	\$ 4.14	\$ 4.06	\$ 4.47	\$ 0.08	2 %	\$ (0.41)	(9)%
Total Company							
Adjusted EBITDA	\$ 2,575	\$ 2,427	\$ 2,131	\$ 148	6 %	\$ 296	14 %
Free cash flow ⁽⁴⁾	\$ 1,660	\$ 1,647	\$ 1,517	\$ 13	1 %	\$ 130	9 %

(1) Includes Pandora's results for the twelve month period, including pre-acquisition results for the period January 1, 2019 through January 31, 2019.

(2) Includes Pandora's results for the twelve month period, including pre-acquisition results for the period January 1, 2018 through December 31, 2018.

(3) ARPU for Sirius XM excludes subscriber revenue from our connected vehicle services of \$174, \$159 and \$111 for the years ended December 31, 2020, 2019 and 2018, respectively.

(4) Free cash flow has not been adjusted for Pandora's pre-acquisition results.

Sirius XM

Subscribers. At December 31, 2020, we had approximately 34,714 subscribers, a decrease of approximately 195 subscribers, or 1%, from the approximately 34,909 subscribers as of December 31, 2019. The decrease in total subscribers was primarily due to the decline in paid promotional subscribers, partially offset by growth in our self-pay subscriber base from lower non-pay and vehicle related churn as well as additions from subscriber win back programs.

- ***2020 vs. 2019:*** For the years ended December 31, 2020 and 2019, net additions were (195) and 870, respectively, a decrease of 122%, or 1,065. Paid promotional subscribers decreased as shipments and trial subscription starts from automakers offering paid subscriptions declined as a result of the COVID-19 pandemic. Self-pay net additions decreased year over year as growth in subsequent owner trial conversions, stand-alone streaming net additions, win back programs and reductions in vehicle related and non-pay churn were offset by reduced additions from new car conversions as well as increases in voluntary churn.
- ***2019 vs. 2018:*** For the years ended December 31, 2019 and 2018, net additions were 870 and 1,303, respectively, a decrease of 33%, or 433. Self-pay net additions decreased primarily due to a flat churn rate on a growing subscriber base and lower gross add win-backs, offset by increases in trial conversions. The reduction of paid promotional subscribers increased due to lower shipments and trial starts from automakers offering paid promotional subscriptions.

Traffic Users. We offer services that provide graphic information as to road closings, traffic flow and incident data to consumers with compatible in-vehicle navigation systems.

Average Self-pay Monthly Churn is derived by dividing the monthly average of self-pay deactivations for the period by the average number of self-pay subscribers for the period. (See accompanying glossary on pages 62 through 65 for more details.)

- ***2020 vs. 2019:*** For the years ended December 31, 2020 and 2019, our average self-pay monthly churn rate was 1.7%. Decreases in non-pay and vehicle related churn were offset by increased voluntary churn.
- ***2019 vs. 2018:*** For the years ended December 31, 2019 and 2018, our average self-pay monthly churn rate was 1.7%. Decreased voluntary churn was offset by increased used vehicle churn.

ARPU is derived from total earned subscriber revenue (excluding revenue derived from our connected vehicle services) and net advertising revenue, divided by the number of months in the period, divided by the daily weighted average number of subscribers for the period. (See the accompanying glossary on pages 62 through 65 for more details.)

- ***2020 vs. 2019:*** For the years ended December 31, 2020 and 2019, ARPU was \$14.10 and \$13.82, respectively. The increase was driven by an increase in certain subscription rates and the U.S. Music Royalty Fee; partially offset by lower advertising revenue.
- ***2019 vs. 2018:*** For the years ended December 31, 2019 and 2018, ARPU was \$13.82 and \$13.34, respectively. The increase was driven by increases in the U.S. Music Royalty Fee, increases in self-pay revenue and higher advertising revenue.

SAC, Per Installation, is derived from subscriber acquisition costs less margins from the sale of radios, components and accessories (excluding connected vehicle services), divided by the number of satellite radio installations in new vehicles and shipments of aftermarket radios for the period. (See the accompanying glossary on pages 62 through 65 for more details.)

- ***2020 vs. 2019:*** For the years ended December 31, 2020 and 2019, SAC, per installation, was \$18.65 and \$22.91, respectively. The decrease was driven by reductions to OEM hardware subsidy rates and our transition to a new generation of chipsets.
- ***2019 vs. 2018:*** For the years ended December 31, 2019 and 2018, SAC, per installation, was \$22.91 and \$25.66, respectively. The decrease was driven by our transition to a new generation of chipsets and reductions to OEM hardware subsidy rates.

Pandora

Monthly Active Users. At December 31, 2020, Pandora had approximately 58,882 monthly active users, a decrease of 4,626 monthly active users, or 7%, from the 63,508 monthly active users as of December 31, 2019. The decrease in monthly active users was driven by an increase in ad-supported listener churn and a decrease in the number of new users.

Subscribers. At December 31, 2020, Pandora had approximately 6,341 subscribers, an increase of 127, or 2%, from the approximately 6,214 subscribers as of December 31, 2019.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, net additions were 127 and (456), respectively, an increase of 128%, or 583. Net additions increased as a result of the growth in our Pandora Premium plans during 2020.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, net additions were (456) and 1,192, respectively, a decrease of 138%, or 1,648. Net additions decreased due to a loss of paid promotional subscribers from the expiration of an agreement with T-Mobile.

ARPU is defined as average monthly revenue per paid subscriber on our Pandora subscription services. (See the accompanying glossary on pages 62 through 65 for more details.)

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, ARPU was \$6.76 and \$6.61, respectively. The increase was primarily driven by the expiration of a lower rate T-Mobile plan in 2019 and a shift in subscriber mix toward Pandora Premium plans.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, ARPU was \$6.61 and \$6.53, respectively. The increase was primarily driven by an increase in the number of Pandora Premium subscribers while the number of lower price Pandora Plus subscribers decreased.

Ad supported listener hours are a key indicator of our Pandora business and the engagement of our Pandora listeners. We include ad supported listener hours related to Pandora's non-radio content offerings in the definition of listener hours.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, ad supported listener hours was 12.50 billion and 13.44 billion, respectively. The decrease in ad supported listener hours was primarily driven the decline in monthly active users, partially offset by higher hours per active user.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, ad supported listener hours was 13.44 billion and 14.79 billion, respectively. The decline in ad supported listener hours was primarily driven by a decrease in ad-supported listeners.

RPM is a key indicator of our ability to monetize advertising inventory created by our listener hours on the Pandora services. Ad RPM is calculated by dividing advertising revenue by the number of thousands of listener hours of our Pandora advertising-based service.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, RPM was \$79.24 and \$80.41, respectively. The decrease was a result of lower sell-through percentages as a result of the COVID-19 pandemic.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, RPM was \$80.41 and \$71.60, respectively. The increase was a result of an increase in the average price per ad and increased sell-through percentage.

LPM is tracked for our non-subscription, ad-supported service across all Pandora delivery platforms. The content acquisition costs included in our ad LPM calculations are based on the rates set by our license agreements with record labels, performing rights organizations and music publishers or the applicable rates set by the Copyright Royalty Board if we have not entered into a license agreement with the copyright owner of a particular sound recording.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, LPM was \$40.14 and \$38.94, respectively. The increase was primarily driven by higher eligible advertising revenue.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, LPM was \$38.94 and \$37.80, respectively. The increase was primarily driven by higher eligible advertising revenue and increases to track rates.

LPU is defined as average monthly licensing costs per paid subscriber on our Pandora subscription services. LPU is a key measure of our ability to manage costs for our subscription services.

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, LPU was \$4.14 and \$4.06, respectively. The increase was due to increased Pandora subscriber ARPU.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, LPU was \$4.06 and \$4.47, respectively. The decrease was due to lower minimum guarantees associated with our direct license agreements with major and independent labels, distributors, performing rights organizations and publishers.

Total Company

Adjusted EBITDA. EBITDA is defined as net income before interest expense, income tax expense and depreciation and amortization. Adjusted EBITDA excludes the impact of other income, loss on extinguishment of debt, acquisition related costs, other non-cash charges, such as certain purchase price accounting adjustments, impairment charges, share-based payment expense, loss on disposal of assets, and legal settlements and reserves related to the historical use of sound recordings. (See the accompanying glossary on pages 62 through 65 for a reconciliation to GAAP and for more details.)

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, adjusted EBITDA was \$2,575 and \$2,427, respectively, an increase of 6%, or \$148. The increase was due to higher subscriber revenue, lower subscriber acquisition costs, travel and entertainment expenses and personnel-related costs, partially offset by higher revenue share and royalties, lower advertising revenue and a \$25 contribution to a donor advised fund that will be the source of our future charitable donations.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, adjusted EBITDA was \$2,427 and \$2,131, respectively, an increase of 14%, or \$296. The increase was due to: growth of 8% in total revenue which was primarily a result of the increase in our subscriber base; additional revenues from the U.S. Music Royalty Fee; an increase in advertising revenue; and lower subscriber acquisition costs. The increases were partially offset by higher revenue share and royalty, sales and marketing, programming and content, transmission, engineering, design and development, and general and administrative costs.

Free Cash Flow includes cash provided by operations, net of additions to property and equipment, restricted and other investment activity and the return of capital from an investment in an unconsolidated entity. (See the accompanying glossary on pages 62 through 65 for a reconciliation to GAAP and for more details.)

- *2020 vs. 2019:* For the years ended December 31, 2020 and 2019, free cash flow was \$1,660 and \$1,647, respectively, an increase of \$13, or 1%. The increase was impacted by \$25 for a legal settlement paid during 2019 and lower cash used to construct replacement satellites during 2020, partially offset by a \$25 contribution to a donor advised fund that will be the source of our future charitable donations.
- *2019 vs. 2018:* For the years ended December 31, 2019 and 2018, free cash flow was \$1,647 and \$1,517, respectively, an increase of \$130, or 9%. The increase was impacted by the one-time lump sum payment of \$150 to resolve all outstanding claims under our statutory license for sound recordings for the period January 1, 2007 through December 31, 2017, paid during 2018; partially offset by \$25 for a legal settlement paid during 2019.

Liquidity and Capital Resources

Cash Flows for the year ended December 31, 2020 compared with the year ended December 31, 2019 and for the year ended December 31, 2019 compared with the year ended December 31, 2018.

The following table presents a summary of our cash flow activity for the periods set forth below:

	For the Years Ended December 31,			2020 vs 2019	2019 vs 2018
	2020	2019	2018		
Net cash provided by operating activities	\$ 2,018	\$ 2,017	\$ 1,880	\$ 1	\$ 137
Net cash used in investing activities	(741)	(3)	(379)	(738)	376
Net cash used in financing activities	(1,314)	(1,959)	(1,515)	645	(444)
Net (decrease) increase in cash, cash equivalents and restricted cash	(37)	55	(14)	(92)	69
Cash, cash equivalents and restricted cash at beginning of period	120	65	79	55	(14)
Cash, cash equivalents and restricted cash at end of period	\$ 83	\$ 120	\$ 65	\$ (37)	\$ 55

Cash Flows Provided by Operating Activities

Cash flows provided by operating activities increased by \$1 to \$2,018 for the year ended December 31, 2020 from \$2,017 for the year ended December 31, 2019. Cash flows provided by operating activities increased by \$137 to \$2,017 for the year ended December 31, 2019 from \$1,880 for the year ended December 31, 2018.

Our largest source of cash provided by operating activities is cash generated by subscription and subscription-related revenues. We also generate cash from the sale of advertising through our Pandora business, advertising on certain non-music channels on Sirius XM and the sale of satellite radios, components and accessories. Our primary uses of cash from operating activities include revenue share and royalty payments to distributors, programming and content providers, and payments to radio manufacturers, distributors and automakers. In addition, uses of cash from operating activities include payments to vendors to service, maintain and acquire listeners and subscribers, general corporate expenditures, and compensation and related costs.

Cash Flows Used in Investing Activities

Cash flows used in investing activities in the year ended December 31, 2020 were primarily due to the acquisition of Stitcher of \$272, our \$75 investment in SoundCloud, the acquisition of Simplecast of \$28, spending primarily for capitalized software and hardware, and to construct replacement satellites. Cash flows provided by investing activities in the year ended December 31, 2019 were primarily due to spending for capitalized software and hardware, and to construct replacement satellites, offset by cash received from the Pandora Acquisition of \$313 and from the sale of short-term investments of \$73. Cash flows used in investing activities in the year ended December 31, 2018 were primarily due additions to property and equipment of \$355 primarily for capitalized software and hardware and to construct replacement satellites. We spent \$242, \$214 and \$166 on capitalized software and hardware as well as \$57, \$82 and \$132 to construct replacement satellites during the years ended December 31, 2020, 2019 and 2018, respectively.

Cash Flows Used in Financing Activities

Cash flows used in financing activities consists of the issuance and repayment of long-term debt, the purchase of common stock under our share repurchase program, the payment of cash dividends and taxes paid in lieu of shares issued for stock-based compensation. Proceeds from long term debt have been used to fund our operations, construct and launch new satellites, invest in other infrastructure improvements and purchase shares of our common stock.

Cash flows used in financing activities in the year ended December 31, 2020 were primarily due to the redemption of Sirius XM's 4.625% Senior Notes due 2023 in the aggregate amount of \$505 and Sirius XM's 5.375% Senior Notes due 2025 in the aggregate amount of \$1,033, the purchase and retirement of shares of our common stock under our repurchase program for \$1,555, the payment of cash dividends of \$237, and payment of \$114 for taxes in lieu of shares issued for share-based compensation; partially offset by the issuance of \$1,481 in aggregate principal amount of Sirius XM's 4.125% Senior Notes due 2030, net of costs and net borrowings of \$649 from the Credit Facility. Cash flows used in financing activities in the year ended December 31, 2019 were primarily due to the purchase and retirement for \$2,159 of shares of our common stock under our repurchase program, the redemption of Sirius XM's 6.00% Senior Notes due 2024 in the aggregate amount of \$1,546, repayment under the Credit Facility of \$439, the repurchase for \$152 of Pandora's 1.75% Convertible Senior Notes due 2020, the payment of cash dividends of \$226 and payment of \$150 for taxes in lieu of shares issued for share-based compensation, partially offset by cash provided by the issuance of \$2,715 in aggregate principal amount of Sirius XM's 5.500% Senior Notes due 2029, net of costs, and Sirius XM's 4.625% Senior Notes due 2024, net of costs.

Future Liquidity and Capital Resource Requirements

Based upon our current business plans, we expect to fund operating expenses, capital expenditures, including the construction of replacement satellites, working capital requirements, interest payments, taxes and scheduled maturities of our debt with existing cash, cash flow from operations and borrowings under our Credit Facility. As of December 31, 2020, \$649 was outstanding under our Credit Facility. As the amount available for future borrowing is reduced by \$1 related to letters of credit issued for the benefit of Pandora, \$1,100 was available for future borrowing under our Credit Facility. We believe that we have sufficient cash and cash equivalents, as well as debt capacity, to cover our estimated short-term and long-term funding needs, including amounts to construct, launch and insure replacement satellites, as well as fund future stock repurchases, future dividend payments and pursue strategic opportunities.

Our ability to meet our debt and other obligations depends on our future operating performance and on economic, financial, competitive and other factors. We continually review our operations for opportunities to adjust the timing of expenditures to ensure that sufficient resources are maintained.

We regularly evaluate our business plans and strategy. These evaluations often result in changes to our business plans and strategy, some of which may be material and significantly change our cash requirements. These changes in our business plans or strategy may include: the acquisition of unique or compelling programming; the development and introduction of new features or services; significant new or enhanced distribution arrangements; investments in infrastructure, such as satellites, equipment or radio spectrum; and acquisitions and investments, including acquisitions and investments that are not directly related to our existing business.

We may from time to time purchase our outstanding debt through open market purchases, privately negotiated transactions or otherwise. Purchases or retirement of debt, if any, will depend on prevailing market conditions, liquidity requirements, contractual restrictions and other factors. The amounts involved may be material.

Capital Return Program

As of December 31, 2020, our board of directors had authorized for repurchase an aggregate of \$16,000 of our common stock. As of December 31, 2020, our cumulative repurchases since December 2012 under our stock repurchase program totaled 3,314 shares for \$14,408, and \$1,592 remained available for additional repurchases under our existing stock repurchase program authorization.

Shares of common stock may be purchased from time to time on the open market and in privately negotiated transactions, including in accelerated stock repurchase transactions and transactions with Liberty Media and its affiliates. We intend to fund the additional repurchases through a combination of cash on hand, cash generated by operations and future borrowings. The size and timing of any purchases will be based on a number of factors, including price and business and market conditions.

On January 28, 2021, our board of directors declared a quarterly dividend in the amount of \$0.014641 per share of common stock payable on February 26, 2021 to stockholders of record as of the close of business on February 10, 2021. Our board of directors expects to declare regular quarterly dividends, in an aggregate annual amount of \$0.058564 per share of common stock.

Debt Covenants

The indentures governing Sirius XM's senior notes and Pandora's convertible notes and the agreement governing the Sirius XM Credit Facility include restrictive covenants. As of December 31, 2020, we were in compliance with such covenants. For a discussion of our "Debt Covenants," refer to Note 14 to our consolidated financial statements in Part II, Item 8, of this Annual Report on Form 10-K.

Off-Balance Sheet Arrangements

We do not have any significant off-balance sheet arrangements other than those disclosed in Note 17 to our consolidated financial statements in Part II, Item 8, of this Annual Report on Form 10-K that are reasonably likely to have a material effect on our financial condition, results of operations, liquidity, capital expenditures or capital resources.

Contractual Cash Commitments

For a discussion of our "Contractual Cash Commitments," refer to Note 17 to our consolidated financial statements in Part II, Item 8, of this Annual Report on Form 10-K.

Related Party Transactions

For a discussion of "Related Party Transactions," refer to Note 13 to our consolidated financial statements in Part II, Item 8, of this Annual Report on Form 10-K.

On February 1, 2021, Holdings entered into a tax sharing agreement with Liberty Media governing the allocation of consolidated U.S. income tax liabilities and setting forth agreements with respect to other tax matters. The tax sharing

agreement was negotiated and approved by a special committee of Holdings' board of directors, all of whom are independent of Liberty Media.

Under the Internal Revenue Code, two corporations may form a consolidated tax group, and file a consolidated federal income tax return, if one corporation owns stock representing at least 80% of the voting power and value of the outstanding capital stock of the other corporation. As of December 31, 2020, Liberty Media beneficially owned, directly and indirectly, approximately 76% of the outstanding shares of our common stock. We expect that Liberty Media could beneficially own, directly and indirectly, over 80% of the outstanding shares of our common stock at some time in 2021, and Holdings and Liberty Media would then become members of the same consolidated tax group. Should that happen, the tax sharing agreement would govern certain matters related to the resulting consolidated federal income tax returns, as well as state and local returns filed on a consolidated or combined basis.

The tax sharing agreement contains provisions that Holdings believes are customary for tax sharing agreements between members of a consolidated group. A copy of the tax sharing agreement has been filed as Exhibit 10.44 to this Annual Report on Form 10-K for the year ended December 31, 2020. The tax sharing agreement and our inclusion in Liberty Media's consolidated tax group is not expected to have any material adverse effect on us.

Critical Accounting Policies and Estimates

Our consolidated financial statements are prepared in accordance with GAAP, which requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the periods. Accounting estimates require the use of significant management assumptions and judgments as to future events, and the effect of those events cannot be predicted with certainty. The accounting estimates will change as new events occur, more experience is acquired and more information is obtained. We evaluate and update our assumptions and estimates on an ongoing basis and use outside experts to assist in that evaluation when we deem necessary. We have identified all significant accounting policies in Note 2 to our consolidated financial statements in Part II, Item 8, of this Annual Report on Form 10-K.

Intangible Assets and Purchase Accounting. We perform purchase price accounting upon an acquisition. We allocate the purchase consideration to the identifiable assets acquired and liabilities assumed based on their fair values at the acquisition date. The excess of the purchase consideration over the fair value of assets acquired and liabilities assumed is recorded as goodwill. The determination of the acquisition date fair value of the assets acquired and liabilities assumed required us to make significant estimates and assumptions regarding projected revenues and related growth rates, royalty rates, customer attrition rates, discount rates and the remaining useful lives of intangible and other long-term assets. Our intangible assets include goodwill, other indefinite-lived assets (our FCC licenses and trademarks) and definite-lived assets. Our annual impairment assessment of our goodwill and our indefinite-lived assets is performed as of the fourth quarter of each year. We also review our intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset is not recoverable. If an impairment exists, the impairment is measured as the amount by which the carrying amount of an intangible asset exceeds its estimated fair value.

- ***Goodwill:*** ASC 350, *Intangibles - Goodwill and Other*, states that an entity should perform its annual or interim goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount and recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value. Under the updated guidance per Accounting Standards Update ("ASU") 2017-04, *Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*, the requirements for any reporting unit with a zero or negative carrying amount to perform a qualitative assessment is eliminated. In accordance with updated guidance, we recognize goodwill impairment as the difference between the carrying amount of a reporting unit and its fair value, but not to exceed the carrying amount of goodwill.

Based on our annual impairment test for goodwill as of October 1, 2020, we recognized an impairment charge of \$956 to reduce the carrying amount of our Pandora reporting unit to its fair value. The impairment was primarily due to a reduction in the long-term forecast to reflect an increase in expected royalties for streaming, increased uncertainty surrounding the projected demand for advertising and a decrease of listening hours. Fair value was determined using a combination of an income approach, using a discounted cash flow model ("DCF"), and a market approach. The DCF model included significant assumptions about revenue growth rates, long-term growth rates and enterprise specific discount rates. Additionally, assumptions related to guideline company financial multiples used in the market approach decreased based on current market observations.

- ***Indefinite-lived Assets:*** ASC 350-30-35, *Intangibles - General Intangibles Other than Goodwill*, provides for an option to first perform a qualitative assessment to determine whether it is more likely than not that an asset is impaired. If the qualitative assessment supports that it is more likely than not that the fair value of the asset exceeds its carrying value, a company is not required to perform a quantitative impairment test. If the qualitative assessment does not support that the

fair value of the asset exceeds its carrying value, then a quantitative assessment is performed. We recognize impairment as the difference between the carrying amount of an asset and its estimated fair value.

Based on our annual impairment test for indefinite-lived assets as of October 1, 2020, we recognized an impairment charge of \$20 to reduce the carrying amount of our Pandora trademark to its fair value. Fair value was determined using a discounted cash flow model. The DCF model included significant assumptions about revenue growth rates, long-term growth rates and enterprise specific discount rates.

- *Definite-lived Assets:* We carry our definite-lived assets at cost less accumulated amortization. We assess definite-lived assets for recoverability whenever events or changes in circumstances indicate that its carrying amount may not be recoverable. If an event or circumstance is identified indicating the carrying value may not be recoverable, the sum of future undiscounted cash flows is compared to the carrying value. If carrying value exceeds the future undiscounted cash flows, the carrying value of the asset is reduced to its fair value. The fair value of assets is determined as either the expected selling price less selling costs (where appropriate) or the present value of the estimated future cash flows, adjusted as necessary for market factors.

Useful Life of Broadcast/Transmission System. Our satellite system includes the costs of our satellite construction, launch vehicles, launch insurance, capitalized interest, spare satellites, terrestrial repeater network and satellite uplink facilities. We monitor our satellites for impairment whenever events or changes in circumstances indicate that the carrying amount of the asset is not recoverable.

We operate two in-orbit Sirius satellites, FM-5 and FM-6, which launched in 2009 and 2013, respectively, and estimate they will operate effectively through the end of their depreciable lives in 2024 and 2028, respectively.

We currently operate three in-orbit XM satellites, XM-3, XM-4 and XM-5. Our XM-3 satellite launched in 2005 reached the end of its depreciable life in 2020. We estimate that our XM-4 satellite launched in 2006 will reach the end of its depreciable life in 2021. We have entered into agreements for the design construction and launch of two satellites, SXM-7 and SXM-8. SXM-7 was launched into a geostationary orbit in December 2020. In-orbit testing of SXM-7 began on January 4, 2021. During in-orbit testing of SXM-7, events occurred which have caused failures of certain SXM-7 payload units. An evaluation of SXM-7 is underway. The full extent of the damage to SXM-7 is not yet known. SXM-8 is expected to be launched into a geostationary orbit in 2021. Our XM-5 satellite was launched in 2010, is used as an in-orbit spare for the Sirius and XM systems and is expected to reach the end of its depreciable life in 2025.

Our satellites have been designed to last fifteen-years. Our in-orbit satellites may experience component failures which could adversely affect their useful lives. We monitor the operating condition of our in-orbit satellites and if events or circumstances indicate that the depreciable lives of our in-orbit satellites have changed, we will modify the depreciable life accordingly. If we were to revise our estimates, our depreciation expense would change.

Income Taxes. Deferred income taxes are recognized for the tax consequences related to temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and the amounts used for tax purposes, based on enacted tax laws and statutory tax rates applicable to the periods in which the differences are expected to affect taxable income.

We assess the recoverability of deferred tax assets at each reporting date and, where applicable, a valuation allowance is recognized when, based on the weight of all available evidence, it is considered more likely than not that all, or some portion, of the deferred tax assets will not be realized. Our assessment includes an analysis of whether deferred tax assets will be realized in the ordinary course of operations based on the available positive and negative evidence, including the scheduling of deferred tax liabilities and forecasted income from operations. The underlying assumptions we use in forecasting future taxable income require significant judgment. In the event that actual income from operations differs from forecasted amounts, or if we change our estimates of forecasted income from operations, we could record additional charges or reduce allowances in order to adjust the carrying value of deferred tax assets to their realizable amount. Such adjustments could be material to our consolidated financial statements.

As of December 31, 2020, we had a valuation allowance of \$54 relating to deferred tax assets that are not more likely than not to be realized due to the timing of certain state net operating loss limitations and acquired net operating losses that were not likely to be utilized.

ASC 740, *Income Taxes*, requires a company to first determine whether it is more likely than not that a tax position will be sustained based on its technical merits as of the reporting date, assuming that taxing authorities will examine the position and have full knowledge of all relevant information. A tax position that meets this more likely than not threshold is then measured and recognized at the largest amount of benefit that is greater than fifty percent likely to be realized upon effective settlement with a taxing authority. If the tax position is not more likely than not to be sustained, the gross amount of the unrecognized tax position will not be recorded in the financial statements but will be shown in tabular format within the uncertain income tax positions. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs due to the following conditions: (1) the tax position is “more likely than not” to be sustained, (2) the tax position, amount, and/or timing is

ultimately settled through negotiation or litigation, or (3) the statute of limitations for the tax position has expired. A number of years may elapse before an uncertain tax position is effectively settled or until there is a lapse in the applicable statute of limitations. We record interest and penalties related to uncertain tax positions in Income tax expense in our consolidated statements of comprehensive income. As of December 31, 2020, the gross liability for income taxes associated with uncertain tax positions was \$433.

Glossary

Monthly active users - the number of distinct registered users on the Pandora services, including subscribers, which have consumed content within the trailing 30 days to the end of the final calendar month of the period. The number of monthly active users on the Pandora services may overstate the number of unique individuals who actively use our Pandora service, as one individual may use multiple accounts. To become a registered user on the Pandora services, a person must sign-up using an email address or phone number, or access our service using a device with a unique identifier, which we use to create an account for our service.

Average self-pay monthly churn - the Sirius XM monthly average of self-pay deactivations for the period divided by the average number of self-pay subscribers for the period.

Adjusted EBITDA - EBITDA is defined as net income before interest expense, income tax expense and depreciation and amortization. We adjust EBITDA to exclude the impact of other expense (income) as well as certain other charges discussed below. Adjusted EBITDA is a Non-GAAP financial measure that excludes or adjusts for (if applicable): (i) certain adjustments as a result of the purchase price accounting for the XM Merger and the Pandora Acquisition, (ii) predecessor net income adjusted for certain expenses, including depreciation and amortization, other income (loss), and share-based payment expense for January 2019, (iii) share-based payment expense, (iv) impairment charges and (v) other significant operating expense (income) that do not relate to the on-going performance of our business. We believe adjusted EBITDA is a useful measure of the underlying trend of our operating performance, which provides useful information about our business apart from the costs associated with our capital structure and purchase price accounting. We believe investors find this Non-GAAP financial measure useful when analyzing our past operating performance with our current performance and comparing our operating performance to the performance of other communications, entertainment and media companies. We believe investors use adjusted EBITDA to estimate our current enterprise value and to make investment decisions. As a result of large capital investments in our satellite radio system, our results of operations reflect significant charges for depreciation expense. We believe the exclusion of share-based payment expense is useful as it is not directly related to the operational conditions of our business. We also believe the exclusion of the legal settlements and reserves, acquisition related costs, and loss on extinguishment of debt, to the extent they occur during the period, is useful as they are significant expenses not incurred as part of our normal operations for the period.

Adjusted EBITDA has certain limitations in that it does not take into account the impact to our consolidated statements of comprehensive income of certain expenses, including share-based payment expense and certain purchase price accounting for the XM Merger and the Pandora Acquisition. We endeavor to compensate for the limitations of the Non-GAAP measure presented by also providing the comparable GAAP measure with equal or greater prominence and descriptions of the reconciling items, including quantifying such items, to derive the Non-GAAP measure. Investors that wish to compare and evaluate our operating results after giving effect for these costs, should refer to net income as disclosed in our consolidated statements of comprehensive income. Since adjusted EBITDA is a Non-GAAP financial performance measure, our calculation of adjusted EBITDA may be susceptible to varying calculations; may not be comparable to other similarly titled measures of other companies; and should not be considered in isolation, as a substitute for, or superior to measures of financial performance prepared in accordance with GAAP. The reconciliation of net income to the adjusted EBITDA is calculated as follows:

	For the Years Ended December 31,		
	2020	2019	2018
Net income:	\$ 131	\$ 914	\$ 1,176
Add back items excluded from Adjusted EBITDA:			
Legal settlements and reserves	(16)	25	69
Acquisition and restructuring costs ⁽¹⁾	28	84	3
Share-based payment expense ⁽³⁾	223	229	133
Depreciation and amortization	506	468	301
Impairment charges	976	—	—
Interest expense	394	390	350
Loss on extinguishment of debt	40	57	—
Other (income) expense	(6)	3	(44)
Income tax expense	299	283	245
Purchase price accounting adjustments:			
Revenues	6	13	7
Operating expenses	(6)	(14)	—
Pro forma adjustments ⁽²⁾	—	(25)	(109)
Adjusted EBITDA	<u>\$ 2,575</u>	<u>\$ 2,427</u>	<u>\$ 2,131</u>

(1) Acquisition and restructuring costs include \$21 of share-based compensation expense for the year ended December 31, 2019.

(2) Pro forma adjustment for year ended December 31, 2019 includes Pandora's Net income for the year ended December 31, 2019 of \$(44) plus Depreciation and amortization of \$6, Share-based payment expense of \$11, Acquisition and other related costs of \$1, and Interest expense of \$2, offset by Other income of \$1. Pro forma adjustment for year ended December 31, 2018 includes Pandora's Net income for the year ended December 31, 2018 of \$(328) plus Depreciation and amortization of \$61, Share-based payment expense of \$111, Loss on extinguishment of debt of \$17, Interest expense of \$27, transaction related costs recorded by Pandora related to its acquisition by Sirius XM of \$12, and contract termination fees of \$6, offset by Other income of \$7 and Income tax benefit of \$8.

(3) Allocation of share-based payment expense:

<i>(in millions)</i>	For the Years Ended December 31,		
	2020	2019	2018
Programming and content	\$ 32	\$ 30	28
Customer service and billing	6	4	4
Transmission	6	10	5
Sales and marketing	68	78	25
Engineering, design and development	43	49	17
General and administrative	68	58	54
Total share-based payment expense	<u>\$ 223</u>	<u>\$ 229</u>	<u>133</u>

Free cash flow - is derived from cash flow provided by operating activities, net of additions to property and equipment and purchases of other investments. Free cash flow is a metric that our management and board of directors use to evaluate the cash generated by our operations, net of capital expenditures and other investment activity. In a capital intensive business, with significant investments in satellites, we look at our operating cash flow, net of these investing cash outflows, to determine cash available for future subscriber acquisition and capital expenditures, to repurchase or retire debt, to acquire other companies and to evaluate our ability to return capital to stockholders. We exclude from free cash flow certain items that do not relate to the on-going performance of our business, such as cash flows related to acquisitions, strategic and short-term investments, and net loan activity with related parties and other equity investees. We believe free cash flow is an indicator of the long-term financial stability of our business. Free cash flow, which is reconciled to “Net cash provided by operating activities,” is a Non-GAAP financial measure. This measure can be calculated by deducting amounts under the captions “Additions to property and equipment” and deducting or adding Restricted and other investment activity from “Net cash provided by operating activities” from the consolidated statements of cash flows. Free cash flow should be used in conjunction with other GAAP financial performance measures and may not be comparable to free cash flow measures presented by other companies. Free cash flow should be viewed as a supplemental measure rather than an alternative measure of cash flows from operating activities, as determined in accordance with GAAP. Free cash flow is limited and does not represent remaining cash flows available for discretionary expenditures due to the fact that the measure does not deduct the payments required for debt maturities. We believe free cash flow provides useful supplemental information to investors regarding our current cash flow, along with other GAAP measures (such as cash flows from operating and investing activities), to determine our financial condition, and to compare our operating performance to other communications, entertainment and media companies. Free cash flow is calculated as follows:

	For the Years Ended December 31,		
	2020	2019	2018
Cash Flow information			
Net cash provided by operating activities	\$ 2,018	\$ 2,017	\$ 1,880
Net cash used in investing activities	\$ (741)	\$ (3)	\$ (379)
Net cash used in financing activities	\$ (1,314)	\$ (1,959)	\$ (1,515)
Free Cash Flow			
Net cash provided by operating activities	\$ 2,018	\$ 2,017	\$ 1,880
Additions to property and equipment	(350)	(363)	(355)
Purchases of other investments	(8)	(7)	(8)
Free cash flow	<u>\$ 1,660</u>	<u>\$ 1,647</u>	<u>\$ 1,517</u>

ARPU - Sirius XM ARPU is derived from total earned subscriber revenue (excluding revenue associated with our connected vehicle services) and advertising revenue, divided by the number of months in the period, divided by the daily weighted average number of subscribers for the period. Pandora ARPU is defined as average monthly subscriber revenue per paid subscriber on our Pandora subscription services.

Subscriber acquisition cost, per installation - or SAC, per installation, is derived from subscriber acquisition costs less margins from the sale of radios and accessories (excluding connected vehicle services), divided by the number of satellite radio installations in new vehicles and shipments of aftermarket radios for the period. SAC, per installation, is calculated as follows:

	For the Years Ended December 31,		
	2020	2019	2018
Subscriber acquisition costs, excluding connected vehicle services	\$ 362	\$ 427	\$ 470
Less: margin from sales of radios and accessories, excluding connected vehicle services	(154)	(144)	(122)
	<u>\$ 208</u>	<u>\$ 283</u>	<u>\$ 348</u>
Installations	<u>11,091</u>	<u>12,355</u>	<u>13,563</u>
SAC, per installation ^(a)	<u>\$ 18.65</u>	<u>\$ 22.91</u>	<u>\$ 25.66</u>

(a) Amounts may not recalculate due to rounding.

Ad supported listener hours - is based on the total bytes served over our Pandora advertising supported platforms for each track that is requested and served from our Pandora servers, as measured by our internal analytics systems, whether or not a listener listens to the entire track. For non-music content such as podcasts, episodes are divided into approximately track-length parts, which are treated as tracks. To the extent that third-party measurements of advertising hours are not calculated using a similar server-based approach, the third-party measurements may differ from our measurements.

RPM - is calculated by dividing advertising revenue, excluding AdsWizz and other off-platform revenue, by the number of thousands of listener hours on our Pandora advertising-based service.

LPM - is calculated by dividing advertising licensing costs by the number of thousands of listener hours on our Pandora advertising-based service.

LPU - is calculated by dividing subscriber licensing costs by the number of paid subscribers on our Pandora subscription services.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURE ABOUT MARKET RISK

As of December 31, 2020, we did not hold or issue any derivatives. We hold investments in money market funds and certificates of deposit. These securities are consistent with the objectives contained within our investment policy. The basic objectives of our investment policy are the preservation of capital, maintaining sufficient liquidity to meet operating requirements and maximizing yield.

As of December 31, 2020, we also held the following investment:

In connection with the recapitalization of Sirius XM Canada on May 25, 2017, we loaned Sirius XM Canada \$130.8 million. The loan is considered a long-term investment with any unrealized gains or losses reported within Accumulated other comprehensive (loss) income. The loan has a term of fifteen years, bears interest at a rate of 7.62% per annum and includes customary covenants and events of default, including an event of default relating to Sirius XM Canada's failure to maintain specified leverage ratios. The carrying value of the loan as of December 31, 2020 was \$122.7 million and approximated its fair value. The loan is denominated in Canadian dollars and it is subject to changes in foreign currency. Had the Canadian to U.S. dollar exchange rate been 10% lower as of December 31, 2020, the value of this loan would have been approximately \$12.3 million lower.

Our debt includes fixed rate instruments and the fair market value of our debt is sensitive to changes in interest rates. Sirius XM's borrowings under the Credit Facility carry a variable interest rate, which is currently based on LIBOR, plus an applicable rate based on its debt to operating cash flow ratio. We currently do not use interest rate derivative instruments to manage our exposure to interest rate fluctuations.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

See the Index to Consolidated Financial Statements and financial statements and financial statement schedule contained in Part IV, Item 15, herein, which are incorporated herein by reference.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our reports under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms, and that such information is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosures. Any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. An evaluation was performed under the supervision and with the participation of our management, including Jennifer C. Witz, our Chief Executive Officer, and Sean S. Sullivan, our Executive Vice President and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as that term is defined in Rule 13a-15(e) and 15d-15(e) under the Exchange Act) as of December 31, 2020. Based on that evaluation, our management, including our Chief Executive Officer and our Chief Financial Officer, concluded that our disclosure controls and procedures were effective as of December 31, 2020 at the reasonable assurance level.

We acquired Pandora in February 2019. Except for the changes in internal controls at Pandora, there has been no change in our internal control over financial reporting (as that term is defined in Rule 13a-15(f) and 15d-15(f) under the Exchange Act) during the year ended December 31, 2020 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rule 13a-15(f) and 15d-15(f) under the Exchange Act. We have performed an evaluation under the supervision and with the participation of our management, including our Chief Executive Officer and our Chief Financial Officer, of the effectiveness of our internal control over financial reporting. Our management used the Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission to perform this evaluation. Based

on that evaluation, our management, including our Chief Executive Officer and Chief Financial Officer, concluded that our internal control over financial reporting was effective as of December 31, 2020.

KPMG LLP, an independent registered public accounting firm, which has audited and reported on the consolidated financial statements contained in this Annual Report on Form 10-K, has issued its report on the effectiveness of our internal control over financial reporting.

Audit Report of the Independent Registered Public Accounting Firm

The effectiveness of our internal control over financial reporting as of December 31, 2020 has been audited by KPMG LLP, an independent registered public accounting firm, as stated in their audit report appearing on page F-4 of this Annual Report on Form 10-K.

ITEM 9B. OTHER INFORMATION

On February 1, 2021, Holdings entered into a tax sharing agreement with Liberty Media governing the allocation of consolidated U.S. income tax liabilities and setting forth agreements with respect to other tax matters. The tax sharing agreement was negotiated and approved by a special committee of Holdings' board of directors, all of whom are independent of Liberty Media.

Under the Internal Revenue Code, two corporations may form a consolidated tax group, and file a consolidated federal income tax return, if one corporation owns stock representing at least 80% of the voting power and value of the outstanding capital stock of the other corporation. As of December 31, 2020, Liberty Media beneficially owned, directly and indirectly, approximately 76% of the outstanding shares of our common stock. We expect that Liberty Media could beneficially own, directly and indirectly, over 80% of the outstanding shares of our common stock at some time in 2021, and Holdings and Liberty Media would then become members of the same consolidated tax group. Should that happen, the tax sharing agreement would govern certain matters related to the resulting consolidated federal income tax returns, as well as state and local returns filed on a consolidated or combined basis.

The tax sharing agreement contains provisions that Holdings believes are customary for tax sharing agreements between members of a consolidated group. A copy of the tax sharing agreement has been filed as Exhibit 10.44 to this Annual Report on Form 10-K for the year ended December 31, 2020. The tax sharing agreement and our inclusion in Liberty Media's consolidated tax group is not expected to have any material adverse effect on us.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Information about our executive officers is contained in the discussion entitled “Information About Our Executive Officers” in Part I of this Annual Report on Form 10-K.

The additional information required by this Item 10 is incorporated in this report by reference to the applicable information in our definitive proxy statement for the 2021 annual meeting of stockholders set forth under the captions *Stock Ownership, Governance of the Company, Item 1. Election of Directors* and *Item 2. Ratification of Independent Registered Public Accountants*, which we expect to file with the Securities and Exchange Commission prior to April 30, 2021.

Code of Ethics

We have adopted a code of ethics that applies to all employees, including executive officers, and to directors. The Code of Ethics is available on the Corporate Governance page of our website at www.siriusxm.com. If we ever were to amend or waive any provision of our Code of Ethics that applies to our principal executive officer, principal financial officer, principal accounting officer or any person performing similar functions, we intend to satisfy our disclosure obligations with respect to any such waiver or amendment by posting such information on our internet website set forth above rather than filing a Form 8-K.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item 11 is incorporated in this report by reference to the applicable information in our definitive proxy statement for the 2021 annual meeting of stockholders set forth under the captions *Item 1. Election of Directors* and *Executive Compensation*, which we expect to file with the Securities and Exchange Commission prior to April 30, 2021.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Certain information required by this Item 12 is set forth under the heading “Equity Compensation Plan Information” in Part II, Item 5, of this Annual Report on Form 10-K.

The additional information required by this Item 12 is incorporated in this report by reference to the applicable information in our definitive proxy statement for the 2021 annual meeting of stockholders set forth under the caption *Stock Ownership*, which we expect to file with the Securities and Exchange Commission prior to April 30, 2021.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE

The information required by this Item 13 is incorporated in this report by reference to the applicable information in our definitive proxy statement for the 2021 annual meeting of stockholders set forth under the captions *Governance of the Company* and *Item 1. Election of Directors*, which we expect to file with the Securities and Exchange Commission prior to April 30, 2021.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this Item 14 is incorporated in this report by reference to the applicable information in our definitive proxy statement for the 2021 annual meeting of stockholders set forth under the caption *Item 2. Ratification of Independent Registered Public Accountants - Principal Accountant Fees and Services*, which we expect to file with the Securities and Exchange Commission prior to April 30, 2021.

PART IV

ITEM 15. *EXHIBITS AND FINANCIAL STATEMENT SCHEDULES*

Documents filed as part of this report:

- (1) Financial Statements. See Index to Consolidated Financial Statements appearing on page F-1.
- (2) Financial Statement Schedules. See Index to Consolidated Financial Statements appearing on page F-1.
- (3) Exhibits. See Exhibit Index, which is incorporated herein by reference.

ITEM 16. *FORM 10-K SUMMARY*

None.

EXHIBIT INDEX

Exhibit	Description
2.1	Certificate of Ownership and Merger, dated as of January 12, 2011, merging XM Satellite Radio Inc. with and into Sirius XM Radio Inc. (incorporated by reference to Exhibit 3.1 to Sirius XM Radio Inc.'s Current Report on Form 8-K filed on January 12, 2011 (File No. 001-34295)).
2.2	Agreement and Plan of Merger, dated as of November 14, 2013, by and among Sirius XM Radio Inc., Sirius XM Holdings Inc. and Sirius XM Merger Sub Inc. (incorporated by reference to Exhibit 2.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on November 15, 2013 (File No. 001-34295)).
2.3	Agreement and Plan of Merger and Reorganization by and among Sirius XM Holdings Inc., Pandora Media, Inc. and White Oaks Acquisition Corp., dated as of September 23, 2018 (incorporated by reference to Exhibit 2.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on September 24, 2018 (File No. 001-34295)).
3.1	Amended and Restated Certificate of Incorporation of Sirius XM Holdings Inc. (incorporated by reference to Exhibit 3.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on November 15, 2013 (File No. 001-34295)).
3.2	Amended and Restated By-Laws of Sirius XM Holdings Inc. (incorporated by reference to Exhibit 3.2 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on November 15, 2013 (File No. 001-34295)).
4.1	Form of certificate for shares of Sirius XM Holdings Inc.'s common stock (incorporated by reference to Exhibit 4.1 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2013 (File No. 001-34295)).
4.2	Indenture, dated as of May 23, 2016, among Sirius XM Radio Inc., the guarantors named therein and U.S. Bank National Association, as a trustee, relating to the 5.375% Senior Notes due 2026 (incorporated by reference to Exhibit 4.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on May 24, 2016 (File No. 001-34295)).
4.3	Indenture, dated as of July 5, 2017, among Sirius XM Radio Inc., the guarantors named therein and U.S. Bank National Association, as trustee, relating to the 3.875% Senior Notes due 2022 (incorporated by reference to Exhibit 4.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on July 5, 2017 (File No. 001-34295)).
4.4	Indenture, dated as of July 5, 2017, among Sirius XM Radio Inc., the guarantors named therein and U.S. Bank National Association, as trustee, relating to the 5.000% Senior Notes due 2027 (incorporated by reference to Exhibit 4.2 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on July 5, 2017 (File No. 001-34295)).
4.5	Indenture, dated as of July 2, 2019, among Sirius XM Radio Inc., the guarantors named therein and U.S. Bank National Association, as trustee, relating to the 4.625% Senior Notes due 2024 (incorporated by reference to Exhibit 4.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on July 2, 2019 (File No. 001-34295)).
4.6	Indenture, dated as of June 7, 2019, among Sirius XM Radio Inc., the guarantors named therein and U.S. Bank National Association, as trustee, relating to the 5.500% Senior Notes due 2029 (incorporated by reference to Exhibit 4.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on June 7, 2019 (File No. 001-34295)).
4.7	First Supplemental Indenture, dated as of January 31, 2019, relating to the 1.75% Convertible Senior Notes due 2023, between Pandora Media, Inc. and Citibank, N.A., as trustee (incorporated by reference to Exhibit 4.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on January 31, 2019 (File No. 001-34295)).
4.8	Third Supplemental Indenture, dated as of February 1, 2019, relating to the 1.75% Convertible Senior Notes due 2023, among Pandora Media, LLC (f/k/a Pandora Media, Inc.), Sirius XM Holdings Inc. and Citibank, N.A. as trustee (incorporated by reference to Exhibit 4.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on February 1, 2019 (File No. 001-34295)).
4.9	Indenture, dated as of June 11, 2020, relating to the 4.125% Senior Notes due 2030, among Sirius XM Radio Inc., the guarantors named therein and U.S. Bank National Association, as trustee, including the form of 4.125% Senior Notes due 2030 (incorporated by reference to Exhibit 4.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K dated June 11, 2020 (File No. 001-34295)).
4.10	Investment Agreement, dated as of February 17, 2009, between Sirius XM Radio Inc. and Liberty Radio LLC (incorporated by reference to Exhibit 4.55 to Sirius XM Radio Inc.'s Annual Report on Form 10-K for the year ended December 31, 2008 (File No. 001-34295)).
4.11	Assignment and Assumption of Investment Agreement among Sirius XM Radio Inc., Sirius XM Holdings Inc. and Liberty Radio LLC, dated as of November 15, 2013 (incorporated by reference to Exhibit 4.15 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2013 (File No. 001-34295)).
4.12	Description of Registrant's Securities (incorporated by reference to Exhibit 4.15 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2019 (File No. 001-34295)).

Exhibit	Description
10.1	Credit Agreement, dated as of December 5, 2012, among Sirius XM Radio Inc., JPMorgan Chase Bank, N.A. as administrative agent, and the other agents and lenders party thereto (incorporated by reference to Exhibit 10.1 to Sirius XM Radio Inc.'s Current Report on Form 8-K filed on December 10, 2012 (File No. 001-34295)).
10.2	Amendment No. 1, dated as of April 22, 2014, to the Credit Agreement, dated as of December 5, 2012, among Sirius XM Radio Inc., the Lenders party thereto and JPMorgan Chase Bank, N.A. as administrative agent for the Lenders, as collateral agent for the Secured Parties and as an Issuing Bank (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on April 22, 2014 (File No. 001-34295)).
10.3	Amendment No. 2, dated as of June 16, 2015, to the Credit Agreement, dated as of December 5, 2012, among Sirius XM Radio Inc., JPMorgan Chase Bank, N.A., as administrative agent, and the other agents and lenders parties thereto (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on June 19, 2015 (File No. 001-34295)).
10.4	Amendment No. 3, dated as of June 29, 2018, to the Credit Agreement, dated as of December 5, 2012, among Sirius XM Radio Inc., JPMorgan Chase Bank, N.A., as administrative agent, and the other agents and lenders parties thereto (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on July 3, 2018 (File No. 001-34295)).
*10.5	Technology Licensing Agreement among XM Satellite Radio Inc., XM Satellite Radio Holdings Inc., WorldSpace Management Corporation and American Mobile Satellite Corporation, dated as of January 1, 1998, amended by Amendment No. 1 to Technology Licensing Agreement (incorporated by reference to Exhibit 10.4 to Amendment No. 1 to XM Satellite Radio Holdings Inc.'s Registration Statement on Form S-1 (File No. 333-83619)).
*10.6	Amended and Restated Sirius Satellite Radio 2003 Long-Term Stock Incentive Plan (incorporated by reference to Exhibit 10.10 to Sirius XM Radio Inc.'s Quarterly Report on Form 10-Q for the quarter ended June 30, 2004 (File No. 001-34295)).
*10.7	XM Satellite Radio Holdings Inc. 2007 Stock Incentive Plan (incorporated by reference to Exhibit 10.5 to XM Satellite Radio Holdings Inc.'s Quarterly Report on Form 10-Q for the quarter ended June 30, 2007 (File No. 000-27441)).
*10.8	Form of Non-Qualified Stock Option Agreement pursuant to the XM Satellite Radio Holdings Inc. 2007 Stock Incentive Plan (incorporated by reference to Exhibit 10.2 to XM Satellite Radio Holdings Inc.'s Current Report on Form 8-K filed June 1, 2007 (File No. 000-27441)).
*10.9	Form of Restricted Stock Agreement pursuant to the XM Satellite Radio Holdings Inc. 2007 Stock Incentive Plan (incorporated by reference to Exhibit 10.3 to XM Satellite Radio Holdings Inc.'s Current Report on Form 8-K filed June 1, 2007 (File No. 000-27441)).
*10.10	Sirius XM Radio 401(k) Savings Plan, January 1, 2009 Restatement (incorporated by reference to Exhibit 10.30 to Sirius XM Radio Inc.'s Annual Report on Form 10-K for the year ended December 31, 2009 (File No. 001-34295)).
*10.11	Sirius XM Radio Inc. 2009 Long-Term Stock Incentive Plan (incorporated by reference to Exhibit 4.9 to Sirius XM Radio Inc.'s Registration Statement on Form S-8 (File No. 333-160386)).
*10.12	Sirius XM Holdings Inc. 2015 Long-Term Stock Incentive Plan (incorporated by reference to Appendix A to Sirius XM Holdings Inc.'s definitive Proxy Statement on Schedule 14A filed on April 6, 2015 (File No. 001-34295)).
*10.13	Form of Director Non-Qualified Stock Option Agreement pursuant to the Sirius XM Radio Inc. 2009 Long-Term Stock Incentive Plan (incorporated by reference to Exhibit 10.34 to Sirius XM Radio Inc.'s Annual Report on Form 10-K for the year ended December 31, 2011 (File No. 001-34295)).
*10.14	Form of Director Non-Qualified Stock Option Agreement pursuant to the Sirius XM Holdings Inc. 2009 Long-Term Stock Incentive Plan (incorporated by reference to Exhibit 10.18 to Sirius XM Holdings Inc.'s Annual Report for the year ended December 31, 2014 (File No. 001-34295)).
*10.15	Form of Non-Qualified Stock Option Agreement pursuant to the Sirius XM Radio Inc. 2009 Long-Term Stock Incentive Plan (incorporated by reference to Exhibit 10.35 to Sirius XM Radio Inc.'s Annual Report on Form 10-K for the year ended December 31, 2011 (File No. 001-34295)).
*10.16	Form of Non-Qualified Stock Option Agreement pursuant to the Sirius XM Holdings Inc. 2009 Long-Term Stock Incentive Plan (incorporated by reference to Exhibit 10.20 to Sirius XM Holdings Inc.'s Annual Report filed for the year ended December 31, 2014 (File No. 001-34295)).
*10.17	Form of Director Non-Qualified Stock Option Agreement pursuant to the Sirius XM Holdings Inc. 2015 Long-Term Stock Incentive Plan (incorporated by reference to Exhibit 10.22 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2015 (File No. 001-34295)).

Exhibit	Description
*10.18	Form of Non-Qualified Stock Option Agreement pursuant to the Sirius XM Holdings Inc. 2015 Long-Term Stock Incentive Plan (incorporated by reference to Exhibit 10.23 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2015 (File No. 001-34295)).
*10.19	Form of SVP Restricted Stock Unit Agreement pursuant to the Sirius XM Holdings Inc. 2015 Long-Term Stock Incentive Plan (incorporated by reference to Exhibit 10.24 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2016 (001-34295)).
*10.20	Form of Performance-Based Restricted Stock Unit Agreement pursuant to the Sirius XM Holdings Inc. 2015 Long-Term Stock Incentive Plan (incorporated by reference to Exhibit 10.25 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2016 (001-34295)).
*10.21	Form of SVP Non-Qualified Stock Option Agreement pursuant to the Sirius XM Holdings Inc. 2015 Long-Term Stock Incentive Plan (incorporated by reference to Exhibit 10.26 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2016 (001-34295)).
*10.22	Employment Agreement, dated as of May 31, 2018, between Sirius XM Radio Inc. and Dara F. Altman (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on June 5, 2018 (File No. 001-34295)).
*10.23	Employment Agreement, dated as of June 29, 2015, between Sirius XM Radio Inc. and James A. Cady (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on June 30, 2015 (File No. 001-34295)).
*10.24	Amendment to the Employment Agreement between Sirius XM Radio Inc. and James A. Cady, dated as of February 23, 2016 (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Quarterly Report on Form 10-Q for the quarter ended March 31, 2016 (File No. 001-34295)).
*10.25	Employment Agreement, dated as of June 1, 2018, between Sirius XM Radio Inc. and David J. Frear (incorporated by reference to Exhibit 10.2 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on June 5, 2018 (File No. 001-34295)).
*10.26	Form of Option Award Agreement between Sirius XM Radio Inc. and James E. Meyer (incorporated by reference to Exhibit 10.1 to Sirius XM Radio Inc.'s Current Report on Form 8-K filed October 16, 2009 (File No. 001-34295)).
*10.27	Employment Agreement, dated December 24, 2018 between Sirius XM Radio Inc. and Scott A. Greenstein (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on December 26, 2018 (File No. 001-34295)).
*10.28	Employment Agreement, dated as of November 22, 2016 between Sirius XM Radio Inc. and Patrick L. Donnelly (incorporated by reference to Exhibit 10.37 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2016 (File No. 001-34295)).
*10.29	Employment Agreement, dated as of August 21, 2017 between Sirius XM Radio Inc. and Jennifer Witz (incorporated by reference to Exhibit 10.30 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2017 (File No. 001-34295)).
*10.30	Employment Agreement, dated August 16, 2018, between Sirius XM Radio Inc. and James E. Meyer (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on August 16, 2018 (File No. 001-34295)).
*10.31	Letter agreement, dated August 16, 2018, regarding use of private aircraft between Sirius XM Radio Inc. and James E. Meyer (incorporated by reference to Exhibit 10.2 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on August 16, 2018 (File No. 001-34295)).
*10.32	Employment Agreement, dated as of March 5, 2019 between Sirius XM Radio Inc. and Jennifer Witz (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on March 6, 2019 (File No. 001-34295)).
*10.33	Employment Agreement, dated as of September 14, 2020 between Sirius XM Radio Inc. and Jennifer Witz (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on September 15, 2020 (File No. 001-34295)).
*10.34	Letter Agreement, dated September 14, 2020, regarding private use of aircraft between Sirius XM Radio Inc. and Jennifer C. Witz (incorporated by reference to Exhibit 10.2 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed September 15, 2020 (File No. 001-34295)).
*10.35	Employment Agreement, dated as of September 14, 2020, between Sirius XM Radio Inc. and Sean S. Sullivan (incorporated by reference to Exhibit 10.3 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed September 15, 2020 (File No. 001-34295)).

Exhibit	Description
*10.36	Employment Agreement, dated as of December 27, 2020 between Sirius XM Radio Inc. and Scott A. Greenstein (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on December 8, 2020 (File No. 001-34295)).
*10.37	Agreement and Release, dated as of September 21, 2020 between Sirius XM Radio Inc. and David J. Frear (filed herewith).
*10.38	Consulting Agreement, dated as of January 1, 2021 between Sirius XM Radio Inc. and James E Meyer (filed herewith).
*10.39	Letter Agreement, dated March 5, 2019, between Sirius XM Radio Inc. and Stephen R. Cook (incorporated by reference to Exhibit 10.2 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on March 6, 2019 (File No. 001-34295)).
*10.40	Letter Agreement, dated March 5, 2019, between Sirius XM Radio Inc. and Joseph A. Verbrugge (incorporated by reference to Exhibit 10.3 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on March 6, 2019 (File No. 001-34295)).
*10.41	Assignment and Assumption Agreement, dated as of November 15, 2013, among Sirius XM Holdings Inc. and Sirius XM Radio Inc. (incorporated by reference to Exhibit 10.1 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on November 15, 2013 (File No. 001-34295)).
*10.42	Omnibus Amendment, dated November 15, 2013, to the XM Satellite Radio Holdings Inc. Talent Option Plan, the XM Satellite Radio Holdings Inc. 1998 Shares Award Plan, as amended, the Amended and Restated Sirius Satellite Radio 2003 Long-Term Stock Incentive Plan, the XM Satellite Radio Holdings Inc. 2007 Stock Incentive Plan and the Sirius XM Radio Inc. 2009 Long-Term Stock Incentive Plan and their Related Stock Option Agreements, Restricted Stock Agreements and Restricted Stock Unit Agreements (incorporated by reference to Exhibit 10.2 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on November 15, 2013 (File No. 001-34295)).
*10.43	Sirius XM Holdings Inc. Deferred Compensation Plan (incorporated by reference to Exhibit 10.2 to Sirius XM Holdings Inc.'s Current Report on Form 8-K filed on June 30, 2015 (File No. 001-34295)).
10.44	Tax Sharing Agreement, dated as of February 1, 2021 between Sirius XM Holdings Inc. and Liberty Media Corporation (filed herewith).
21.1	List of Subsidiaries (filed herewith).
23.1	Consent of KPMG LLP (filed herewith).
31.1	Certificate of Jennifer C. Witz, Chief Executive Officer and Director, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith).
31.2	Certificate of Sean S. Sullivan, Executive Vice President and Chief Financial Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith).
32.1	Certificate of Jennifer C. Witz, Chief Executive Officer and Director, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (filed herewith).
32.2	Certificate of Sean S. Sullivan, Executive Vice President and Chief Financial Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (filed herewith).
99.1	Amended and Restated Certificate of Incorporation of Sirius XM Radio Inc., as amended (incorporated by reference to Exhibit 3.3 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2013 (File No. 001-34295)).
99.2	Amended and Restated By-Laws of Sirius XM Radio Inc., as amended (incorporated by reference to Exhibit 3.4 to Sirius XM Holdings Inc.'s Annual Report on Form 10-K for the year ended December 31, 2013 (File No. 001-34295)).
101.1	The following financial information from our Annual Report on Form 10-K for the year ended December 31, 2020 formatted in Inline eXtensible Business Reporting Language (Inline XBRL): (i) Consolidated Statements of Comprehensive Income for the years ended December 31, 2020, 2019 and 2018; (ii) Consolidated Balance Sheets as of December 31, 2020 and 2019; (iii) Consolidated Statements of Stockholders' (Deficit) Equity for the years ended December 31, 2020, 2019 and 2018; (iv) Consolidated Statements of Cash Flows for the years ended December 31, 2020, 2019 and 2018; and (v) Combined Notes to Consolidated Financial Statements.
104.1	Cover Page Interactive Data File (Embedded within the Inline XBRL document and included in Exhibit 101.1)

* This document has been identified as a management contract or compensatory plan or arrangement.

** Pursuant to the Commission's Orders Granting Confidential Treatment under Rule 406 of the Securities Act of 1933 or Rule 24(b)-2 under the Securities Exchange Act of 1934, certain confidential portions of this Exhibit were omitted by means of redacting a portion of the text.

The agreements and other documents filed as exhibits to this report are not intended to provide factual information or other disclosure other than with respect to the terms of the agreements or other documents themselves, and you should not rely on them for any other purpose. In particular, any representations and warranties made by us in these agreements or other documents were made solely within the specific context of the relevant agreement or document and may not describe the actual state of affairs for any other purpose as of the date they were made or at any other time.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on this 2nd day of February 2021.

SIRIUS XM HOLDINGS INC.

By: /s/ Sean S. Sullivan
Sean S. Sullivan
Executive Vice President and Chief Financial Officer
(Principal Financial Officer and Authorized Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ GREGORY B. MAFFEI</u> (Gregory B. Maffei)	Chairman of the Board of Directors and Director	February 2, 2021
<u>/s/ JAMES E. MEYER</u> (James E. Meyer)	Vice Chairman of the Board of Directors and Director	February 2, 2021
<u>/s/ JENNIFER C. WITZ</u> (Jennifer C. Witz)	Chief Executive Officer and Director (Principal Executive Officer)	February 2, 2021
<u>/s/ SEAN S. SULLIVAN</u> (Sean S. Sullivan)	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	February 2, 2021
<u>/s/ THOMAS D. BARRY</u> (Thomas D. Barry)	Senior Vice President and Controller (Principal Accounting Officer)	February 2, 2021
<u>/s/ JOAN L. AMBLE</u> (Joan L. Amble)	Director	February 2, 2021
<u>/s/ MARK D. CARLETON</u> (Mark D. Carleton)	Director	February 2, 2021
<u>/s/ EDDY W. HARTENSTEIN</u> (Eddy W. Hartenstein)	Director	February 2, 2021
<u>/s/ JAMES P. HOLDEN</u> (James P. Holden)	Director	February 2, 2021
<u>/s/ EVAN D. MALONE</u> (Evan D. Malone)	Director	February 2, 2021
<u>/s/ JAMES F. MOONEY</u> (James F. Mooney)	Director	February 2, 2021
<u>/s/ JONELLE PROCOPE</u> (Jonelle Procope)	Director	February 2, 2021
<u>/s/ MICHAEL RAPINO</u> (Michael Rapino)	Director	February 2, 2021
<u>/s/ KRISTINA M. SALEN</u> (Kristina M. Salen)	Director	February 2, 2021
<u>/s/ CARL E. VOGEL</u> (Carl E. Vogel)	Director	February 2, 2021
<u>/s/ DAVID M. ZASLAV</u> (David M. Zaslav)	Director	February 2, 2021

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
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Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Sirius XM Holdings Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Sirius XM Holdings Inc. and subsidiaries (the Company) as of December 31, 2020 and 2019, the related consolidated statements of comprehensive income, stockholders' equity (deficit), and cash flows for each of the years in the three-year period ended December 31, 2020, and the related notes and financial statement schedule II (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2020, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 2, 2021 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 2 to the consolidated financial statements, the Company has changed its method of accounting for leases as of January 1, 2019 due to the adoption of Accounting Standard Update (ASU) 2016-02 and all related amendments, which established Accounting Standard Codification (ASC) Topic 842, *Leases*.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Sufficiency of audit evidence over certain subscriber and advertising revenues

As discussed in Notes 2 and 19 to the consolidated financial statements, and disclosed in the consolidated statements of comprehensive income, the Company generated \$8.0 billion of revenues, of which \$5.9 billion was Sirius XM subscriber revenue and \$1.2 billion was Pandora (Pandora Media, LLC and subsidiaries, the successor to Pandora Media, Inc. and subsidiaries) advertising revenue, for the year ended December 31, 2020. The Company's accounting for these subscriber and advertising revenues involve multiple information technology (IT) systems.

We identified the evaluation of the sufficiency of audit evidence related to these subscriber and advertising revenues as a critical audit matter. Evaluating the sufficiency of audit evidence required our subjective judgment regarding, among other things, the nature and extent of the evidence relating to each revenue stream, due principally to the number of IT applications utilized in the revenue recognition process to capture and aggregate the data.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the critical audit matter. This included controls related to the Company's subscriber and advertising revenue recognition processes. We involved IT professionals with specialized skills and knowledge, who assisted in testing relevant IT applications and controls used by the Company in its revenue recognition processes and testing the interface of relevant revenue data between different IT systems used in the revenue recognition processes.

We applied auditor judgment to determine the nature and extent of procedures to be performed over subscriber and advertising revenues. For each revenue stream within Sirius XM subscriber revenues where procedures were performed, we developed an estimate of subscriber revenues. These estimates were based on a combination of internal data and publicly available external data and the estimates were compared to the Company's recorded amounts. In addition, we evaluated the relevance and reliability of the internal and external data used to develop those estimates. On a sample basis, we tested Pandora advertising revenues by tracing the recorded amounts to underlying source documents and system reports. We evaluated the sufficiency of audit evidence obtained by assessing the results of procedures performed.

Fair value of the Pandora tradename and goodwill in the Pandora reporting unit

As discussed in Note 9 to the consolidated financial statements, the Company's goodwill balance associated with the Pandora reporting unit was \$832 million as of December 31, 2020. Additionally, as discussed in Note 10 to the consolidated financial statements, the Pandora tradename balance was \$311 million as of December 31, 2020. The Company performs goodwill and indefinite-lived assets impairment testing as of the fourth quarter of each fiscal year, and whenever events and changes in circumstances indicate that the carrying value of a tradename more likely than not exceeds its fair value or the carrying value of a reporting unit more likely than not exceeds its fair value. The Company identified events that indicated that it was more likely than not that the carrying value of the Pandora reporting unit and the Pandora tradename exceeded their fair values. The Company estimated the fair value of the Pandora reporting unit using a combination of a discounted cash flow model and a market approach, and the Pandora tradename using a discounted cash flow model. As a result, the Company recognized an impairment charge of \$956 million for the Pandora reporting unit goodwill and an impairment charge of \$20 million for the Pandora tradename.

We identified the evaluation of the Company's fair value assessment of the Pandora tradename and goodwill in the Pandora reporting unit as a critical audit matter. There was a high degree of subjective auditor judgment in applying and evaluating the results of our audit procedures over the discounted cash flow model used to calculate the fair value of the goodwill in the Pandora reporting unit and the Pandora tradename. Specifically, the revenue growth rates, long-term growth rate, and the discount rates (the key assumptions), which were used by the Company to estimate the fair value of the reporting unit involved a higher degree of subjectivity. In addition, these key assumptions used in the fair value assessment were challenging to test due to the sensitivity of the fair value to changes in these assumptions.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the Company's goodwill and tradename impairment process. This included controls over the selection of the revenue growth rates, long-term growth rate, and the discount rates used to estimate the fair value of the Pandora reporting unit and the Pandora tradename. We performed sensitivity analyses to assess the impact of possible changes to the revenue growth rates, long-term growth rate, and discount rate assumptions on the fair value of the Pandora reporting unit and the Pandora tradename. We compared the Company's forecasted revenue growth rate assumptions to the Pandora reporting unit's historical revenue growth rates, to projected revenue growth rates for comparable companies, and to other publicly available data, including third party market studies. We compared the Company's historical revenue forecasts to actual results to assess the Company's ability to accurately forecast. We evaluated the relevance and reliability of the internal and external data used to develop those assumptions. We involved valuation professionals with specialized skills and knowledge who assisted in:

- evaluating the Company's discount rates by comparing them to discount rate ranges that were developed using publicly available market data for comparable entities;
- developing an estimated range of fair value of the Pandora reporting unit using the reporting unit's cash flow projections, estimated discount rate range, and comparing the result to the Company's fair value estimate; and
- developing an estimated range of fair value of the Pandora trademark using the Company's cash flow projections and an estimated discount rate range and comparing the result to the Company's fair value estimate.

/s/ KPMG LLP

We have served as the Company's auditor since 2008.

New York, New York
February 2, 2021

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Sirius XM Holdings Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited Sirius XM Holdings Inc. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2020 and 2019, the related consolidated statements of comprehensive income, stockholders' equity (deficit), and cash flows for each of the years in the three-year period ended December 31, 2020, and the related notes and financial statement schedule II (collectively, the consolidated financial statements), and our report dated February 2, 2021 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying *Management's Report on Internal Control over Financial Reporting*. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ KPMG LLP

New York, New York
February 2, 2021

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

<i>(in millions, except per share data)</i>	For the Years Ended December 31,		
	2020	2019	2018
Revenue:			
Subscriber revenue	\$ 6,372	\$ 6,120	\$ 5,264
Advertising revenue	1,340	1,336	188
Equipment revenue	173	173	155
Other revenue	155	165	164
Total revenue	8,040	7,794	5,771
Operating expenses:			
Cost of services:			
Revenue share and royalties	2,421	2,291	1,394
Programming and content	481	462	406
Customer service and billing	481	475	382
Transmission	177	170	96
Cost of equipment	19	29	31
Subscriber acquisition costs	362	427	470
Sales and marketing	957	937	484
Engineering, design and development	263	280	123
General and administrative	511	524	354
Depreciation and amortization	506	468	301
Acquisition and restructuring costs	28	84	3
Impairment charges	976	—	—
Total operating expenses	7,182	6,147	4,044
Income from operations	858	1,647	1,727
Other (expense) income:			
Interest expense	(394)	(390)	(350)
Loss on extinguishment of debt	(40)	(57)	—
Other income (expense)	6	(3)	44
Total other (expense) income	(428)	(450)	(306)
Income before income taxes	430	1,197	1,421
Income tax expense	(299)	(283)	(245)
Net income	\$ 131	\$ 914	\$ 1,176
Foreign currency translation adjustment, net of tax	7	14	(29)
Total comprehensive income	\$ 138	\$ 928	\$ 1,147
Net income per common share:			
Basic	\$ 0.03	\$ 0.20	\$ 0.26
Diluted	\$ 0.03	\$ 0.20	\$ 0.26
Weighted average common shares outstanding:			
Basic	4,330	4,501	4,462
Diluted	4,429	4,616	4,561

See accompanying notes to the consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

<i>(in millions, except per share data)</i>	As of December 31,	
	2020	2019
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 71	\$ 106
Receivables, net	672	670
Inventory, net	10	11
Related party current assets	20	22
Prepaid expenses and other current assets	194	194
Total current assets	967	1,003
Property and equipment, net	1,629	1,626
Intangible assets, net	3,340	3,467
Goodwill	3,122	3,843
Related party long-term assets	531	452
Deferred tax assets	111	153
Operating lease right-of-use assets	427	466
Other long-term assets	206	139
Total assets	\$ 10,333	\$ 11,149
LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)		
Current liabilities:		
Accounts payable and accrued expenses	\$ 1,223	\$ 1,151
Accrued interest	174	160
Current portion of deferred revenue	1,721	1,930
Current maturities of debt	1	2
Operating lease current liabilities	48	46
Related party current liabilities	—	4
Total current liabilities	3,167	3,293
Long-term deferred revenue	118	130
Long-term debt	8,499	7,842
Deferred tax liabilities	266	70
Operating lease liabilities	419	456
Other long-term liabilities	149	94
Total liabilities	12,618	11,885
Commitments and contingencies (Note 17)		
Stockholders' equity (deficit):		
Common stock, par value \$0.001 per share; 9,000 shares authorized; 4,176 and 4,412 shares issued; 4,173 and 4,412 shares outstanding at December 31, 2020 and December 31, 2019, respectively	4	4
Accumulated other comprehensive income, net of tax	15	8
Additional paid-in capital	—	395
Treasury stock, at cost; 3 and 0 shares of common stock at December 31, 2020 and December 31, 2019, respectively	(19)	—
Accumulated deficit	(2,285)	(1,143)
Total stockholders' equity (deficit)	(2,285)	(736)
Total liabilities and stockholders' equity (deficit)	\$ 10,333	\$ 11,149

See accompanying notes to the consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY (DEFICIT)

<i>(in millions)</i>	Common Stock		Accumulated Other Comprehensive Income (Loss)	Additional Paid-in Capital	Treasury Stock		Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount			Shares	Amount		
Balance at January 1, 2018	4,531	\$ 4	\$ 19	\$ 1,715	3	\$ (17)	\$ (3,243)	\$ (1,522)
Cumulative effect of change in accounting principles	—	—	4	30	—	—	10	44
Comprehensive income, net of tax	—	—	(29)	—	—	—	1,176	1,147
Share-based payment expense	—	—	—	133	—	—	—	133
Exercise of stock options and vesting of restricted stock units	27	—	—	—	—	—	—	—
Withholding taxes on net share settlement of stock-based compensation	—	—	—	(121)	—	—	—	(121)
Cash dividends paid on common stock, \$0.04510 per share	—	—	—	(201)	—	—	—	(201)
Common stock repurchased	—	—	—	—	209	(1,297)	—	(1,297)
Common stock retired	(212)	—	—	(1,314)	(212)	1,314	—	—
Balance at December 31, 2018	4,346	\$ 4	\$ (6)	\$ 242	—	\$ —	\$ (2,057)	\$ (1,817)
Comprehensive income, net of tax	—	—	14	—	—	—	914	928
Share-based payment expense	—	—	—	263	—	—	—	263
Exercise of stock options and vesting of restricted stock units	38	—	—	8	—	—	—	8
Withholding taxes on net share settlement of stock-based compensation	—	—	—	(150)	—	—	—	(150)
Cash dividends paid on common stock, \$0.04961 per share	—	—	—	(226)	—	—	—	(226)
Issuance of common stock as part of Pandora Acquisition	392	1	—	2,354	—	—	—	2,355
Equity component of convertible note	—	—	—	62	—	—	—	62
Common stock repurchased	—	—	—	—	364	(2,159)	—	(2,159)
Common stock retired	(364)	(1)	—	(2,158)	(364)	2,159	—	—
Balance at December 31, 2019	4,412	\$ 4	\$ 8	\$ 395	—	\$ —	\$ (1,143)	\$ (736)
Comprehensive income, net of tax	—	—	7	—	—	—	131	138
Share-based payment expense	—	—	—	239	—	—	—	239
Exercise of stock options and vesting of restricted stock units	28	—	—	—	—	—	—	—
Withholding taxes on net share settlement of stock-based compensation	—	—	—	(115)	—	—	—	(115)
Cash dividends paid on common stock, \$0.05457 per share	—	—	—	(170)	—	—	(67)	(237)
Common stock repurchased	—	—	—	—	267	(1,574)	—	(1,574)
Common stock retired	(264)	—	—	(349)	(264)	1,555	(1,206)	—
Balance at December 31, 2020	4,176	\$ 4	\$ 15	\$ —	3	\$ (19)	\$ (2,285)	\$ (2,285)

See accompanying notes to the consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

(in millions)	For the Years Ended December 31,		
	2020	2019	2018
Cash flows from operating activities:			
Net income	\$ 131	\$ 914	\$ 1,176
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	506	468	301
Impairment charges	976	—	—
Non-cash interest expense, net of amortization of premium	20	17	9
Provision for doubtful accounts	60	53	51
Amortization of deferred income related to equity method investment	(3)	(3)	(3)
Loss on extinguishment of debt	40	57	—
Loss on unconsolidated entity investments, net	16	21	10
Gain on fair value instrument	—	—	(43)
Dividend received from unconsolidated entity investment	2	2	2
Loss on restructuring	24	—	—
(Gain) loss on other investments	(3)	(3)	1
Share-based payment expense	223	250	133
Deferred income taxes	238	259	257
Amortization of right-of-use assets	56	56	—
Changes in operating assets and liabilities:			
Receivables	(36)	(137)	(42)
Inventory	(2)	11	(2)
Related party, net	—	(10)	1
Prepaid expenses and other current assets	14	10	(20)
Other long-term assets	(61)	7	9
Accounts payable and accrued expenses	42	109	(20)
Accrued interest	13	32	(9)
Deferred revenue	(223)	(58)	70
Operating lease liabilities	(53)	(47)	—
Other long-term liabilities	38	9	(1)
Net cash provided by operating activities	2,018	2,017	1,880
Cash flows from investing activities:			
Additions to property and equipment	(350)	(363)	(355)
Purchases of other investments	(8)	(7)	(8)
Acquisition of business, net of cash acquired	(300)	313	(2)
Sale of short-term investments	—	73	—
Investments in related parties and other equity investees	(94)	(19)	(17)
Repayment from related party	11	—	3
Net cash used in investing activities	(741)	(3)	(379)
Cash flows from financing activities:			
Proceeds from exercise of stock options	—	8	—
Taxes paid from net share settlements for stock-based compensation	(114)	(150)	(120)
Revolving credit facility, net of deferred financing costs	649	(439)	136
Proceeds from long-term borrowings, net of costs	1,481	2,715	—
Proceeds from sale of capped call security	—	3	—
Principal payments of long-term borrowings	(1,507)	(1,666)	(16)
Payment of premiums on redemption of debt	(31)	(45)	—
Common stock repurchased and retired	(1,555)	(2,159)	(1,314)
Dividends paid	(237)	(226)	(201)
Net cash used in financing activities	(1,314)	(1,959)	(1,515)
Net (decrease) increase in cash, cash equivalents and restricted cash	(37)	55	(14)
Cash, cash equivalents and restricted cash at beginning of period ⁽¹⁾	120	65	79
Cash, cash equivalents and restricted cash at end of period ⁽¹⁾	\$ 83	\$ 120	\$ 65

See accompanying notes to the consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS - Continued

<i>(in millions)</i>	For the Years Ended December 31,		
	2020	2019	2018
Supplemental Disclosure of Cash and Non-Cash Flow Information			
Cash paid during the period for:			
Interest, net of amounts capitalized	\$ 358	\$ 337	\$ 345
Income taxes paid	\$ 38	\$ 10	\$ 6
Non-cash investing and financing activities:			
Treasury stock not yet settled	\$ (19)	\$ —	\$ 17
Fair value of shares issued related to acquisition of a business	\$ —	\$ 2,355	\$ —
Accumulated other comprehensive income (loss), net of tax	\$ 7	\$ 14	\$ (29)

- (1) The following table reconciles cash, cash equivalents and restricted cash per the statement of cash flows to the balance sheet. The restricted cash balances are primarily due to letters of credit which have been issued to the landlords of leased office space. The terms of the letters of credit primarily extend beyond one year.

<i>(in millions)</i>	December 31, 2020	December 31, 2019	December 31, 2018	December 31, 2017
Cash and cash equivalents	\$ 71	\$ 106	\$ 54	\$ 69
Restricted cash included in Other long-term assets	12	14	11	10
Total cash, cash equivalents and restricted cash at end of period	\$ 83	\$ 120	\$ 65	\$ 79

See accompanying notes to the consolidated financial statements.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Dollars and shares in millions, except per share amounts)

(1) Business & Basis of Presentation

This Annual Report on Form 10-K presents information for Sirius XM Holdings Inc. and its subsidiaries (collectively “Holdings”). The terms “Holdings,” “we,” “us,” “our,” and “our company” as used herein, and unless otherwise stated or indicated by context, refer to Sirius XM Holdings Inc. and its subsidiaries. “Sirius XM” refers to our wholly owned subsidiary Sirius XM Radio Inc. and its subsidiaries. “Pandora” refers to Sirius XM’s wholly owned subsidiary Pandora Media, LLC (the successor to Pandora Media, Inc.) and its subsidiaries. Holdings has no operations independent of Sirius XM and Pandora.

Business

We operate two complementary audio entertainment businesses - our Sirius XM business and our Pandora business.

Sirius XM

Our Sirius XM business features music, sports, entertainment, comedy, talk, news, traffic and weather channels and other content, as well as podcasts and infotainment services, in the United States on a subscription fee basis. Sirius XM’s premier content bundles include live, curated and certain exclusive and on demand programming. The Sirius XM service is distributed through our two proprietary satellite radio systems and streamed via applications for mobile devices, home devices and other consumer electronic equipment. Satellite radios are primarily distributed through automakers, retailers and our website. Our Sirius XM service is also available through our user interface, which we call “360L,” that combines our satellite and streaming services into a single, cohesive in-vehicle entertainment experience.

The primary source of revenue from our Sirius XM business is subscription fees, with most of our customers subscribing to monthly, quarterly, semi-annual or annual plans. We also derive revenue from advertising on select non-music channels, direct sales of our satellite radios and accessories, and other ancillary services. As of December 31, 2020, our Sirius XM business had approximately 34.7 million subscribers.

In addition to our audio entertainment businesses, we provide connected vehicle services to several automakers. These services are designed to enhance the safety, security and driving experience of consumers. We also offer a suite of data services that includes graphical weather, fuel prices, sports schedules and scores and movie listings, a traffic information service that includes information as to road closings, traffic flow and incident data to consumers with compatible in-vehicle navigation systems, and real-time weather services in vehicles, boats and planes.

In May 2020, we terminated the Automatic Labs Inc. (“Automatic”) service, which was part of our connected services business. Automatic operated a service for consumers and auto dealers and offered an install-it-yourself adapter and mobile application, which transformed vehicles into connected vehicles. During the year ended December 31, 2020, we recorded \$24 of restructuring expenses in our consolidated statements of comprehensive income related to this termination of the service. We did not record any restructuring expenses during the years ended December 31, 2019 and 2018. Refer to Note 5 for more information.

Sirius XM also holds a 70% equity interest and 33% voting interest in Sirius XM Canada Holdings Inc. (“Sirius XM Canada”). Sirius XM Canada’s subscribers are not included in our subscriber count or subscriber-based operating metrics.

Pandora

Our Pandora business operates a music, comedy and podcast streaming discovery platform, offering a personalized experience for each listener wherever and whenever they want to listen, whether through mobile devices, car speakers or connected devices. Pandora enables listeners to create personalized stations and playlists, discover new content, hear artist- and expert-curated playlists, podcasts and select Sirius XM content as well as search and play songs and albums on-demand. Pandora is available as (1) an ad-supported radio service, (2) a radio subscription service (Pandora Plus) and (3) an on-demand subscription service (Pandora Premium). As of December 31, 2020, Pandora had approximately 6.3 million subscribers.

The majority of revenue from our Pandora business is generated from advertising on our Pandora ad-supported radio service. We also derive subscription revenue from our Pandora Plus and Pandora Premium subscribers.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(Dollars and shares in millions, except per share amounts)

Our Pandora business also sells advertising on audio platforms and in podcasts unaffiliated with us. Pandora has an arrangement with SoundCloud Holdings, LLC ("SoundCloud") to be its exclusive US ad sales representative. Through this arrangement Pandora is able to offer advertisers the ability to execute campaigns in the US across the Pandora and SoundCloud listening platforms. We also have arrangements to serve as the ad sales representative for certain podcasts. In addition, through AdsWizz Inc., Pandora provides a comprehensive digital audio and programmatic advertising technology platform, which connects audio publishers and advertisers with a variety of ad insertion, campaign trafficking, yield optimization, programmatic buying, marketplace and podcast monetization solutions.

On October 16, 2020, Sirius XM acquired certain assets and liabilities of Stitcher from The E.W. Scripps Company and certain of its subsidiaries for a total consideration of \$296, which included \$272 in cash and \$30 related to contingent consideration, partially offset by working capital adjustments of \$6. The acquisition of Stitcher, in conjunction with Simplecast, created a full-service platform for podcast creators, publishers and advertisers. Refer to Note 3 for more information on this acquisition.

On June 16, 2020, Sirius XM acquired Simplecast for \$28 in cash. Simplecast is a podcast management and analytics platform. Refer to Note 3 for more information on this acquisition.

On February 10, 2020, Sirius XM invested \$75 in SoundCloud. SoundCloud is the world's largest open audio platform, with a connected community of creators, listeners, and curators. SoundCloud's platform enables its users to upload, promote, share and create audio entertainment. The minority investment complements the existing ad sales relationship between SoundCloud and Pandora. Refer to Note 13 for more information on this investment.

Impact of the coronavirus ("COVID-19") pandemic

The precise extent to which the COVID-19 pandemic will impact our operational and financial performance will depend on various factors. To date, the pandemic has not increased our costs of or access to capital under our revolving credit facility and in the debt markets, and we do not believe it is reasonably likely to in the future. In addition, we do not believe that the pandemic will affect our ongoing ability to meet the covenants in our debt instruments, including under our revolving credit facility. Due to the nature of our subscription business, the effect of the COVID-19 pandemic will not be fully reflected in certain of our results of operations until future periods.

Liberty Media

As of December 31, 2020, Liberty Media Corporation ("Liberty Media") beneficially owned, directly and indirectly, approximately 76% of the outstanding shares of our common stock. As a result, we are a "controlled company" for the purposes of the NASDAQ corporate governance requirements.

Basis of Presentation

The accompanying consolidated financial statements of Holdings have been prepared in accordance with U.S. generally accepted accounting principles ("GAAP"). All significant intercompany transactions have been eliminated in consolidation. Certain numbers in our prior period consolidated financial statements and footnotes have been reclassified or consolidated to conform to our current period presentation. Music Royalty Fee revenue was reported as Other revenue in our December 31, 2018 Annual Report on Form 10-K. This revenue was reclassified to Subscriber revenue to conform with the current period presentation.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(Dollars and shares in millions, except per share amounts)

	For the Year Ended December 31, 2018		
	As Reported	Reclassification	Current Report
Subscriber revenue	\$ 4,594	\$ 670	\$ 5,264
Advertising revenue	188	—	188
Equipment revenue	155	—	155
Other revenue	834	(670)	164
Total revenue	\$ 5,771	\$ —	\$ 5,771

Public companies are required to disclose certain information about their reportable operating segments. Operating segments are defined as significant components of an enterprise for which separate financial information is available and is evaluated on a regular basis by the chief operating decision maker in deciding how to allocate resources to an individual segment and in assessing performance of the segment. We have determined that we have two reportable segments as our chief operating decision maker, our Chief Executive Officer, assesses performance and allocates resources based on the financial results of these segments. Refer to Note 19 for information related to our segments.

We have evaluated events subsequent to the balance sheet date and prior to the filing of this Annual Report on Form 10-K for the year ended December 31, 2020 and have determined that no events have occurred that would require adjustment to our consolidated financial statements. For a discussion of subsequent events that do not require adjustment to our consolidated financial statements refer to Note 20.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and footnotes. Estimates, by their nature, are based on judgment and available information. Actual results could differ materially from those estimates. Significant estimates inherent in the preparation of the accompanying consolidated financial statements include asset impairment, depreciable lives of our satellites, share-based payment expense and income taxes.

We are not presently aware of any events or circumstances arising from the COVID-19 pandemic that would require us to update our estimates, judgments or revise the carrying value of our assets or liabilities. Our estimates may change, however, as new events occur and additional information is obtained. Any such changes will be recognized in the consolidated financial statements. Actual results could differ from estimates, and any such differences may be material to our financial statements.

(2) Summary of Significant Accounting Policies

In addition to the significant accounting policies discussed in this Note 2, the following table includes our significant accounting policies that are described in other notes to our consolidated financial statements, including the number and page of the note:

Significant Accounting Policy	Note #	Page #
Acquisition	3	F-16
Fair Value Measurements	4	F-19
Goodwill	9	F-21
Intangible Assets	10	F-22
Property and Equipment	11	F-24
Equity Method Investments	13	F-28
Share-Based Compensation	16	F-31
Legal Reserves	17	F-35
Income Taxes	18	F-39

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(Dollars and shares in millions, except per share amounts)

Cash and Cash Equivalents

Our cash and cash equivalents consist of cash on hand, money market funds, certificates of deposit, in-transit credit card receipts and highly liquid investments purchased with an original maturity of three months or less.

Revenue Recognition

Revenue is measured according to Accounting Standards Codification (“ASC”) 606, *Revenue - Revenue from Contracts with Customers*, and is recognized based on consideration specified in a contract with a customer, and excludes any sales incentives and amounts collected on behalf of third parties. We recognize revenue when we satisfy a performance obligation by transferring control over a service or product to a customer. We report revenues net of any tax assessed by a governmental authority that is both imposed on, and concurrent with, a specific revenue-producing transaction between a seller and a customer in our consolidated statements of comprehensive income. Collected taxes are recorded within Other current liabilities until remitted to the relevant taxing authority. For equipment sales, we are responsible for arranging for shipping and handling. Shipping and handling costs billed to customers are recorded as revenue and are reported as a component of Cost of equipment.

The following is a description of the principal activities from which we generate our revenue, including from self-pay and paid promotional subscribers, advertising, and sales of equipment.

Subscriber revenue consists primarily of subscription fees and other ancillary subscription based revenues. Revenue is recognized on a straight line basis when the performance obligations to provide each service for the period are satisfied, which is over time as our subscription services are continuously transmitted and can be consumed by customers at any time. Consumers purchasing or leasing a vehicle with a factory-installed satellite radio may receive between a three and twelve month subscription to our service. In certain cases, the subscription fees for these consumers are prepaid by the applicable automaker. Prepaid subscription fees received from automakers or directly from consumers are recorded as deferred revenue and amortized to revenue ratably over the service period which commences upon sale. Activation fees are recognized over one month as the activation fees are non-refundable and do not provide for a material right to the customer. There is no revenue recognized for unpaid trial subscriptions. In some cases we pay a loyalty fee to the automakers when we receive a certain amount of payments from self-pay customers acquired from that automaker. These fees are considered incremental costs to obtain a contract and are, therefore, recognized as an asset and amortized to Subscriber acquisition costs over an average subscriber life. Revenue share and loyalty fees paid to an automaker offering a paid trial are accounted for as a reduction of revenue as the payment does not provide a distinct good or service.

Music royalty fee primarily consists of U.S. music royalty fees (“MRF”) collected from subscribers. The related costs we incur for the right to broadcast music and other programming are recorded as Revenue share and royalties expense. Fees received from subscribers for the MRF are recorded as deferred revenue and amortized to Subscriber revenue ratably over the service period.

We recognize revenue from the sale of advertising as performance obligations are satisfied, which generally occurs as ads are delivered. For our satellite radio service, ads are delivered when they are aired. For our streaming services, ads are delivered primarily based on impressions. Agency fees are calculated based on a stated percentage applied to gross billing revenue for our advertising inventory and are reported as a reduction of advertising revenue. Additionally, we pay certain third parties a percentage of advertising revenue. Advertising revenue is recorded gross of such revenue share payments as we control the advertising service, including the ability to establish pricing, and we are primarily responsible for providing the service. Advertising revenue share payments are recorded to Revenue share and royalties during the period in which the advertising is transmitted.

Equipment revenue and royalties from the sale of satellite radios, components and accessories are recognized upon shipment, net of discounts and rebates. Shipping and handling costs billed to customers are recorded as revenue. Shipping and handling costs associated with shipping goods to customers are reported as a component of Cost of equipment. Other revenue primarily includes revenue recognized from royalties received from Sirius XM Canada.

Customers pay for the services in advance of the performance obligation and therefore these prepayments are recorded as deferred revenue. The deferred revenue is recognized as revenue in our consolidated statement of comprehensive income as the services are provided. Changes in the deferred revenue balance during the year ended December 31, 2020 were not materially impacted by other factors.

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As the majority of our contracts are one year or less, we have utilized the optional exemption under ASC 606-10-50-14 and do not disclose information about the remaining performance obligations for contracts which have original expected durations of one year or less. As of December 31, 2020, less than ten percent of our total deferred revenue balance related to contracts that extend beyond one year. These contracts primarily include prepaid data trials which are typically provided for three to five years as well as for self-pay customers who prepay for their audio subscriptions for up to three years in advance. These amounts are recognized on a straight-line basis as our services are provided.

Revenue Share

We share a portion of our subscription revenues earned from self-pay subscribers with certain automakers. The terms of the revenue share agreements vary with each automaker, but are typically based upon the earned audio revenue as reported or gross billed audio revenue. Revenue share on self-pay revenue is recognized as an expense and recorded in Revenue share and royalties in our consolidated statements of comprehensive income. We also pay revenue share to certain talent on non-music stations on our satellite radio service and to podcast talent based on advertising revenue for the related channel or podcast. Revenue share on non-music channels and podcasts is recognized in Revenue share and royalties in our consolidated statements of comprehensive income when it is earned. In some cases we prepay minimum guarantees for revenue share to podcast talent which is recorded in Prepaid and other current assets in our consolidated statements of financial position. The minimum guarantee is recognized in Revenue share and royalties primarily on a straight line basis over the contractual term. The prepaid balance is regularly reviewed for recoverability and any amount not deemed to be recoverable is recognized as an expense in the period.

Royalties

In connection with our businesses, we must enter into royalty arrangements with two sets of rights holders: holders of musical compositions copyrights (that is, the music and lyrics) and holders of sound recordings copyrights (that is, the actual recording of a work). Our Sirius XM and Pandora businesses use both statutory and direct music licenses as part of their businesses. We license varying rights - such as performance and mechanical rights - for use in our Sirius XM and Pandora businesses based on the various radio and interactive services they offer. The music rights licensing arrangements for our Sirius XM and Pandora businesses are complex.

Musical Composition Copyrights

We pay performance royalties for our Sirius XM and Pandora businesses to holders and rights administrators of musical compositions copyrights, including performing rights organizations and other copyright owners. These performance royalties are based on agreements with performing rights organizations which represent the holders of these performance rights. Our Sirius XM and Pandora businesses have arrangements with these performance rights organizations. Arrangements with Sirius XM generally include fixed payments during the term of the agreement and arrangements with Pandora for its ad-supported radio service have variable payments based on usage and ownership of a royalty pool. Pandora must also license reproduction rights, which are also referred to as mechanical rights, to offer the interactive features of the Pandora services. For our Pandora subscription services, copyright holders receive payments for these rights at the rates determined in accordance with the statutory license set forth in Section 115 of the United States Copyright Act. These mechanical royalties are calculated as the greater of a percentage of our revenue or a percentage of our payments to record labels.

For our interactive music services offered by our Pandora business, we pay mechanical royalties to copyright holders at the rates determined by the Copyright Royalty Board (the "CRB") in accordance with the statutory license set forth in Section 115 of the United States Copyright Act.

Sound Recording Copyrights

For our non-interactive satellite radio or streaming services we may license sound recordings under direct licenses with the owners of sound recordings or based on the royalty rate established by the CRB. For our Sirius XM business, the royalty rate for sound recordings has been set by the CRB. The revenue subject to royalty includes subscription revenue from our U.S. satellite digital audio radio subscribers, and advertising revenue from channels other than those channels that make only incidental performances of sound recordings. The rates and terms permit us to reduce the payment due each month for those sound recording directly licensed from copyright owners and exclude from our revenue certain other items, such as royalties

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paid to us for intellectual property, sales and use taxes, bad debt expense and generally revenue attributable to areas of our business that do not involve the use of copyrighted sound recordings.

For our Pandora business, we have entered into direct license agreements with major and independent music labels and distributors for a significant majority of the sound recordings that stream on the Pandora ad-supported service, Pandora Plus and Pandora Premium. For sound recordings that we stream and for which we have not entered into a direct license agreement with the sound recording rights holders, the sound recordings are streamed pursuant to the statutory royalty rates set by the CRB. Pandora pays royalties to owners of sound recordings on either a per-performance fee based on the number of sound recordings transmitted or a percentage of revenue associated with the applicable service. Certain of these agreements also require Pandora to pay a per subscriber minimum amount.

Programming Costs

Programming costs which are for a specified number of events are amortized on an event-by-event basis; programming costs which are for a specified season or include programming through a dedicated channel are amortized over the season or period on a straight-line basis. We allocate a portion of certain programming costs which are related to sponsorship and marketing activities to Sales and marketing expense on a straight-line basis over the term of the agreement.

Advertising Costs

Media is expensed when aired and advertising production costs are expensed as incurred. Advertising production costs include expenses related to marketing and retention activities, including expenses related to direct mail, outbound telemarketing and email communications. We also incur advertising production costs related to cooperative marketing and promotional events and sponsorships. During the years ended December 31, 2020, 2019 and 2018, we recorded advertising costs of \$443, \$392 and \$267, respectively. These costs are reflected in Sales and marketing expense in our consolidated statements of comprehensive income.

Subscriber Acquisition Costs

Subscriber acquisition costs consist of costs incurred to acquire new subscribers which include hardware subsidies paid to radio manufacturers, distributors and automakers, including subsidies paid to automakers who include a satellite radio and a prepaid subscription to our service in the sale or lease price of a new vehicle; subsidies paid for chipsets and certain other components used in manufacturing radios; device royalties for certain radios and chipsets; commissions paid to retailers and automakers as incentives to purchase, install and activate radios; product warranty obligations; freight; and provisions for inventory allowance attributable to inventory consumed in our automotive and retail distribution channels. Subscriber acquisition costs do not include advertising costs, loyalty payments to distributors and dealers of radios and revenue share payments to automakers and retailers of radios.

Subsidies paid to radio manufacturers and automakers are expensed upon installation, shipment, receipt of product or activation and are included in Subscriber acquisition costs because we are responsible for providing the service to the customers. Commissions paid to retailers and automakers are expensed upon either the sale or activation of radios. Chipsets that are shipped to radio manufacturers and held on consignment are recorded as inventory and expensed as Subscriber acquisition costs when placed into production by radio manufacturers. Costs for chipsets are expensed as Subscriber acquisition costs when the automaker confirms receipt.

Research & Development Costs

Research and development costs are expensed as incurred and primarily include the cost of new product development, chipset design, software development and engineering. During the years ended December 31, 2020, 2019 and 2018, we recorded research and development costs of \$220, \$231 and \$106, respectively. These costs are reported as a component of Engineering, design and development expense in our consolidated statements of comprehensive income.

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Accumulated Other Comprehensive Income (Loss), net of tax

Accumulated other comprehensive income of \$15 was primarily comprised of the cumulative foreign currency translation adjustments related to Sirius XM Canada (refer to Note 13 for additional information). During the year ended December 31, 2020, we recorded a foreign currency translation adjustment gain of \$7, which is recorded net of tax expense of \$2. During the years ended December 31, 2019 and 2018, we recorded foreign currency translation adjustment gain (loss) of \$14 and \$(29), respectively, net of tax.

Recently Adopted Accounting Policies

ASU 2016-02, Leases (Topic 842). In February 2016, FASB issued ASU 2016-02 which requires companies to recognize lease assets and liabilities arising from operating leases in the statement of financial position. This ASU does not significantly change the previous lease guidance for how a lessee should recognize, measure, and present expenses and cash flows arising from a lease. Additionally, the criteria for classifying a finance lease versus an operating lease are substantially the same as the previous guidance. This ASU was effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years, and early adoption was permitted. In July 2018, the FASB issued ASU 2018-11, *Leases (Topic 842) Targeted Improvements*, amending certain aspects of the new leasing standard. The amendment allows an additional optional transition method whereby an entity records a cumulative effect adjustment to opening retained earnings in the year of adoption without restating prior periods. We adopted this ASU on January 1, 2019 and elected the additional transition method per ASU 2018-11. Our leases consist of repeater leases, facility leases and equipment leases. We elected the package of practical expedients permitted under the transition guidance within the new standard.

Adoption of the new standard resulted in the recording of additional lease assets and lease liabilities of approximately \$347 and \$369, respectively, as of January 1, 2019. The standard did not impact our consolidated statements of comprehensive income, consolidated statements of cash flows or debt. Additionally, we did not record a cumulative effect adjustment to opening retained earnings.

The effect of the changes made to our consolidated balance sheet as of January 1, 2019 for the adoption of ASU 2016-02 is included in the table below.

	<u>Balance at December 31, 2018</u>	<u>Adjustments Due to ASU 2016-02</u>	<u>Balance at January 1, 2019</u>
Balance Sheet			
<u>Assets:</u>			
Operating lease right-of-use assets	\$ —	\$ 347	\$ 347
<u>Liabilities:</u>			
Accounts payable and accrued expenses	\$ 736	\$ (1)	\$ 735
Operating lease current liabilities	—	30	30
Operating lease liabilities	—	339	339
Other long-term liabilities	102	(21)	81

(3) Acquisitions

Stitcher

On October 16, 2020, Sirius XM acquired certain assets and liabilities of Stitcher from The E.W. Scripps Company and certain of its subsidiaries ("Scripps") for \$272 in cash, which amount includes net working capital adjustments. The agreement provides that Sirius XM will potentially make up to \$60 in additional contingent payments to Scripps based on Stitcher achieving certain financial metrics in 2020 and 2021. The total purchase consideration of \$296 includes \$30 related to the acquisition date fair value of the contingent consideration, partially offset by working capital adjustments of \$6. The fair value of the contingent consideration was determined using a probability-weighted cash flow model and will be remeasured to fair value at each subsequent reporting period. Stitcher is included in our Pandora reporting unit.

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The table below summarizes the fair value of the assets acquired and liabilities assumed as of the acquisition date:

Acquired Assets:	
Receivables, net	\$ 21
Prepaid expenses and other current assets	16
Property and equipment	8
Intangible assets	38
Goodwill	218
Operating lease right-of-use assets	11
Total assets	\$ 312
Assumed Liabilities:	
Accounts payable and accrued expenses	\$ 4
Deferred revenue	1
Operating lease current liabilities	2
Operating lease liabilities	9
Total liabilities	\$ 16
Total consideration	\$ 296

The Stitcher acquisition was accounted for using the acquisition method of accounting. We recognized acquisition related costs of \$4 that were expensed in Acquisition and restructuring costs in our consolidated statements of comprehensive income during the year ended December 31, 2020. The acquisition of Stitcher was financed through borrowings under our Credit Facility.

Simplecast

On June 16, 2020, Sirius XM acquired Simplecast for \$28 in cash. Simplecast is a podcast management and analytics platform. Simplecast complements AdsWizz's advertising technology platform, allowing the company to offer podcasters a simple solution for management, hosting, analytics and advertising sales, and is included in the Pandora reporting unit. The Simplecast acquisition was accounted for using the acquisition method of accounting. We recognized goodwill of \$17, amortizable intangible assets of \$12, other assets of less than \$1 and deferred tax liabilities of \$1. Acquisition related costs of less than \$1 were expensed in Acquisition and restructuring costs in our consolidated statements of comprehensive income during the year ended December 31, 2020.

Pandora

On February 1, 2019, through a series of transactions, Pandora Media, Inc., became an indirect wholly owned subsidiary of Sirius XM and continues to operate as Pandora Media, LLC (the "Pandora Acquisition"). In connection with the Pandora Acquisition, we purchased all of the outstanding shares of the capital stock of Pandora for \$2,355 by converting each outstanding share of Pandora common stock into 1.44 shares of our common stock and we also canceled our preferred stock investment in Pandora for \$524 for total consideration of \$2,879. Net cash acquired was \$313. As part of the Pandora Acquisition, Holdings unconditionally guaranteed all of the payment obligations of Pandora under its outstanding 1.75% convertible senior notes due 2020 and 1.75% convertible senior notes due 2023.

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The table below shows the value of the consideration paid in connection with the Pandora Acquisition:

	Total
Pandora common stock outstanding	272
Exchange ratio	1.44
Common stock issued	392
Price per share of Holdings common stock	\$ 5.83
Value of common stock issued to Pandora stockholders	\$ 2,285
Value of replacement equity awards attributable to pre-combination service	\$ 70
Consideration of common stock and replacement equity awards for pre-combination service	\$ 2,355
Sirius XM's Pandora preferred stock investment (related party fair value instrument) canceled	\$ 524
Total consideration for Pandora Acquisition	\$ 2,879
Value attributed to par at \$0.001 par value	\$ 1
Balance to capital in excess of par value	\$ 2,354

The table below summarizes the fair value of the assets acquired and liabilities assumed as of the acquisition date:

Acquired Assets:	
Cash and cash equivalents	\$ 313
Receivables, net	353
Prepaid expenses and other current assets	109
Property and equipment	65
Intangible assets	1,107
Goodwill	1,553
Deferred tax assets	102
Operating lease right-of-use assets	104
Long term assets	7
Total assets	\$ 3,713
Assumed Liabilities:	
Accounts payable and accrued expenses	\$ 324
Deferred revenue	37
Operating lease current liabilities	28
Current maturities of debt	151
Long-term debt (a)	218
Operating lease liabilities	69
Other long-term liabilities	7
Total liabilities	\$ 834
Total consideration	\$ 2,879

- (a) In order to present the assets acquired and liabilities assumed, the conversion feature associated with Pandora's convertible notes for \$62 has been included within Long-term debt in the table above and included within Additional paid-in-capital within our statement of stockholders' equity (deficit). Refer to Note 14 for additional information.

The Pandora Acquisition was accounted for using the acquisition method of accounting. The excess purchase price over identifiable net tangible and intangible assets of \$1,553 was recorded to Goodwill in our consolidated balance sheets as of December 31, 2019. Refer to Note 9 for a further discussion of Pandora goodwill which was impaired in the year ended December 31, 2020. A total of \$776 has been allocated to identifiable intangible assets subject to amortization and relates to the assessed fair value of the acquired customer relationships and software and technology and is being amortized over the estimated weighted average useful lives of 8 and 5 years, respectively. A total of \$331 has been allocated to identifiable

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indefinite lived intangible assets and relates to the assessed fair value of the acquired trademarks. The fair value assessed for the majority of the remaining assets acquired and liabilities assumed equaled their carrying value. Goodwill represents synergies and economies of scale expected from the combination of services. Goodwill has been allocated to the Pandora segment. Additionally, in connection with the Pandora Acquisition, we acquired gross net operating loss ("NOL") carryforwards of approximately \$1,287 for federal income tax purposes that are available to offset future taxable income. The acquired NOL's are limited by Section 382 of the Internal Revenue Code. Those limitations are not expected to impact our ability to fully utilize those NOL's within the carryforward period.

We recognized acquisition related costs of \$84 that were expensed in Acquisition and restructuring costs in our consolidated statements of comprehensive income during the year ended December 31, 2019.

Pro Forma Financial Information

Pandora was consolidated into our financial statements starting on the acquisition date, February 1, 2019. The aggregate revenue and net loss of Pandora consolidated into our financial statements was \$1,607 and \$303, respectively, for the year ended December 31, 2019. The following pro forma financial information presents our results as if the Pandora Acquisition had occurred on January 1, 2018:

	For the Years Ended December 31,					
	2020		2019		2018	
Total revenue	\$	8,046	\$	7,921	\$	7,348
Net income	\$	131	\$	938	\$	844

These pro forma results are based on estimates and assumptions, which we believe are reasonable. They are not the results that would have been realized had the acquisition actually occurred on January 1, 2018 and are not indicative of our consolidated results of operations in future periods. The pro forma results primarily include adjustments related to amortization of acquired intangible assets, depreciation of property and equipment, acquisition costs, fair value gain or loss on the Pandora investment and associated tax impacts.

(4) Fair Value Measurements

The fair value of a financial instrument is the amount at which the instrument could be exchanged in an orderly transaction between market participants. As of December 31, 2020 and 2019, the carrying amounts of cash and cash equivalents, receivables, and accounts payable approximated fair value due to the short-term nature of these instruments. ASC 820, *Fair Value Measurements and Disclosures*, establishes a fair value hierarchy for input into valuation techniques as follows:

- i. Level 1 input: unadjusted quoted prices in active markets for identical instrument;
- ii. Level 2 input: observable market data for the same or similar instrument but not Level 1, including quoted prices for identical or similar assets or liabilities in markets that are not active or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities; and
- iii. Level 3 input: unobservable inputs developed using management's assumptions about the inputs used for pricing the asset or liability.

Investments are periodically reviewed for impairment and an impairment is recorded whenever declines in fair value below carrying value are determined to be other than temporary. In making this determination, we consider, among other factors, the severity and duration of the decline as well as the likelihood of a recovery within a reasonable timeframe.

Our assets and liabilities measured at fair value were as follows:

	December 31, 2020				December 31, 2019			
	Level 1	Level 2	Level 3	Total Fair Value	Level 1	Level 2	Level 3	Total Fair Value
Liabilities:								
Debt ^(a)	—	\$ 9,011	—	\$ 9,011	—	\$ 8,378	—	\$ 8,378

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- (a) The fair value for non-publicly traded instruments is based upon estimates from a market maker and brokerage firm. Refer to Note 14 for information related to the carrying value of our debt as of December 31, 2020 and 2019.

(5) Restructuring Costs

In May 2020, we terminated the Automatic service, which was part of our connected services business. During the year ended December 31, 2020, we recorded \$24 of restructuring expenses primarily related to the write down of property and equipment, definite lived intangible assets and certain other assets in Acquisition and restructuring costs in our consolidated statements of comprehensive income. The termination of the Automatic service does not meet the requirements to be reported as a discontinued operation in our consolidated statements of comprehensive income because the termination of the service does not represent a strategic shift that will have a major effect on our operations and financial results. There were no restructuring costs during the years ended December 31, 2019 and 2018.

(6) Earnings per Share

Basic net income per common share is calculated by dividing the income available to common stockholders by the weighted average common shares outstanding during each reporting period. Diluted net income per common share adjusts the weighted average number of common shares outstanding for the potential dilution that could occur if common stock equivalents (stock options, restricted stock units and convertible debt) were exercised or converted into common stock, calculated using the treasury stock method. We had no participating securities during the years ended December 31, 2020, 2019 and 2018.

Common stock equivalents of 62, 66, and 40 for the years ended December 31, 2020, 2019 and 2018, respectively, were excluded from the calculation of diluted net income per common share as the effect would have been anti-dilutive. We issued 392 shares of our common stock in connection with the Pandora Acquisition.

	For the Years Ended December 31,		
	2020	2019	2018
Numerator:			
Net Income available to common stockholders for basic net income per common share	\$ 131	\$ 914	\$ 1,176
Effect of interest on assumed conversions of convertible notes, net of tax	8	7	—
Net Income available to common stockholders for dilutive net income per common share	\$ 139	\$ 921	\$ 1,176
Denominator:			
Weighted average common shares outstanding for basic net income per common share	4,330	4,501	4,462
Weighted average impact of assumed convertible notes	30	28	—
Weighted average impact of dilutive equity instruments	69	87	99
Weighted average shares for diluted net income per common share	4,429	4,616	4,561
Net income per common share:			
Basic	\$ 0.03	\$ 0.20	\$ 0.26
Diluted	\$ 0.03	\$ 0.20	\$ 0.26

(7) Receivables, net

Receivables, net, includes customer accounts receivable, receivables from distributors and other receivables. We do not have any customer receivables that individually represent more than ten percent of our receivables.

Customer accounts receivable, net, includes receivables from our subscribers, advertising customers, including advertising agencies and other customers, and is stated at amounts due, net of an allowance for doubtful accounts. Our allowance for doubtful accounts is based upon our assessment of various factors. We consider historical experience, the age of the receivable balances, current economic conditions, industry experience and other factors that may affect the counterparty's ability to pay. Bad debt expense is included in Customer service and billing expense in our consolidated statements of comprehensive income.

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Receivables from distributors primarily include billed and unbilled amounts due from automakers for services included in the sale or lease price of vehicles, as well as billed amounts due from wholesale distributors of our satellite radios. Other receivables primarily include amounts due from manufacturers of our radios, modules and chipsets where we are entitled to subsidies and royalties based on the number of units produced. We have not established an allowance for doubtful accounts for our receivables from distributors or other receivables as we have historically not experienced any significant collection issues with automakers or other third parties and do not expect issues in the foreseeable future.

Receivables, net, consists of the following:

	December 31, 2020	December 31, 2019
Gross customer accounts receivable	\$ 574	\$ 546
Allowance for doubtful accounts	(15)	(14)
Customer accounts receivable, net	\$ 559	\$ 532
Receivables from distributors	73	113
Other receivables	40	25
Total receivables, net	<u>\$ 672</u>	<u>\$ 670</u>

(8) Inventory, net

Inventory consists of finished goods, refurbished goods, chipsets and other raw material components used in manufacturing radios. Inventory is stated at the lower of cost or market. We record an estimated allowance for inventory that is considered slow moving or obsolete or whose carrying value is in excess of net realizable value. The provision related to products purchased for resale in our direct to consumer distribution channel and components held for resale by us is reported as a component of Cost of equipment in our consolidated statements of comprehensive income. The provision related to inventory consumed in our OEM channel is reported as a component of Subscriber acquisition costs in our consolidated statements of comprehensive income.

Inventory, net, consists of the following:

	December 31, 2020	December 31, 2019
Raw materials	\$ —	\$ 3
Finished goods	13	13
Allowance for obsolescence	(3)	(5)
Total inventory, net	<u>\$ 10</u>	<u>\$ 11</u>

(9) Goodwill

Goodwill represents the excess of the purchase price over the estimated fair value of the net tangible and identifiable intangible assets acquired in business combinations. Our annual impairment assessment of our two reporting units is performed as of the fourth quarter of each year, and an assessment is performed at other times if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount. ASC 350, *Intangibles - Goodwill and Other*, states that an entity should perform its annual or interim goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount and recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value. ASC 350 also states that a reporting unit with a zero or negative carrying amount is not required to perform a qualitative assessment. Our Sirius XM reporting unit, which has an allocated goodwill balance of \$2,290, had a negative carrying amount as of December 31, 2020.

We determined the fair value of our reporting units using a combination of an income approach, employing a discounted cash flow model, and a market approach. The discounted cash flow model relies on making assumptions, such as the extent of the economic downturn related to the COVID-19 pandemic, the expected timing of recovery, expected growth in profitability and discount rate, which we believe are appropriate. Additionally, assumptions related to guideline company financial multiples used in the market approach decreased based on current market observations. The results of our goodwill impairment test indicated that the estimated fair value of the Sirius XM reporting unit exceeded its carrying amount. The carrying amount of the Pandora reporting unit exceeded its estimated fair value primarily due to a reduction in the long-term forecast to reflect

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increased costs related to royalty rates for streaming and increased uncertainty surrounding the projected demand for advertising and decrease of listening hours. As a result, we recorded a goodwill impairment charge of \$956 during the year ended December 31, 2020 to write down the carrying amount of the Pandora goodwill in the Impairment charges line item in our consolidated statements of comprehensive income. No impairment losses were recorded for goodwill during the years ended December 31, 2019 and 2018.

As of December 31, 2020, the cumulative balance of goodwill impairments recorded was \$5,722, of which \$4,766 was recognized during the year ended December 31, 2008 and is included in the carrying amount of the goodwill allocated to our Sirius XM reporting unit and \$956 was recognized during the year ended December 31, 2020 and is included in the carrying amount of the goodwill allocated to our Pandora reporting unit.

As a result of the Simplecast and Stitcher acquisitions, we recorded additional goodwill of \$17 and \$218, respectively, during the year ended December 31, 2020 in our Pandora reporting unit. The goodwill of Simplecast is not deductible for tax purposes, however, the goodwill of Stitcher is deductible as it was an asset acquisition. Refer to Note 3 for information on these acquisitions.

Refer to the table below for our goodwill activity for the years ended December 31, 2020 and 2019.

	Sirius XM	Pandora	Total
Balance at December 31, 2018	\$ 2,290	\$ —	\$ 2,290
Acquisition	—	1,553	1,553
Balance at December 31, 2019	2,290	1,553	3,843
Acquisition	—	235	235
Impairment charge	—	(956)	(956)
Balance at December 31, 2020	\$ 2,290	\$ 832	\$ 3,122

(10) Intangible Assets

Our intangible assets include the following:

	Weighted Average Useful Lives	December 31, 2020			December 31, 2019		
		Gross Carrying Value	Accumulated Amortization	Net Carrying Value	Gross Carrying Value	Accumulated Amortization	Net Carrying Value
Indefinite life intangible assets:							
FCC licenses	Indefinite	\$ 2,084	\$ —	\$ 2,084	\$ 2,084	\$ —	\$ 2,084
Trademarks	Indefinite	250	—	250	251	—	251
Definite life intangible assets:							
OEM relationships	15 years	220	(105)	115	220	(90)	130
Licensing agreements	12 years	45	(45)	—	45	(42)	3
Software and technology	7 years	31	(16)	15	35	(25)	10
Due to Pandora and Stitcher Acquisitions:							
Indefinite life intangible assets:							
Trademarks	Indefinite	\$ 311	\$ —	\$ 311	\$ 331	\$ —	\$ 331
Definite life intangible assets:							
Customer relationships	8 years	441	(104)	337	403	(49)	354
Software and technology	5 years	373	(145)	228	373	(69)	304
Total intangible assets		\$ 3,755	\$ (415)	\$ 3,340	\$ 3,742	\$ (275)	\$ 3,467

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
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Indefinite Life Intangible Assets

We have identified our FCC licenses and XM and Pandora trademarks as indefinite life intangible assets after considering the expected use of the assets, the regulatory and economic environment within which they are used and the effects of obsolescence on their use.

We hold FCC licenses to operate our satellite digital audio radio service and provide ancillary services. Each of the FCC licenses authorizes us to use radio spectrum, a reusable resource that does not deplete or exhaust over time.

ASC 350-30-35, *Intangibles - Goodwill and Other*, provides for an option to first perform a qualitative assessment to determine whether it is more likely than not that an asset is impaired. If the qualitative assessment supports that it is more likely than not that the fair value of the asset exceeds its carrying value, a quantitative impairment test is not required. If the qualitative assessment does not support the fair value of the asset, then a quantitative assessment is performed. Our annual impairment assessment of our identifiable indefinite lived intangible assets is performed as of the fourth quarter of each year. An assessment is performed at other times if an event occurs or circumstances change that would more likely than not reduce the fair value of the asset below its carrying value. If the carrying value of the intangible assets exceeds its fair value, an impairment loss is recognized in an amount equal to that excess.

We completed a quantitative assessment of our FCC licenses and XM and Pandora trademarks during the fourth quarter of 2020 and qualitative assessments during the fourth quarter of 2019 and 2018. As of the date of our annual assessment for 2020, our impairment assessment of the fair value of our indefinite intangible assets indicated that the carrying value of our Pandora trademark exceeded the fair value of the asset by \$20. The excess carrying value has been written off and recognized in the Impairment charges line item in our consolidated statements of comprehensive income. The impairment assessment for our FCC licenses and XM trademark indicate that the fair value of such assets substantially exceeded their carrying value and therefore were not at risk of impairment. As of the date of our annual assessment for 2019 and 2018, our impairment assessment of the fair value of our indefinite intangible assets indicated that the fair value of such assets substantially exceeded their carrying value and therefore were not at risk of impairment.

During the year ended December 31, 2020, we also recognized an impairment loss of less than \$1 for intangible assets with indefinite lives related to the termination of the Automatic service.

No impairment loss was recognized for intangible assets with indefinite lives during the years ended December 31, 2019 and 2018.

Definite Life Intangible Assets

Definite-lived intangible assets are amortized over their respective estimated useful lives to their estimated residual values, in a pattern that reflects when the economic benefits will be consumed, and are reviewed for impairment under the provisions of ASC 360-10-35, *Property, Plant and Equipment/Overall/Subsequent Measurement*. We review intangible assets subject to amortization for impairment whenever events or circumstances indicate that the carrying amount of an asset may not be recoverable. If the sum of the expected cash flows, undiscounted and without interest, is less than the carrying amount of the asset, an impairment loss is recognized in an amount by which the carrying amount of the asset exceeds its fair value. No impairment loss was recognized for intangible assets with definite lives during the years ended December 31, 2020, 2019 and 2018.

Amortization expense for all definite life intangible assets was \$152, \$141 and \$23 for the years ended December 31, 2020, 2019 and 2018, respectively. There were retirements of definite lived intangible assets of \$17, which included a loss of \$4, due to the termination of the Automatic service, during the year ended December 31, 2020. As part of the Simplecast acquisition, \$12 was allocated to identifiable intangible assets subject to amortization and related to the assessed fair value of software and technology, which was determined by using the multi-period excess earnings method, as of the acquisition date. As part of the Stitcher acquisition, \$38 was allocated to identifiable intangible assets subject to amortization and related to the assessed fair value of advertising relationship of \$6, trademark of \$3 and talent and content contracts of \$29.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
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The expected amortization expense for each of the fiscal years 2021 through 2025 and for periods thereafter is as follows:

Years ending December 31,	Amount
2021	\$ 153
2022	154
2023	141
2024	75
2025	69
Thereafter	103
Total definite life intangible assets, net	<u>\$ 695</u>

(11) Property and Equipment

Property and equipment, including satellites, are stated at cost, less accumulated depreciation. Equipment under capital leases is stated at the present value of minimum lease payments. Depreciation is calculated using the straight-line method over the following estimated useful life of the asset:

Satellite system	15 years
Terrestrial repeater network	5 - 15 years
Broadcast studio equipment	3 - 15 years
Capitalized software and hardware	2 - 7 years
Satellite telemetry, tracking and control facilities	3 - 15 years
Furniture, fixtures, equipment and other	2 - 7 years
Building	20 or 30 years
Leasehold improvements	Lesser of useful life or remaining lease term

We review long-lived assets, such as property and equipment, for impairment whenever events or changes in circumstances indicate the carrying amount may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to the estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds the estimated future cash flows, an impairment charge is recognized in an amount by which the carrying amount exceeds the fair value of the asset. We did not record any impairments during the years ended December 31, 2020, 2019 and 2018.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
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Property and equipment, net, consists of the following:

	December 31, 2020	December 31, 2019
Satellite system	\$ 1,587	\$ 1,587
Terrestrial repeater network	105	100
Leasehold improvements	111	105
Broadcast studio equipment	100	137
Capitalized software and hardware	1,372	1,086
Satellite telemetry, tracking and control facilities	96	87
Furniture, fixtures, equipment and other	92	89
Land	38	38
Building	63	63
Construction in progress	510	505
Total property and equipment	4,074	3,797
Accumulated depreciation and amortization	(2,445)	(2,171)
Property and equipment, net	<u>\$ 1,629</u>	<u>\$ 1,626</u>

Construction in progress consists of the following:

	December 31, 2020	December 31, 2019
Satellite system	\$ 429	\$ 371
Terrestrial repeater network	8	7
Capitalized software and hardware	52	107
Other	21	20
Construction in progress	<u>\$ 510</u>	<u>\$ 505</u>

Depreciation and amortization expense on property and equipment was \$354, \$327 and \$278 for the years ended December 31, 2020, 2019 and 2018, respectively. Property and equipment of \$94, which included a loss of \$13 related to the termination of the Automatic service, was retired during the year ended December 31, 2020. We retired property and equipment of \$9 and \$35 during the years ended December 31, 2019 and 2018.

We capitalize a portion of the interest on funds borrowed to finance the construction and launch of our satellites. Capitalized interest is recorded as part of the asset's cost and depreciated over the satellite's useful life. Capitalized interest costs were \$19, \$17 and \$12 for the years ended December 31, 2020, 2019 and 2018, respectively, which related to the construction of our SXM-7 and SXM-8 satellites. We also capitalize a portion of share-based compensation related to employee time for capitalized software projects. Capitalized share-based compensation costs were \$17 and \$13 for the years ended December 31, 2020 and 2019, respectively. We did not capitalize any share-based compensation for the year ended December 31, 2018.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
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Satellites

As of December 31, 2020, we operate a fleet of five satellites. Each satellite requires an FCC license, and prior to the expiration of each license, we are required to apply for a renewal of the FCC satellite license. The renewal and extension of our licenses is reasonably certain at minimal cost, which is expensed as incurred. The chart below provides certain information on our satellites as of December 31, 2020:

Satellite Description	Year Delivered	Estimated End of Depreciable Life	FCC License Expiration Year
SIRIUS FM-5	2009	2024	2025
SIRIUS FM-6	2013	2028	2022
XM-3	2005	2020	2021
XM-4	2006	2021	2022
XM-5	2010	2025	2026

We have entered into agreements for the design construction and launch of two satellites, SXM-7 and SXM-8. On December 13, 2020, SXM-7 was successfully launched. In-orbit testing of SXM-7 began on January 4, 2021. During in-orbit testing of SXM-7, events occurred which have caused failures of certain SXM-7 payload units. An evaluation of SXM-7 is underway. The full extent of the damage to SXM-7 is not yet known. As of December 31, 2020, we had \$220 capitalized in construction in progress related to SXM-7.

(12) Leases

We have operating and finance leases for offices, terrestrial repeaters, data centers and certain equipment. Our leases have remaining lease terms of less than 1 year to 17 years, some of which may include options to extend the leases for up to 5 years, and some of which may include options to terminate the leases within 1 year. We elected the practical expedient to account for the lease and non-lease components as a single component. Additionally, we elected the practical expedient to not recognize right-of-use assets or lease liabilities for short-term leases, which are those leases with a term of twelve months or less at the lease commencement date.

The components of lease expense were as follows:

	For the Years Ended December 31,	
	2020	2019
Operating lease cost	\$ 82	\$ 80
Finance lease cost	1	4
Sublease income	(2)	(3)
Total lease cost	<u>\$ 81</u>	<u>\$ 81</u>

Supplemental cash flow information related to leases was as follows:

	For the Years Ended December 31,	
	2020	2019
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	\$ 79	\$ 70
Financing cash flows from finance leases	\$ 1	\$ 3
Right-of-use assets obtained in exchange for lease obligations:		
Operating leases	\$ 7	\$ 83

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
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Supplemental balance sheet information related to leases was as follows:

	December 31, 2020	December 31, 2019
Operating Leases		
Operating lease right-of-use assets	\$ 427	\$ 466
Operating lease current liabilities	48	46
Operating lease liabilities	419	456
Total operating lease liabilities	<u>\$ 467</u>	<u>\$ 502</u>
Finance Leases		
Property and equipment, gross	\$ 8	\$ 15
Accumulated depreciation	(7)	(12)
Property and equipment, net	<u>\$ 1</u>	<u>\$ 3</u>
Current maturities of debt	\$ 1	\$ 1
Long-term debt	—	1
Total finance lease liabilities	<u>\$ 1</u>	<u>\$ 2</u>
Weighted Average Remaining Lease Term		
Operating leases	9 years	9 years
Finance leases	1 year	2 years
Weighted Average Discount Rate		
Operating leases	5.3 %	5.3 %
Finance leases	1.7 %	1.7 %

Maturities of lease liabilities were as follows:

	Operating Leases	Finance Leases
Year ending December 31,		
2020 (remaining)	\$ 71	\$ —
2021	74	1
2022	71	—
2023	62	—
2024	62	—
Thereafter	247	—
Total future minimum lease payments	587	1
Less imputed interest	(120)	—
Total	<u>\$ 467</u>	<u>\$ 1</u>

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
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(13) Related Party Transactions

In the normal course of business, we enter into transactions with related parties such as Sirius XM Canada and SoundCloud.

Liberty Media

As of December 31, 2020, Liberty Media beneficially owned, directly and indirectly, approximately 76% of the outstanding shares of our common stock. Liberty Media has one executive, one senior advisor and one of its directors on our board of directors. Gregory B. Maffei, the President and Chief Executive Officer of Liberty Media, is the Chairman of our board of directors.

Sirius XM Canada

Sirius XM holds a 70% equity interest and 33% voting interest in Sirius XM Canada, a privately held corporation. We own 591 shares of preferred stock of Sirius XM Canada, which has a liquidation preference of one Canadian dollar per share. Sirius XM also made a loan to Sirius XM Canada in the aggregate amount of \$131. The loan is denominated in Canadian dollars and is considered a long-term investment with any unrealized gains or losses reported within Accumulated other comprehensive (loss) income. During the years ended December 31, 2020 and 2019, Sirius XM Canada repaid \$11 and less than \$1 of the principal amount of the loan, respectively.

Sirius XM has a Services Agreement and an Advisory Services Agreement with Sirius XM Canada. Each agreement has a thirty-year term. Pursuant to the Services Agreement, Sirius XM Canada currently pays Sirius XM 25% of its gross revenues on a monthly basis, and pursuant to the Advisory Services Agreement, Sirius XM Canada pays Sirius XM 5% of its gross revenues on a monthly basis.

Sirius XM Canada is accounted for as an equity method investment, and its results are not consolidated in our consolidated financial statements. Sirius XM Canada does not meet the requirements for consolidation as we do not have the ability to direct the most significant activities that impact Sirius XM Canada's economic performance.

Our related party long-term assets as of December 31, 2020 and December 31, 2019 included the carrying value of our investment balance in Sirius XM Canada of \$332 and \$321, respectively, and, as of December 31, 2020 and December 31, 2019, also included \$123 and \$131, respectively, for the long-term value of the outstanding loan to Sirius XM Canada.

Sirius XM Canada paid gross dividends to us of \$2 during each of the years ended December 31, 2020, 2019 and 2018. Dividends are first recorded as a reduction to our investment balance in Sirius XM Canada to the extent a balance exists and then as Other (expense) income for any remaining portion.

We recorded revenue from Sirius XM Canada as Other revenue in our consolidated statements of comprehensive income of \$97, \$98 and \$97 during the years ended December 31, 2020, 2019 and 2018.

SoundCloud

In February 2020, Sirius XM completed a \$75 investment in SoundCloud's Series G Membership Units ("Series G Units"). The Series G Units are convertible at the option of the holders at any time into shares of ordinary membership units of SoundCloud at a ratio of one ordinary membership unit for each Series G Unit. The investment in SoundCloud is accounted for as an equity method investment which is recorded in Related party long-term assets in our consolidated balance sheet. Sirius XM has appointed two individuals to serve on SoundCloud's nine-member board of managers. For the year ended December 31, 2020, Sirius XM's share of SoundCloud's net loss was \$1, which was recorded in Other income (expense) in our consolidated statement of comprehensive income.

In addition to our investment in SoundCloud, Pandora has an agreement with SoundCloud to be its exclusive US ad sales representative. Through this arrangement Pandora offers advertisers the ability to execute campaigns in the US across the Pandora and SoundCloud listening platforms. We recorded revenue share expense of \$55, \$40 and \$0 for the years ended December 31, 2020, 2019 and 2018, respectively. We also had related party liabilities of \$24 as of December 31, 2020 related to this agreement.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
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(14) Debt

Our debt as of December 31, 2020 and December 31, 2019 consisted of the following:

Issuer / Borrower	Issued	Debt	Maturity Date	Interest Payable	Principal Amount at December 31, 2020	Carrying value ^(a) at	
						December 31, 2020	December 31, 2019
Pandora (b) (c) (h)	December 2015	1.75% Convertible Senior Notes	December 1, 2020	semi-annually on June 1 and December 1	\$ —	\$ —	\$ 1
Sirius XM (d)	July 2017	3.875% Senior Notes	August 1, 2022	semi-annually on February 1 and August 1	1,000	997	995
Sirius XM (d) (g)	May 2013	4.625% Senior Notes	May 15, 2023	semi-annually on May 15 and November 15	—	—	498
Pandora (b) (e)	June 2018	1.75% Convertible Senior Notes	December 1, 2023	semi-annually on June 1 and December 1	193	170	163
Sirius XM (d)	July 2019	4.625% Senior Notes	July 15, 2024	semi-annually on January 15 and July 15	1,500	1,488	1,485
Sirius XM (d) (g)	March 2015	5.375% Senior Notes	April 15, 2025	semi-annually on April 15 and October 15	—	—	993
Sirius XM (d)	May 2016	5.375% Senior Notes	July 15, 2026	semi-annually on January 15 and July 15	1,000	993	992
Sirius XM (d)	July 2017	5.00% Senior Notes	August 1, 2027	semi-annually on February 1 and August 1	1,500	1,490	1,488
Sirius XM (d)	June 2019	5.500% Senior Notes	July 1, 2029	semi-annually on January 1 and July 1	1,250	1,237	1,236
Sirius XM (d)	June 2020	4.125% Senior Notes	July 1, 2030	semi-annually on January 1 and July 1	1,500	1,484	—
Sirius XM (f)	December 2012	Senior Secured Revolving Credit Facility (the "Credit Facility")	June 29, 2023	variable fee paid quarterly	649	649	—
Sirius XM	Various	Finance leases	Various	n/a	n/a	1	2
Total Debt						8,509	7,853
Less: total current maturities						1	2
Less: total deferred financing costs						9	9
Total long-term debt						\$ 8,499	\$ 7,842

- (a) The carrying value of the obligations is net of any remaining unamortized original issue discount.
- (b) Holdings has unconditionally guaranteed all of the payment obligations of Pandora under these notes.
- (c) We acquired \$152 in principal amount of the 1.75% Convertible Senior Notes due 2020 as part of the Pandora Acquisition. On February 14, 2019, Pandora announced a tender offer to repurchase for cash any and all of its outstanding 1.75% Convertible Senior Notes due 2020 at a price equal to 100% of the aggregate principal amount thereof plus accrued and unpaid interest thereon to, but not including, the repurchase date. On March 18, 2019, we purchased \$151 in aggregate principal amount of the 1.75% Convertible Senior Notes due 2020 that had been validly tendered and not validly withdrawn in the repurchase offer. We recorded a \$1 Loss on extinguishment of debt in connection with this transaction. In addition, we unwound a capped call security acquired as part of the Pandora Acquisition in March 2019 for \$3.
- (d) All material domestic subsidiaries, including Pandora and its subsidiaries, that guarantee the Credit Facility have guaranteed these notes.
- (e) We acquired \$193 in principal amount of the 1.75% Convertible Senior Notes due 2023 as part of the Pandora Acquisition. We allocate the principal amount of the 1.75% Convertible Senior Notes due 2023 between the liability and equity components. The value assigned to the debt components of the 1.75% Convertible Senior Notes due 2023 is the estimated fair value as of the issuance date of similar debt without the conversion feature. The difference between the fair value of the debt and this estimated fair value represents the value which has been assigned to the equity component. The equity component is recorded to additional paid-in capital and is not remeasured as long as it continues to meet the conditions for equity classification. The excess of the principal amount of the Notes

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over the carrying amount of the liability component is recorded as a debt discount and is being amortized to interest expense using the effective interest method through the December 1, 2023 maturity date. The 1.75% Convertible Senior Notes due 2023 were not convertible into common stock and not redeemable as of December 31, 2020. As a result, we have classified the debt as Long-term within our consolidated balance sheets.

- (f) The \$1,750 Credit Facility expires in June 2023. Sirius XM's obligations under the Credit Facility are guaranteed by certain of its material domestic subsidiaries, including Pandora and its subsidiaries, and are secured by a lien on substantially all of Sirius XM's assets and the assets of its material domestic subsidiaries. Interest on borrowings is payable on a monthly basis and accrues at a rate based on LIBOR plus an applicable rate. Sirius XM is also required to pay a variable fee on the average daily unused portion of the Credit Facility which is payable on a quarterly basis. The variable rate for the unused portion of the Credit Facility was 0.25% per annum as of December 31, 2020. All of Sirius XM's outstanding borrowings under the Credit Facility are classified as Long-term debt within our consolidated balance sheets due to the long-term maturity of this debt. Additionally, the amount available for future borrowing under the Credit Facility is reduced by letters of credit issued for the benefit of Pandora, which were \$1 as of December 31, 2020.
- (g) On July 9, 2020, Sirius XM redeemed \$500 in outstanding principal amount of the 4.625% Senior Notes due 2023 for an aggregate purchase price, including premium and interest, of \$507. On July 9, 2020, Sirius XM also redeemed \$1,000 in outstanding principal amount of the 5.375% Senior Notes due 2025 for an aggregate purchase price, including premium and interest, of \$1,039. Sirius XM used the proceeds from the 4.125% Senior Notes due 2030 for both redemptions. During the year ended December 31, 2020, we recognized \$40 to Loss on extinguishment of debt, consisting primarily of unamortized discount, deferred financing fees and redemption premium, as a result of these redemptions.
- (h) On December 1, 2020, the 1.75% Convertible Senior Notes due 2020 were paid at their stated maturity.

Covenants and Restrictions

Under the Credit Facility, Sirius XM, our wholly owned subsidiary, must comply with a debt maintenance covenant that it cannot exceed a total leverage ratio, calculated as consolidated total debt to consolidated operating cash flow, of 5.0 to 1.0. The Credit Facility generally requires compliance with certain covenants that restrict Sirius XM's ability to, among other things, (i) incur additional indebtedness, (ii) incur liens, (iii) pay dividends or make certain other restricted payments, investments or acquisitions, (iv) enter into certain transactions with affiliates, (v) merge or consolidate with another person, (vi) sell, assign, lease or otherwise dispose of all or substantially all of Sirius XM's assets, and (vii) make voluntary prepayments of certain debt, in each case subject to exceptions.

The indentures governing Sirius XM's notes restrict Sirius XM's non-guarantor subsidiaries' ability to create, assume, incur or guarantee additional indebtedness without such non-guarantor subsidiary guaranteeing each such series of notes on a pari passu basis. The indentures governing the notes also contain covenants that, among other things, limit Sirius XM's ability and the ability of its subsidiaries to create certain liens; enter into sale/leaseback transactions; and merge or consolidate.

Under Sirius XM's debt agreements, the following generally constitute an event of default: (i) a default in the payment of interest; (ii) a default in the payment of principal; (iii) failure to comply with covenants; (iv) failure to pay other indebtedness after final maturity or acceleration of other indebtedness exceeding a specified amount; (v) certain events of bankruptcy; (vi) a judgment for payment of money exceeding a specified aggregate amount; and (vii) voidance of subsidiary guarantees, subject to grace periods where applicable. If an event of default occurs and is continuing, our debt could become immediately due and payable.

The indentures governing the Pandora Convertible Notes contain covenants that limit Pandora's ability to merge or consolidate and provide for customary events of default, which include nonpayment of principal or interest, breach of covenants, payment defaults or acceleration of other indebtedness and certain events of bankruptcy.

At December 31, 2020 and December 31, 2019, we were in compliance with our debt covenants.

Pandora Convertible Notes

Pandora's 1.75% Convertible Senior Notes due 2023 (the "Pandora 2023 Notes") are unsecured, senior obligations of Pandora. Holdings has guaranteed the payment and performance obligations of Pandora under the Pandora 2023 Notes and the indenture governing the Pandora 2023 Notes.

The Pandora 2023 Notes will mature on December 1, 2023, unless earlier repurchased or redeemed by Pandora or converted in accordance with their terms. As of December 31, 2020, the conversion rate applicable to the Pandora 2023 Notes

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was 151.9533 shares of Holdings' common stock per one thousand principal amount of the Pandora 2023 Notes plus carryforward adjustments not yet effected pursuant to the terms of the indenture governing the Pandora 2023 Notes.

(15) Stockholders' Equity

Common Stock, par value \$0.001 per share

We are authorized to issue up to 9,000 shares of common stock. There were 4,176 and 4,412 shares of common stock issued and 4,173 and 4,412 shares of common stock outstanding on December 31, 2020 and December 31, 2019, respectively.

As of December 31, 2020, there were 259 shares of common stock reserved for issuance in connection with outstanding stock-based awards to members of our board of directors, employees and third parties.

Quarterly Dividends

During the year ended December 31, 2020, we declared and paid the following dividends:

Declaration Date	Dividend Per Share	Record Date	Total Amount	Payment Date
January 30, 2020	\$ 0.01331	February 12, 2020	\$ 59	February 28, 2020
April 21, 2020	\$ 0.01331	May 8, 2020	\$ 58	May 29, 2020
July 14, 2020	\$ 0.01331	August 7, 2020	\$ 58	August 31, 2020
October 6, 2020	\$ 0.01464	November 6, 2020	\$ 62	November 30, 2020

Stock Repurchase Program

As of December 31, 2020, our board of directors had approved for repurchase an aggregate of \$16,000 of our common stock. Our board of directors did not establish an end date for this stock repurchase program. Shares of common stock may be purchased from time to time on the open market, pursuant to pre-set trading plans meeting the requirements of Rule 10b5-1 under the Exchange Act, in privately negotiated transactions, including transactions with Liberty Media and its affiliates, or otherwise. As of December 31, 2020, our cumulative repurchases since December 2012 under our stock repurchase program totaled 3,314 shares for \$14,408, and \$1,592 remained available for future share repurchases under our stock repurchase program.

The following table summarizes our total share repurchase activity for the years ended:

Share Repurchase Type	December 31, 2020		December 31, 2019		December 31, 2018	
	Shares	Amount	Shares	Amount	Shares	Amount
Open Market Repurchases ^(a)	267	\$ 1,574	364	\$ 2,159	209	\$ 1,297

(a) As of December 31, 2020, \$19 of common stock repurchases had not settled, nor been retired, and were recorded as Treasury stock within our consolidated balance sheets and consolidated statement of stockholders' equity (deficit).

Preferred Stock, par value \$0.001 per share

We are authorized to issue up to 50 shares of undesignated preferred stock with a liquidation preference of \$0.001 per share. There were no shares of preferred stock issued or outstanding as of December 31, 2020 and December 31, 2019.

(16) Benefit Plans

We recognized share-based payment expense of \$223, \$250 and \$133 for the years ended December 31, 2020, 2019 and 2018, respectively. The amount recognized during the year ended December 31, 2019 includes \$21 of share-based compensation expense recorded in Acquisition and restructuring costs in our consolidated statements of comprehensive income.

We account for equity instruments granted in accordance with ASC 718, *Compensation - Stock Compensation*. ASC 718 requires all share-based compensation payments to be recognized in the financial statements based on fair value. We use the Black-Scholes-Merton option-pricing model to value stock option awards and have elected to treat awards with graded vesting as a single award. Share-based compensation expense is recognized ratably over the requisite service period, which is generally

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the vesting period. We measure restricted stock awards and units using the fair market value of the restricted shares of common stock on the day the award is granted. Stock-based awards granted to employees, non-employees and members of our board of directors include stock options and restricted stock units.

Fair value as determined using the Black-Scholes-Merton model varies based on assumptions used for the expected life, expected stock price volatility, expected dividend yield and risk-free interest rates. For the years ended December 31, 2020, 2019 and 2018, we estimated the fair value of awards granted using the hybrid approach for volatility, which weights observable historical volatility and implied volatility of qualifying actively traded options on our common stock. The expected life assumption represents the weighted-average period stock-based awards are expected to remain outstanding. These expected life assumptions are established through a review of historical exercise behavior of stock-based award grants with similar vesting periods. Where historical patterns do not exist for non-employees, contractual terms are used. Dividend yield is based on the current expected annual dividend per share and our stock price. The risk-free interest rate represents the daily treasury yield curve rate at the grant date based on the closing market bid yields on actively traded U.S. treasury securities in the over-the-counter market for the expected term. Our assumptions may change in future periods.

2015 Long-Term Stock Incentive Plan

In May 2015, our stockholders approved the Sirius XM Holdings Inc. 2015 Long-Term Stock Incentive Plan (the “2015 Plan”). Employees, consultants and members of our board of directors are eligible to receive awards under the 2015 Plan. The 2015 Plan provides for the grant of stock options, restricted stock awards, restricted stock units and other stock-based awards that the compensation committee of our board of directors deems appropriate. Stock-based awards granted under the 2015 Plan are generally subject to a graded vesting requirement, which is generally three to four years from the grant date. Stock options generally expire ten years from the date of grant. Restricted stock units include performance-based restricted stock units (“PRSUs”), the vesting of which are subject to the achievement of performance goals and the employee's continued employment and generally cliff vest on the third anniversary of the grant date. Each restricted stock unit entitles the holder to receive one share of common stock upon vesting. As of December 31, 2020, 160 shares of common stock were available for future grants under the 2015 Plan.

In connection with the Pandora Acquisition, we assumed all shares available for issuance (including any shares that later become available for issuance in accordance with the terms of the applicable plans) under each of the 2014 Stock Incentive Plan of AdsWizz Inc., the Pandora Media, Inc. 2011 Equity Incentive Plan, the Pandora Media, Inc. 2004 Stock Plan and the TheSavageBeast.com, Inc. 2000 Stock Incentive Plan, which were previously approved by stockholders of Pandora or the applicable adopting entity. All shares available under these stock plans became additional shares available for grant pursuant to the terms of the 2015 Plan (as adjusted, to the extent appropriate, to reflect the application of the exchange ratio). Subject to certain limitations set forth in the 2015 Plan, such shares may be used for awards under the 2015 Plan.

Other Plans

We maintain six share-based benefit plans in addition to the 2015 Plan — the Sirius XM Radio Inc. 2009 Long-Term Stock Incentive Plan, the Amended and Restated Sirius Satellite Radio 2003 Long-Term Stock Incentive Plan, the 2014 Stock Incentive Plan of AdsWizz Inc., the Pandora Media, Inc. 2011 Equity Incentive Plan, the Pandora Media, Inc. 2004 Stock Plan and the TheSavageBeast.com, Inc. 2000 Stock Incentive Plan. Excluding dividend equivalent units granted as a result of a declared dividend, no further awards may be made under these plans.

The following table summarizes the weighted-average assumptions used to compute the fair value of options granted to employees and members of our board of directors:

	For the Years Ended December 31,		
	2020	2019	2018
Risk-free interest rate	1.0%	2.4%	2.7%
Expected life of options — years	3.91	3.41	4.38
Expected stock price volatility	28%	26%	23%
Expected dividend yield	0.8%	0.8%	0.7%

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The following table summarizes stock option activity under our share-based plans for the years ended December 31, 2020, 2019 and 2018:

	Options	Weighted- Average Exercise Price Per Share	Weighted- Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Outstanding at the beginning of January 1, 2018	280	\$ 3.76		
Granted	32	\$ 6.59		
Exercised	(65)	\$ 3.35		
Forfeited, cancelled or expired	(4)	\$ 4.76		
Outstanding as of December 31, 2018	243	\$ 4.22		
Awards granted in connection with acquisition	7	\$ 3.85		
Granted	15	\$ 6.10		
Exercised	(53)	\$ 3.65		
Forfeited, cancelled or expired	(4)	\$ 5.58		
Outstanding as of December 31, 2019	208	\$ 4.46		
Granted	11	\$ 6.87		
Exercised	(33)	\$ 3.66		
Forfeited, cancelled or expired	(2)	\$ 6.28		
Outstanding as of December 31, 2020	184	\$ 4.73	4.80	\$ 318
Exercisable as of December 31, 2020	147	\$ 4.31	3.96	\$ 309

The weighted average grant date fair value per stock option granted during the years ended December 31, 2020, 2019 and 2018 was \$1.46, \$1.26 and \$1.45. The total intrinsic value of stock options exercised during the years ended December 31, 2020, 2019 and 2018 was \$94, \$146 and \$215, respectively. During the years ended December 31, 2020, 2019 and 2018, the number of net settled shares issued as a result of stock option exercises were 8, 15 and 19, respectively.

In connection with the Pandora Acquisition, each option granted by Pandora under its stock incentive plans to purchase shares of Pandora common stock, whether vested or unvested, was assumed and converted into an option to purchase shares of our common stock, with appropriate adjustments (based on the 1.44 exchange ratio) to the exercise price and number of shares of our common stock subject to such option, and has the same vesting schedule and exercise conditions as in effect as of immediately prior to the closing of the Pandora Acquisition; provided, that any Pandora stock option that had an exercise price per share that was equal to or greater than the value, at the closing of the Pandora Acquisition, of our common stock issued as merger consideration in exchange for each share of Pandora common stock, was canceled without payment. We recorded \$8 to Goodwill related to pre-acquisition replacement equity awards attributable to pre-combination service.

We recognized share-based payment expense associated with stock options of \$45, \$60 and \$67 for the years ended December 31, 2020, 2019 and 2018, respectively.

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The following table summarizes the restricted stock unit, including PRSU, activity under our share-based plans for the years ended December 31, 2020, 2019 and 2018:

	Shares	Grant Date Fair Value Per Share
Nonvested at the beginning of January 1, 2018	31	\$ 4.54
Granted	18	\$ 6.40
Vested	(13)	\$ 4.43
Forfeited	(1)	\$ 4.99
Nonvested as of December 31, 2018	35	\$ 5.50
Awards granted in connection with acquisition	48	\$ 5.83
Granted	38	\$ 6.01
Vested	(38)	\$ 5.53
Forfeited	(8)	\$ 5.85
Nonvested as of December 31, 2019	75	\$ 5.95
Granted	37	\$ 6.14
Vested	(32)	\$ 5.89
Forfeited	(5)	\$ 6.00
Nonvested as of December 31, 2020	75	\$ 6.06

The total intrinsic value of restricted stock units, including PRSUs, vesting during the years ended December 31, 2020, 2019 and 2018 was \$196, \$235 and \$85, respectively. During the years ended December 31, 2020, 2019 and 2018, the number of net settled shares issued as a result of restricted stock units vesting totaled 20, 23 and 7, respectively. During the years ended December 31, 2020, 2019 and 2018, we granted 4, 6 and 5, respectively PRSUs to certain employees. We believe it is probable that the performance target applicable to these PRSUs will be achieved.

In connection with the Pandora Acquisition, each unvested restricted stock unit granted by Pandora under its stock incentive plans was assumed and converted into an unvested restricted stock unit of Holdings, with appropriate adjustments (based on the 1.44 exchange ratio) to the number of shares of our common stock to be received, and has the same vesting schedule and settlement date as in effect as of immediately prior to the closing of the Pandora Acquisition. We recorded \$62 to Goodwill related to pre-acquisition replacement equity awards attributable to pre-combination service.

In connection with the cash dividends paid during the years ended December 31, 2020, 2019 and 2018, we granted 1 restricted stock units, including PRSUs, in accordance with the terms of existing award agreements. These grants did not result in any additional incremental share-based payment expense being recognized during the years ended December 31, 2020, 2019 and 2018.

We recognized share-based payment expense associated with restricted stock units, including PRSUs, of \$178, \$190 and \$66 for the years ended December 31, 2020, 2019 and 2018, respectively.

Total unrecognized compensation costs related to unvested share-based payment awards for stock options and restricted stock units, including PRSUs, granted to employees, members of our board of directors and third parties at December 31, 2020 and December 31, 2019 was \$385 and \$415, respectively. The total unrecognized compensation costs at December 31, 2020 are expected to be recognized over a weighted-average period of 2.6 years.

401(k) Savings Plans

Sirius XM Radio Inc. 401(k) Savings Plan

Sirius XM sponsors the Sirius XM Radio Inc. 401(k) Savings Plan (the "Sirius XM Plan") for eligible employees. The Sirius XM Plan allows eligible employees to voluntarily contribute from 1% to 50% of their pre-tax eligible earnings, subject to certain defined limits. We match 50% of an employee's voluntary contributions per pay period on the first 6% of an employee's pre-tax salary up to a maximum of 3% of eligible compensation. We may also make additional discretionary matching, true-up

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matching and non-elective contributions to the Sirius XM Plan. Employer matching contributions under the Sirius XM Plan vest at a rate of 33.33% for each year of employment and are fully vested after three years of employment for all current and future contributions. Our cash employer matching contributions are not used to purchase shares of our common stock on the open market, unless the employee elects our common stock as their investment option for this contribution.

Pandora Media, LLC 401(k) Profit Sharing Plan and Trust

Pandora sponsors the Pandora Media, LLC 401(k) Profit Sharing Plan and Trust (the “Pandora Plan”) for eligible employees. The Pandora Plan allows eligible employees to voluntarily contribute from 1% to 75% of their pre-tax eligible earnings, subject to certain defined limits. Effective January 1, 2020, we began matching 50% of an employee’s voluntary contributions per pay period on the first 6% of an employee’s pre-tax salary up to a maximum of 3% of eligible compensation.

We recognized expenses of \$16, \$9 and \$9 for the years ended December 31, 2020, 2019 and 2018, respectively, in connection with the Sirius XM and Pandora Plans.

Sirius XM Holdings Inc. Deferred Compensation Plan

The Sirius XM Holdings Inc. Deferred Compensation Plan (the “DCP”) allows members of our board of directors and certain eligible employees to defer all or a portion of their base salary, cash incentive compensation and/or board of directors’ cash compensation, as applicable. Pursuant to the terms of the DCP, we may elect to make additional contributions beyond amounts deferred by participants, but we are under no obligation to do so. We have established a grantor (or “rabbi”) trust to facilitate the payment of our obligations under the DCP.

Contributions to the DCP, net of withdrawals, for the years ended December 31, 2020, 2019 and 2018 were \$8, \$7 and \$8, respectively. As of December 31, 2020 and 2019, the fair value of the investments held in the trust were \$46 and \$34, respectively, which is included in Other long-term assets in our consolidated balance sheets and classified as trading securities. Trading gains and losses associated with these investments are recorded in Other (expense) income within our consolidated statements of comprehensive income. The associated liability is recorded within Other long-term liabilities in our consolidated balance sheets, and any increase or decrease in the liability is recorded in General and administrative expense within our consolidated statements of comprehensive income. For both the years ended December 31, 2020 and 2019, we recorded gains on investments held in the trust of \$3.

(17) Commitments and Contingencies

The following table summarizes our expected contractual cash commitments as of December 31, 2020:

	2021	2022	2023	2024	2025	Thereafter	Total
Debt obligations	\$ 1	\$ 1,000	\$ 842	\$ 1,500	\$ —	\$ 5,250	\$ 8,593
Cash interest payments	389	387	341	329	259	788	2,493
Satellite and transmission	50	3	3	3	2	18	79
Programming and content	382	291	209	156	121	195	1,354
Sales and marketing	69	20	11	3	3	5	111
Satellite incentive payments	8	8	9	9	9	38	81
Operating lease obligations	69	68	61	47	45	137	427
Royalties, minimum guarantees and other	327	205	25	7	—	—	564
Total ⁽¹⁾	<u>\$ 1,295</u>	<u>\$ 1,982</u>	<u>\$ 1,501</u>	<u>\$ 2,054</u>	<u>\$ 439</u>	<u>\$ 6,431</u>	<u>\$ 13,702</u>

(1) The table does not include our reserve for uncertain tax positions, which at December 31, 2020 totaled \$30.

Debt obligations. Debt obligations include principal payments on outstanding debt and finance lease obligations.

Cash interest payments. Cash interest payments include interest due on outstanding debt and capital lease payments through maturity.

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Satellite and transmission. We have entered into agreements with several third parties to design, build, launch and insure two satellites, SXM-7 and SXM-8. We also have entered into agreements with third parties to operate and maintain satellite telemetry, tracking and control facilities and certain components of our terrestrial repeater networks.

Programming and content. We have entered into various programming and content agreements. Under the terms of these agreements, our obligations include fixed payments, advertising commitments and revenue sharing arrangements. In certain of these agreements, the future revenue sharing costs are dependent upon many factors and are difficult to estimate; therefore, they are not included in our minimum contractual cash commitments.

Sales and marketing. We have entered into various marketing, sponsorship and distribution agreements to promote our brands and are obligated to make payments to sponsors, retailers, automakers, radio manufacturers and other third parties under these agreements. Certain programming and content agreements also require us to purchase advertising on properties owned or controlled by the licensors.

Satellite incentive payments. Boeing Satellite Systems International, Inc., the manufacturer of certain of our in-orbit satellites, may be entitled to future in-orbit performance payments upon XM-4 meeting its fifteen-year design life, which we expect to occur. Boeing may also be entitled to up to \$10 of additional incentive payments if our XM-4 satellite continues to operate above baseline specifications during the five years beyond the satellite's fifteen-year design life.

Maxar Technologies (formerly Space Systems/Loral), the manufacturer of certain of our in-orbit satellites, may be entitled to future in-orbit performance payments upon XM-5, SIRIUS FM-5 and SIRIUS FM-6 meeting their fifteen-year design life, which we expect to occur.

Operating lease obligations. We have entered into both cancelable and non-cancelable operating leases for office space, terrestrial repeaters, data centers and equipment. These leases provide for minimum lease payments, additional operating expense charges, leasehold improvements and rent escalations that have initial terms ranging from one to fifteen years, and certain leases have options to renew. Total rent recognized in connection with leases for the years ended December 31, 2020, 2019 and 2018 was \$73, \$75 and \$43, respectively.

Royalties, Minimum Guarantees and Other. We have entered into music royalty arrangements that include fixed payments. Certain of our content agreements also contain minimum guarantees and require that we make upfront minimum guaranteed payments. During the year ended December 31, 2020, we prepaid \$5 in content costs related to minimum guarantees. As of December 31, 2020, we had future fixed minimum guarantee commitments of \$26, of which \$14 will be paid in 2021 and the remainder will be paid thereafter. On a quarterly basis, we record the greater of the cumulative actual content costs incurred or the cumulative minimum guarantee based on forecasted usage for the minimum guarantee period. The minimum guarantee period is the period of time that the minimum guarantee relates to, as specified in each agreement, which may be annual or a longer period. The cumulative minimum guarantee, based on forecasted usage, considers factors such as listening hours, revenue, subscribers and other terms of each agreement that impact our expected attainment or recoupment of the minimum guarantees based on the relative attribution method.

Several of our content agreements also include provisions related to the royalty payments and structures of those agreements relative to other content licensing arrangements, which, if triggered, could cause our payments under those agreements to escalate. In addition, record labels, publishers and performing rights organizations ("PROs") with whom we have entered into direct license agreements have the right to audit our content payments, and any such audit could result in disputes over whether we have paid the proper content costs.

We have also entered into various agreements with third parties for general operating purposes. The cost of our common stock acquired in our capital return program but not paid for as of December 31, 2020 was also included in this category.

In addition to the minimum contractual cash commitments described above, we have entered into other variable cost arrangements. These future costs are dependent upon many factors and are difficult to anticipate; however, these costs may be substantial. We may enter into additional programming, distribution, marketing and other agreements that contain similar variable cost provisions. We also have a surety bond of approximately \$45 primarily used as security against non-performance in the normal course of business. We do not have any other significant off-balance sheet financing arrangements that are

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reasonably likely to have a material effect on our financial condition, results of operations, liquidity, capital expenditures or capital resources.

Legal Proceedings

In the ordinary course of business, we are a defendant or party to various claims and lawsuits, including those discussed below.

We record a liability when we believe that it is both probable that a liability will be incurred, and the amount of loss can be reasonably estimated. We evaluate developments in legal matters that could affect the amount of liability that has been previously accrued and make adjustments as appropriate. Significant judgment is required to determine both probability and the estimated amount of a loss or potential loss. We may be unable to reasonably estimate the reasonably possible loss or range of loss for a particular legal contingency for various reasons, including, among others, because: (i) the damages sought are indeterminate; (ii) the proceedings are in the relative early stages; (iii) there is uncertainty as to the outcome of pending proceedings (including motions and appeals); (iv) there is uncertainty as to the likelihood of settlement and the outcome of any negotiations with respect thereto; (v) there remain significant factual issues to be determined or resolved; (vi) the relevant law is unsettled; or (vii) the proceedings involve novel or untested legal theories. In such instances, there may be considerable uncertainty regarding the ultimate resolution of such matters, including the likelihood or magnitude of a possible eventual loss, if any.

Pre-1972 Sound Recording Litigation. On October 2, 2014, Flo & Eddie Inc. filed a class action suit against Pandora in the federal district court for the Central District of California. The complaint alleges a violation of California Civil Code Section 980, unfair competition, misappropriation and conversion in connection with the public performance of sound recordings recorded prior to February 15, 1972 (which we refer to as, “pre-1972 recordings”). On December 19, 2014, Pandora filed a motion to strike the complaint pursuant to California’s Anti-Strategic Lawsuit Against Public Participation (“Anti-SLAPP”) statute, which following denial of Pandora’s motion was appealed to the Ninth Circuit Court of Appeals. In March 2017, the Ninth Circuit requested certification to the California Supreme Court on the substantive legal questions. The California Supreme Court accepted certification. In May 2019, the California Supreme Court issued an order dismissing consideration of the certified questions on the basis that, following the enactment of the Orrin G. Hatch-Bob Goodlatte Music Modernization Act, Pub. L. No. 115-264, 132 Stat. 3676 (2018) (the “MMA”), resolution of the questions posed by the Ninth Circuit Court of Appeals was no longer “necessary to . . . settle an important question of law.”

The MMA grants a potential federal preemption defense to the claims asserted in the aforementioned lawsuits. In July 2019, Pandora took steps to avail itself of this preemption defense, including making the required payments under the MMA for certain of its uses of pre-1972 recordings. Based on the federal preemption contained in the MMA (along with other considerations), Pandora asked the Ninth Circuit to order the dismissal of the *Flo & Eddie, Inc. v. Pandora Media, Inc.* case. On October 17, 2019, the Ninth Circuit Court of Appeals issued a memorandum disposition concluding that the question of whether the MMA preempts Flo and Eddie’s claims challenging Pandora’s performance of pre-1972 recordings “depends on various unanswered factual questions” and remanded the case to the District Court for further proceedings.

In October 2020, the District Court denied Pandora’s renewed motion to dismiss the case under California’s anti-SLAPP statute, finding the case no longer qualified for anti-SLAPP due to intervening changes in the law, and denied Pandora’s renewed attempt to end the case. Alternatively, the District Court ruled that the preemption defense likely did not apply to Flo & Eddie’s claims, in part because the District Court believed that the Music Modernization Act did not apply retroactively. Pandora promptly appealed the District Court’s decision to the Ninth Circuit, and moved to stay appellate briefing pending the appeal of a related case against Sirius XM. On January 13, 2021, the Ninth Circuit issued an order granting the stay of appellate proceedings pending the resolution of a related case against Sirius XM.

We believe we have substantial defenses to the claims asserted in this action, and we intend to defend these actions vigorously.

Copyright Royalty Board Proceeding to Determine the Rate for Statutory Webcasting. Pursuant to Sections 112 and 114 of the Copyright Act, the Copyright Royalties Board (the “CRB”) initiated a proceeding in January 2019 to set the rates and terms by which webcasters may perform sound recordings via digital transmission over the internet and make ephemeral reproductions of those recordings during the 2021-2025 rate period under the authority of statutory licenses provided under

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Sections 112 and 114 of the Copyright Act. We filed a petition to participate in the proceeding on behalf of our Sirius XM and Pandora businesses, as did other webcasters including Google Inc. and the National Association of Broadcasters. SoundExchange, a collective organization that collects and distributes digital performance royalties to artists and copyright holders, represents the various copyright owner participants in the proceeding, including Sony Music Entertainment, Universal Music Group and Warner Music Group. Because the proceeding focuses on setting statutory rates for non-interactive online music streaming (commonly identified as “webcasting”), the proceeding will set the rates that our Pandora business pays for music streaming on its free, ad-supported tier and that our Sirius XM business pays for streaming on its subscription internet radio service. This proceeding will not set the rates that we pay for our other music offerings (satellite radio, business establishment services) or that we pay for interactive streaming on our Pandora Plus and Pandora Premium services.

In light of the COVID-19 pandemic, the multi-week hearing before the Copyright Royalty Judges originally scheduled to begin in Washington, DC in March 2020, was postponed and conducted virtually via videoconference between August 4 and September 9, 2020. Subsequent to the hearing, the parties submitted post-trial briefing and reply briefing. Closing arguments were held in November 2020. The final rates proposed for the 2021-2025 period by Sirius XM, Pandora, and the other webcaster participants are below the existing statutory rates. Specifically, Sirius XM and Pandora proposed rates of \$0.0011 per performance for nonsubscription commercial webcasters and \$0.0016 per performance for subscription commercial webcasters. SoundExchange proposed increasing the existing statutory rates to \$0.0028 per performance for nonsubscription commercial webcasters and \$0.0031 per performance for commercial subscription webcasters. Given the delay in the proceeding, the deadline for the CRB to deliver its initial rate determination has been extended to April 15, 2021.

Other Matters. In the ordinary course of business, we are a defendant in various other lawsuits and arbitration proceedings, including derivative actions; actions filed by subscribers, both on behalf of themselves and on a class action basis; former employees; parties to contracts or leases; and owners of patents, trademarks, copyrights or other intellectual property. None of these other matters, in our opinion, is likely to have a material adverse effect on our business, financial condition or results of operations.

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(18) Income Taxes

There is no current U.S. federal income tax provision, as all federal taxable income was offset by utilizing U.S. federal net operating loss carryforwards. The current state income tax provision is primarily related to taxable income in certain states that have suspended or limited the ability to use net operating loss carryforwards or where net operating losses have been fully utilized. Income tax expense is the sum of current income tax plus the change in deferred tax assets and liabilities.

We file a consolidated federal income tax return for all of our wholly owned subsidiaries, including Sirius XM and Pandora. Income tax expense consisted of the following:

	For the Years Ended December 31,		
	2020	2019	2018
Current taxes:			
Federal	\$ —	\$ —	\$ —
State	(61)	(24)	12
Total current taxes	(61)	(24)	12
Deferred taxes:			
Federal	(219)	(229)	(259)
State	(19)	(30)	2
Total deferred taxes	(238)	(259)	(257)
Total income tax expense	\$ (299)	\$ (283)	\$ (245)

The following table presents a reconciliation of the U.S. federal statutory tax rate and our effective tax rate:

	For the Years Ended December 31,		
	2020	2019	2018
Federal tax expense, at statutory rate	21.0 %	21.0 %	21.0 %
State income tax expense, net of federal benefit	4.2 %	3.9 %	3.6 %
Change in valuation allowance	0.7 %	0.3 %	1.0 %
Tax credits	(10.2)%	(2.7)%	(6.8)%
Share-based compensation	(3.5)%	(2.4)%	(3.1)%
Impact of nondeductible compensation	2.6 %	1.6 %	0.7 %
Automatic worthless stock deduction	(3.5)%	— %	— %
Goodwill impairment	53.7 %	— %	— %
Uncertain tax positions	4.4 %	— %	— %
Other, net	0.1 %	1.9 %	0.8 %
Effective tax rate	69.5 %	23.6 %	17.2 %

Our effective tax rate of 69.5% for the year ended December 31, 2020 was primarily impacted by the nondeductible Pandora goodwill impairment charge, partially offset by the recognition of excess tax benefits related to share-based compensation, a benefit related to state and federal research and development and certain other credits and a worthless stock deduction associated with the termination of the Automatic service. Our effective tax rate of 23.6% for the year ended December 31, 2019 was primarily impacted by the recognition of excess tax benefits related to share-based compensation and benefits related to state and federal research and development and certain other credits, partially offset by the impact of nondeductible compensation. Our effective tax rate of 17.2% for the year ended December 31, 2018 was primarily impacted by the recognition of excess tax benefits related to share-based compensation and a benefit related to state and federal research and development credits.

Deferred income taxes are recognized for the tax consequences related to temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and the amounts used for tax purposes at each year-end, based on enacted tax laws and statutory tax rates applicable to the periods in which the differences are expected to affect taxable

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income. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences can be carried forward under tax law. Our evaluation of the realizability of deferred tax assets considers both positive and negative evidence, including historical financial performance, scheduled reversal of deferred tax assets and liabilities, projected taxable income and tax planning strategies. The weight given to the potential effects of positive and negative evidence is based on the extent to which it can be objectively verified. A valuation allowance is recognized when, based on the weight of all available evidence, it is considered more likely than not that all, or some portion, of the deferred tax assets will not be realized.

The tax effects of temporary differences that give rise to significant portions of the deferred tax assets and deferred tax liabilities, shown before jurisdictional netting, are presented below:

	For the Years Ended December 31,	
	2020	2019
Deferred tax assets:		
Net operating loss carryforwards and tax credits	\$ 745	\$ 1,010
Deferred revenue	62	81
Accrued bonus	29	34
Expensed costs capitalized for tax	11	14
Investments	21	22
Stock based compensation	74	72
Operating lease liability	118	126
Total deferred tax assets	1,060	1,359
Deferred tax liabilities:		
Depreciation of property and equipment	(237)	(228)
FCC license	(521)	(519)
Other intangible assets	(292)	(340)
Right of use asset	(106)	(116)
Other	(5)	(3)
Total deferred tax liabilities	(1,161)	(1,206)
Net deferred tax assets before valuation allowance	(101)	153
Valuation allowance	(54)	(70)
Total net deferred tax (liability) asset	\$ (155)	\$ 83

Net operating loss carryforwards and tax credits decreased as a result of the utilization of net operating losses related to current year taxable income. For the years ended December 31, 2020 and 2019, we recorded \$44 and \$33 for state and federal tax credits, respectively. As of December 31, 2020, our gross federal net operating loss carryforwards were approximately \$1,354. We expect to utilize a majority of our federal income tax credits, which consist of research and development tax credits, refined coal credits and foreign tax credits, by December 31, 2022.

As of December 31, 2020 and 2019, we had a valuation allowance related to deferred tax assets of \$54 and \$70, respectively, which were not likely to be realized due to the timing of certain federal and state net operating loss limitations. During the year ended December 31, 2020, our allowance decreased primarily due to the expiration of unused federal research and development credit carryforwards.

ASC 740, *Income Taxes*, requires a company to first determine whether it is more likely than not that a tax position will be sustained based on its technical merits as of the reporting date, assuming that taxing authorities will examine the position and have full knowledge of all relevant information. A tax position that meets this more likely than not threshold is then measured and recognized at the largest amount of benefit that is greater than fifty percent likely to be realized upon effective settlement with a taxing authority. If the tax position is not more likely than not to be sustained, the gross amount of the unrecognized tax position will not be recorded in the financial statements but will be shown in tabular format within the uncertain income tax positions. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs due to the

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following conditions: (1) the tax position is “more likely than not” to be sustained, (2) the tax position, amount, and/or timing is ultimately settled through negotiation or litigation, or (3) the statute of limitations for the tax position has expired. A number of years may elapse before an uncertain tax position is effectively settled or until there is a lapse in the applicable statute of limitations. We record interest and penalties related to uncertain tax positions in Income tax expense in our consolidated statements of comprehensive income.

As of December 31, 2020 and 2019, we had unrecognized tax benefits and uncertain tax positions of \$433 and \$406, respectively. If recognized, \$310 of unrecognized tax benefits would affect our effective tax rate. Uncertain tax positions are recognized in Other long-term liabilities which, as of December 31, 2020 and 2019, were \$30 and \$12, respectively, including accrued interest.

We have state income tax audits pending. We do not expect the ultimate outcome of these audits to have a material adverse effect on our financial position or results of operations. We also do not currently anticipate that our existing reserves related to uncertain tax positions as of December 31, 2020 will significantly increase or decrease during the year ending December 31, 2021. Various events could cause our current expectations to change. Should our position with respect to the majority of these uncertain tax positions be upheld, the effect would be recorded in our consolidated statements of comprehensive income as part of the income tax provision. We recorded interest expense of \$6 and \$2 for the years ended December 31, 2020 and 2019, respectively, related to unrecognized tax benefits.

Changes in our unrecognized tax benefits and uncertain tax positions from January 1 through December 31 are set forth below:

	2020	2019
Balance, beginning of year	\$ 406	\$ 387
Increases in tax positions for prior years	14	—
Increases in tax positions for current year	20	31
Decreases in tax positions for prior years	(7)	(12)
Balance, end of year	<u>\$ 433</u>	<u>\$ 406</u>

(19) Segments and Geographic Information

In accordance with FASB ASC Topic 280, *Segment Reporting*, we disaggregate our operations into two reportable segments: Sirius XM and Pandora. The financial results of these segments are utilized by the chief operating decision maker, who is our Chief Executive Officer, for evaluating segment performance and allocating resources. We report our segment information based on the "management" approach. The management approach designates the internal reporting used by management for making decisions and assessing performance as the source of our reportable segments. For additional information on our segments refer to Note 1.

Segment results include the revenues and cost of services which are directly attributable to each segment. There are no indirect revenues or costs incurred that are allocated to the segments. There are planned intersegment advertising campaigns which will be eliminated. We had less than \$1 of intersegment advertising revenue during the years ended December 31, 2020 and 2019.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(Dollars and shares in millions, except per share amounts)

Segment revenue and gross profit were as follows during the periods presented:

	For the Year Ended December 31, 2020		
	Sirius XM	Pandora	Total
Revenue			
Subscriber revenue	\$ 5,857	\$ 515	\$ 6,372
Advertising revenue	157	1,183	1,340
Equipment revenue	173	—	173
Other revenue	155	—	155
Total revenue	6,342	1,698	8,040
Cost of services ^(a)	(2,430)	(1,105)	(3,535)
Segment gross profit	<u>\$ 3,912</u>	<u>\$ 593</u>	<u>\$ 4,505</u>

The reconciliation between reportable segment gross profit to consolidated income before income tax is as follows:

	For the Year Ended December 31, 2020
Segment Gross Profit	\$ 4,505
Subscriber acquisition costs	(362)
Sales and marketing ^(a)	(889)
Engineering, design and development ^(a)	(220)
General and administrative ^(a)	(443)
Depreciation and amortization	(506)
Share-based payment expense	(223)
Acquisition and restructuring costs	(28)
Impairment charges	(976)
Total other (expense) income	(428)
Consolidated income before income taxes	<u>\$ 430</u>

(a) Share-based payment expense of \$44 related to cost of services, \$68 related to sales and marketing, \$43 related to engineering, design and development and \$68 related to general and administrative has been excluded for the year ended December 31, 2020.

	For the Year Ended December 31, 2019		
	Sirius XM	Pandora	Total
Revenue			
Subscriber revenue	\$ 5,644	\$ 476	\$ 6,120
Advertising revenue	205	1,131	1,336
Equipment revenue	173	—	173
Other revenue	165	—	165
Total revenue	6,187	1,607	7,794
Cost of services ^(b)	(2,378)	(1,005)	(3,383)
Segment gross profit	<u>\$ 3,809</u>	<u>\$ 602</u>	<u>\$ 4,411</u>

The reconciliation between reportable segment gross profit to consolidated income before income tax is as follows:

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(Dollars and shares in millions, except per share amounts)

	For the Year Ended December 31, 2019
Segment Gross Profit	\$ 4,411
Subscriber acquisition costs	(427)
Sales and marketing ^(b)	(859)
Engineering, design and development ^(b)	(231)
General and administrative ^(b)	(466)
Depreciation and amortization	(468)
Share-based payment expense	(229)
Acquisition and other related costs	(84)
Total other (expense) income	(450)
Consolidated income before income taxes	\$ 1,197

(b) Share-based payment expense of \$44 related to cost of services, \$78 related to sales and marketing, \$49 related to engineering, design and development and \$58 related to general and administrative has been excluded for the year ended December 31, 2019.

A measure of segment assets is not currently provided to the Chief Executive Officer and has therefore not been provided.

As of December 31, 2020, long-lived assets were predominantly located in the United States. No individual foreign country represented a material portion of our consolidated revenue during the year ended December 31, 2020.

(20) Subsequent Events

Capital Return Program

For the period from January 1, 2021 to January 29, 2021 we repurchased 33 shares of our common stock on the open market for an aggregate purchase price of \$203, including fees and commissions.

On January 28, 2021, our board of directors declared a quarterly dividend on our common stock in the amount of \$0.014641 per share of common stock payable on February 26, 2021 to stockholders of record as of the close of business on February 10, 2021.

Tax Sharing Agreement

On February 1, 2021, Holdings entered into a tax sharing agreement with Liberty Media governing the allocation of consolidated U.S. income tax liabilities and setting forth agreements with respect to other tax matters. The tax sharing agreement was negotiated and approved by a special committee of Holdings' board of directors, all of whom are independent of Liberty Media.

Under the Internal Revenue Code, two corporations may form a consolidated tax group, and file a consolidated federal income tax return, if one corporation owns stock representing at least 80% of the voting power and value of the outstanding capital stock of the other corporation. As of December 31, 2020, Liberty Media beneficially owned, directly and indirectly, approximately 76% of the outstanding shares of our common stock. We expect that Liberty Media could beneficially own, directly and indirectly, over 80% of the outstanding shares of our common stock at some time in 2021, and Holdings and Liberty Media would then become members of the same consolidated tax group. Should that happen, the tax sharing agreement would govern certain matters related to the resulting consolidated federal income tax returns, as well as state and local returns filed on a consolidated or combined basis.

The tax sharing agreement contains provisions that Holdings believes are customary for tax sharing agreements between members of a consolidated group.

SXM-7 Satellite

We have entered into agreements for the design, construction and launch of two additional satellites, SXM-7 and SXM-8. On December 13, 2020, SXM-7 was successfully launched. In-orbit testing of SXM-7 began on January 4, 2021.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS - Continued
(Dollars and shares in millions, except per share amounts)

During in-orbit testing of SXM-7, events occurred which have caused failures of certain SXM-7 payload units. An evaluation of SXM-7 is underway. The full extent of the damage to SXM-7 is not yet known.

We do not expect our satellite radio service to be impacted by these adverse SXM-7 events. Our XM-3 and XM-4 satellites continue to operate and are expected to support our satellite radio service for several years. In addition, our XM-5 satellite remains available as an in-orbit spare. Construction of our SXM-8 satellite is underway and that satellite is expected to be launched into a geostationary orbit in 2021.

We have procured insurance for SXM-7 and SXM-8 to cover the risks associated with each satellite's launch and first year of in-orbit operation. The aggregate coverage under those insurance policies with respect to SXM-7 is \$225. We have notified the underwriters of these policies of a potential claim with respect to SXM-7. As of December 31, 2020, we have \$220 capitalized in construction in progress related to SXM-7.

(21) Quarterly Financial Data--Unaudited

Our quarterly results of operations are summarized below:

	For the Three Months Ended			
	March 31	June 30	September 30	December 31
2020				
Total revenue	\$ 1,952	\$ 1,874	\$ 2,025	\$ 2,189
Cost of services	\$ (850)	\$ (866)	\$ (895)	\$ (968)
Income from operations	\$ 468	\$ 415	\$ 478	\$ (503)
Net income	\$ 293	\$ 243	\$ 272	\$ (677)
Net income per common share--basic ⁽¹⁾	\$ 0.07	\$ 0.06	\$ 0.06	\$ (0.16)
Net income per common share--diluted ⁽¹⁾	\$ 0.07	\$ 0.05	\$ 0.06	\$ (0.16)
2019				
Total revenue	\$ 1,744	\$ 1,977	\$ 2,011	\$ 2,062
Cost of services	\$ (748)	\$ (882)	\$ (881)	\$ (916)
Income from operations	\$ 333	\$ 439	\$ 476	\$ 399
Net income	\$ 162	\$ 263	\$ 246	\$ 243
Net income per common share--basic ⁽¹⁾	\$ 0.04	\$ 0.06	\$ 0.06	\$ 0.05
Net income per common share--diluted ⁽¹⁾	\$ 0.03	\$ 0.06	\$ 0.05	\$ 0.05

(1) Basic and Diluted earnings per share are computed quarterly and the sum of the quarterly calculation may not necessarily agree to the net income per share for the year due to rounding.

SIRIUS XM HOLDINGS INC. AND SUBSIDIARIES
Schedule II - Schedule of Valuation and Qualifying Accounts

(in millions)

Description	Balance January 1,	Charged to Expenses	Write-offs/ Payments/ Other	Balance December 31,
2020				
Allowance for doubtful accounts	\$ 14	60	(59)	\$ 15
Deferred tax assets—valuation allowance	\$ 70	3	(19)	\$ 54
2019				
Allowance for doubtful accounts	\$ 7	53	(46)	\$ 14
Deferred tax assets—valuation allowance	\$ 66	4	—	\$ 70
2018				
Allowance for doubtful accounts	\$ 10	51	(54)	\$ 7
Deferred tax assets—valuation allowance	\$ 53	13	—	\$ 66

AGREEMENT AND RELEASE

This Agreement and Release, dated as of September 21, 2020 (this "Agreement"), is entered into by and between DAVID J. FREAR (the "Executive") and SIRIUS XM RADIO INC. (the "Company").

The purpose of this Agreement is to completely and finally settle, resolve, and forever extinguish all obligations, disputes and differences arising out of the Executive's employment with and separation from the Company.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained in this Agreement, the Executive and the Company hereby agree as follows:

1. The Executive's employment with the Company was terminated as of September 14, 2020 (the "Termination Date").
 2. The Company and the Executive agree that the Executive shall be provided severance pay and other benefits, less all legally required and authorized deductions, in accordance with the terms of Section 6(f)(ii) of the Employment Agreement between the Executive and the Company, dated as of June 1, 2018 (the "Employment Agreement"); provided that no such severance benefits shall be paid or provided if the Executive revokes this Agreement pursuant to Section 4 below, except for the Accrued Payments and Benefits. In addition, the Company will pay the Executive a pro-rated bonus for the year ending December 31, 2020 (the amount of which shall be based on actual achievement of applicable performance criteria by the Company, and based on the number of days the Executive was employed by the Company during 2020), payable in 2021 when annual bonuses are normally paid to other executive officers of the Company. The severance pay and other benefits, excluding all legally required and authorized deductions, payable in accordance with the terms of Section 6(f)(ii) of the Employment Agreement is set forth on Exhibit A to this Agreement. The Executive acknowledges and agrees that he is entering into this Agreement in consideration of such severance benefits and the Company's agreements set forth herein. All vacation pay earned and unused as of the Termination Date will be paid to the Executive within thirty (30) days following the Termination Date to the extent required by law. Except as set forth above, the Executive will not be eligible for any other compensation or benefits following the Termination Date, other than the rights, if any, granted to the Executive under the terms of the stock option, restricted stock, and performance-based restricted stock award agreements described in Section 14 of this Agreement.
 3. The Executive, for himself, and for his heirs, attorneys, agents, spouse and assigns, hereby waives, releases and forever discharges Sirius XM Holdings Inc. ("Holdings"), the Company and their respective parents, subsidiaries, and affiliated companies and its and their predecessors, successors, and assigns, if any, as well as all of their respective officers, directors and employees, stockholders, agents, servants, representatives, and attorneys, and the predecessors, successors, heirs and assigns of each of them (collectively "Released Parties"), from any and all grievances, claims, demands, causes of action, obligations, damages and/or liabilities of any nature whatsoever, whether known or unknown, suspected or claimed, which the Executive ever had, now has, or claims to have against the Released Parties, by reason of any
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act or omission occurring before the Executive's execution of this Agreement, including, without limiting the generality of the foregoing, (a) any act, cause, matter or thing stated, claimed or alleged, or which was or which could have been alleged in any manner against the Released Parties prior to the execution of this Agreement and (b) all claims for any payment under the Employment Agreement, and (c) all claims for discrimination, harassment, hostile work environment and/or retaliation, under Title VII of the Civil Rights Act of 1964, as amended, the Civil Rights Act of 1991, as amended, the New York State Human Rights Law, as amended, the Age Discrimination in Employment Act ("ADEA") and the Older Workers Benefit Protection Act ("OWBPA"), and the Americans with Disabilities Act of 1990, as well as any and all claims, demands, causes of action, charges, obligations and liabilities arising out of any alleged contract of employment, whether written, oral, express or implied, or any other federal, state or local civil or human rights or labor law, ordinances, rules, regulations, guidelines, statutes, common law, contract or tort law, arising out of or relating to the Executive's employment with and/or separation from the Company, including but not limited to the termination of his employment on the Termination Date, and/or any events occurring prior to the execution of this Agreement; provided that nothing contained in this Agreement shall affect the Executive's rights (i) to indemnification from the Company as provided in the Employment Agreement or otherwise; (ii) to coverage under the Company's directors and officers liability insurance policies; (iii) to vested benefits which by their express terms entitle the Executive to benefits beyond the Executive's separation from employment (including, without limitation, the Executive's rights under Section 6(f) of the Employment Agreement); and (iv) under this Agreement.

4. Pursuant to the OWBPA, the Executive understands and specifically acknowledges that by executing this Agreement he is waiving all rights or claims that he has or may have under ADEA (which includes, but is not limited to, any claim that any Released Party discriminated against the Executive on account of the Executive's age), including, without limitation, those arising out of or relating to the Executive's employment with and/or separation from the Company, the termination of his employment on the Termination Date, and/or any events occurring prior to the execution of this Agreement. In accordance with the ADEA, the Company specifically hereby advises the Executive that: (1) he may and should consult an attorney before signing this Agreement, (2) he has twenty-one (21) days following receipt of this Agreement on September 14, 2020 to consider this Agreement, and (3) he has seven (7) days after signing this Agreement to revoke this Agreement.

5. Notwithstanding the above, nothing in this Agreement prevents or precludes the Executive from (a) challenging or seeking a determination of the validity of this Agreement under the ADEA; or (b) filing an administrative charge of discrimination under any applicable statute or participating in any investigation or proceeding conducted by a governmental agency. Section 7(c) of the Employment Agreement is hereby incorporated by reference in its entirety.

6. The Executive acknowledges that he may hereafter discover claims or facts in addition to or different from those which he now knows or believes to exist with respect to the subject matter of this Agreement which, if known or suspected at the time the Executive executes this Agreement, may have materially affected this Agreement and the Executive's

decision to enter into it. Nevertheless, except to the extent expressly not waived as part of this Agreement, the Executive hereby waives any right, claim or cause of action that might arise as a result of such different or additional claims or facts.

7. This release does not affect or impair the Executive's rights with respect to workman's compensation or similar claims under applicable law or any claims under medical, dental, disability, life or other insurance arising prior to the date hereof.

8. The Executive warrants that he has not made any assignment, transfer, conveyance or alienation of any potential claim, cause of action, or any right of any kind whatsoever, including but not limited to, potential claims and remedies for discrimination, harassment, retaliation, or wrongful termination, and that no other person or entity of any kind has had, or now has, any financial or other interest in any of the demands, obligations, causes of action, debts, liabilities, rights, contracts, damages, costs, expenses, losses or claims which could have been asserted by the Executive against the Company or any other Released Party.

9. The Executive shall not make any disparaging remarks about any of Holdings, the Company, Liberty Media Corporation or any of their directors, officers, agents or employees (collectively, the "Nondisparagement Group") and/or any of their respective practices or products; provided that the Executive may provide truthful and accurate facts and opinions about any member of the Nondisparagement Group where required to do so by law and may respond to disparaging remarks about the Executive made by any member of the Nondisparagement Group. The Company and Holdings shall not, and they shall instruct their officers not to, make any disparaging remarks about the Executive; provided that any member of the Nondisparagement Group may provide truthful and accurate facts and opinions about the Executive where required to do so by law and may respond to disparaging remarks made by the Executive or the Executive's agents or family members.

10. The parties expressly agree that this Agreement shall not be construed as an admission by any of the parties of any violation, liability or wrongdoing, and shall not be admissible in any proceeding as evidence of or an admission by any party of any violation or wrongdoing. The Company expressly denies any violation of any federal, state, or local statute, ordinance, rule, regulation, order, common law or other law in connection with the employment and termination of employment of the Executive.

11. In the event of a dispute concerning the enforcement of this Agreement, the finder of fact shall have the discretion to award the prevailing party reasonable costs and attorneys' fees incurred in bringing or defending an action, and shall award such costs and fees to the Executive in the event the Executive prevails on the merits of any action brought hereunder. All other requests for relief or damages awards shall be governed by Sections 20(a) and 20(b) of the Employment Agreement.

12. The parties declare and represent that no promise, inducement, or agreement not expressed herein has been made to them.

13. This Agreement in all respects shall be interpreted, enforced and governed under the laws of the State of New York and any applicable federal laws relating to the subject matter of this Agreement. The language of all parts of this Agreement shall in all cases be construed as a whole, according to its fair meaning, and not strictly for or against any of the parties. This Agreement shall be construed as if jointly prepared by the Executive and the Company. Any uncertainty or ambiguity shall not be interpreted against any one party.

14. This Agreement, the Employment Agreement, the Stock Option Agreement, dated July 2, 2015, between the Executive and Holdings, the Stock Option Agreement, dated June 1, 2018, between the Executive and Holdings, the Restricted Stock Unit Agreement, dated June 1, 2018, between the Executive and Holdings and the Performance-Based Restricted Stock Unit Agreement, dated June 1, 2018, between the Executive and Holdings contain the entire agreement of the parties as to the subject matter hereof. No modification or waiver of any of the provisions of this Agreement shall be valid and enforceable unless such modification or waiver is in writing and signed by the party to be charged, and unless otherwise stated therein, no such modification or waiver shall constitute a modification or waiver of any other provision of this Agreement (whether or not similar) or constitute a continuing waiver.

15. The Executive and the Company represent that they have been afforded a reasonable period of time within which to consider the terms of this Agreement (including but not limited to the foregoing release), that they have read this Agreement, and they are fully aware of its legal effects. The Executive and the Company further represent and warrant that they enter into this Agreement knowingly and voluntarily, without any mistake, duress, coercion or undue influence, and that they have been provided the opportunity to review this Agreement with counsel of their own choosing. In making this Agreement, each party relies upon his or its own judgment, belief and knowledge, and has not been influenced in any way by any representations or statements not set forth herein regarding the contents hereof by the entities who are hereby released, or by anyone representing them.

16. This Agreement may be executed in counterparts, all of which shall be considered one and the same agreement, and shall become effective when one or more counterparts have been signed by each of the parties and delivered to the other parties. The parties further agree that delivery of an executed counterpart by facsimile shall be as effective as delivery of an originally executed counterpart. This Agreement shall be of no force or effect until executed by all the signatories.

17. The Executive warrants that he will return to the Company all software, computers, computer-related equipment, keys and all materials (including, without limitation, copies) obtained or created by the Executive in the course of his employment with the Company on or before the Termination Date; provided that the Executive will be able to keep his cell phones, personal computers, personal contact list and the like so long as any confidential information is removed from such items.

18. Any existing obligations the Executive has with respect to confidentiality, nonsolicitation of clients, nonsolicitation of employees and noncompetition, in each case with the

Company or its affiliates, shall remain in full force and effect, including, but not limited to, Sections 7 and 8 of the Employment Agreement.

19. Any disputes arising from or relating to this Agreement shall be subject to arbitration pursuant to Section 20 of the Employment Agreement.

20. Should any provision of this Agreement be declared or be determined by a forum with competent jurisdiction to be illegal or invalid, the validity of the remaining parts, terms or provisions shall not be affected thereby and said illegal or invalid part, term, or provision shall be deemed not to be a part of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the respective dates set forth below.

SIRIUS XM RADIO INC.

Dated: September 21, 2020

By: /s/ Patrick Donnelly
Patrick Donnelly
Executive Vice President, General Counsel and
Secretary

Dated: September 21, 2020

/s/ David J. Frear
David J. Frear

Exhibit A

Benefits under Section 6(f)(ii) of the Employment Agreement

- Any earned but unpaid Base Salary and any business expenses incurred but not reimbursed, in each case, prior to the Termination Date, which amount was paid on Friday, September 18, 2020 as part of the Company's regular payroll
- Vested benefits under other benefit or incentive plans or programs in accordance with the terms of such plans and programs
- \$4,150,000, representing a lump sum amount equal to the sum of (x) the Executive's annualized Base Salary then in effect (\$1,400,000) and (y) an amount in cash equal to the Bonus last paid (\$2,750,000)
- The continuation for eighteen (18) months, at the Company's expense (by direct payment, not reimbursement to the Executive), of medical and dental benefits in a manner that will not be taxable to the Executive
- Life insurance benefits on the same terms as provided by the Company for active employees for one (1) year following the Termination Date; provided that (I) the Company's cost for such life insurance shall not exceed twice the amount that the Company would have paid to provide such life insurance benefit to the Executive if he were an active employee on the Termination Date, and (II) such life insurance coverage shall cease if the Executive obtains a life insurance benefit from another employer during the remainder of such one (1)-year period.

CONSULTING AGREEMENT

This Consulting Agreement (this "Agreement") by and between James E. Meyer ("Consultant") and Sirius XM Radio Inc. (the "Company") (collectively referred to as the "Parties"), is effective as of January 1, 2021 (the "Effective Date").

RECITALS

WHEREAS, prior to the Effective Date, Consultant was employed by the Company as its Chief Executive Officer pursuant to the Employment Agreement between the Parties, dated as of October 10, 2019 (the "Employment Agreement"); and

WHEREAS, the Company wishes to retain Consultant to perform consulting services and fulfill certain related duties and obligations under the terms and conditions of this Agreement;

NOW THEREFORE, for and in consideration of the mutual promises and covenants set forth herein, the Parties hereby agree as follows:

1. Consulting Services. (a) During the term of this Agreement, Consultant will render consulting services related to his specialized areas of knowledge, experience and expertise (including, but not limited to, assisting with the transition of the executive officer of the Company and Sirius XM Holdings Inc. ("Holdings"), meeting with Company clients and customers, and such other services as may be reasonably requested by the Chairman of the Board of Directors of Holdings or the Chief Executive Officer of the Company or Holdings from time to time). Consultant will have no authority to bind the Company, Holdings or any of their subsidiaries or affiliates, nor to act on their behalf, nor to make decisions for the Company, Holdings or any of their subsidiaries or affiliates. The Company, being ultimately interested only in the results of Consultant's performance of the services set forth in this Agreement, will give only broad direction to Consultant. Consultant will determine the method, details and means of performing the services contemplated by this Agreement. Notwithstanding the foregoing, the level of bona fide services Consultant performs for the Company hereunder will not exceed 20% of the average level of bona fide services Consultant performed during the 36-month period preceding the Effective Date.

(b) This Agreement will commence on the Effective Date and will continue until, and will end upon, the three (3)-year anniversary of the Effective Date.

(c) In consideration of Consultant's agreement to perform and his performance of the consulting services, during the term of this Agreement, the Company will pay Consultant \$3,200,000 per year, payable in accordance with the Company's regular payroll practices (but in no event less frequently than monthly). During the term of this Agreement, Consultant and his dependents will be eligible to participate in the Company's medical, dental and life insurance plans, subject to the terms and conditions of such plans; provided that, in the event the Company determines that Consultant and his dependents may not participate in the Company's applicable

medical and dental plan(s), (i) the Company will pay to Consultant a lump sum cash amount, on the sixtieth (60th) day following such determination, equal to the costs of continuation of medical and dental insurance coverage for Consultant and his dependents under the Company's medical and dental insurance plan(s) in effect on the date of such determination from the date of such determination through the eighteen (18)-month anniversary of the Effective Date (less any amounts payable by the Company under the Employment Agreement in respect of medical and/or dental insurance coverage during any portion of such period) and (ii) thereafter Consultant will have the option to continue such benefits pursuant to the Consolidated Omnibus Budget Reconciliation Act of 1985 ("COBRA"), to the extent permitted by law and the terms and conditions of the applicable plan(s), through the three (3)-year anniversary of the Effective Date, at the Company's expense. In the event that, during the three (3)-year period following the Effective Date, Consultant and his dependents are not eligible to participate in the Company's medical, dental or life insurance plan(s), and also not eligible for such coverage under COBRA, the Company will pay Consultant a monthly amount equal to the actual monthly costs to Consultant to obtain medical, dental and/or life insurance benefits substantially similar to those benefits that would have been provided to Consultant and his dependents under the Company's plans through the third (3rd) anniversary of the Effective Date (less any amounts payable by the Company under the Employment Agreement in respect of medical, dental and/or life insurance coverage during any portion of such period); provided that (1) the amount of such monthly payments will not exceed twice the amount that the Company would have paid to provide such benefit to Consultant and his dependents if he were an active employee on the Effective Date, (2) such payments will cease if Consultant obtains such benefit from another employer following the eighteen (18)-month anniversary of the Effective Date, and (3) any such payments will be reduced by the amount of any lump sum payment made in accordance with this Section 1(c).

(d) Upon reasonable documentation of expenses from Consultant, the Company will reimburse Consultant in accordance with the Company's expense reimbursement policies for all reasonable business expenses incurred by Consultant in the performance of Consultant's services under this Agreement. Notwithstanding the foregoing, any expense in excess of \$10,000 to be incurred by Consultant in connection with this Agreement will require the prior written approval of the Company.

(e) Consultant hereby assigns exclusively to the Company the ownership of all work product prepared or provided by Consultant to the Company or otherwise generated as a result of Consultant's provision of consulting services hereunder, along with all intellectual property rights (including, without limitation, all copyrights) related thereto.

(f) The Company acknowledges that Consultant's services hereunder will be provided by Consultant on a nonexclusive basis, and that Consultant may engage in any other business activities as long as such activities (i) do not interfere with or harm the operations of the Company, Holdings or any of their subsidiaries or affiliates; (ii) do not materially interfere with Consultant's obligations to the Company under this Agreement; and (iii) are consistent with the Consultant's continuing obligations to the Company and Holdings which, under the Employment Agreement, survive his termination of employment.

2. Prior Agreement Restrictive Covenants. Consultant warrants and represents that he has complied, and by this Agreement agrees that he will continue to comply, with all applicable terms of the Employment Agreement. The Parties agree and acknowledge that this Agreement supplements the Employment Agreement to the extent set forth herein and that in all other respects the applicable terms of the Employment Agreement remain in full force and effect. Consultant acknowledges and agrees that the restrictive covenant provisions set forth in the Employment Agreement remain in full force and effect to the fullest extent provided therein.

3. Independent Contractor. Consultant warrants that, during the term of this Agreement, Consultant will at all times be and remain an independent contractor, and Consultant will not be considered the agent, partner, principal, employee or servant of the Company, Holdings or any of their subsidiaries or affiliates. Consultant will be free to exercise Consultant's own judgment as to the manner and method of providing the consulting services to the Company, subject to applicable laws and requirements reasonably imposed by the Company. Consultant will at all times indemnify, hold harmless and defend the Company for all liabilities, losses, damages, costs (including, without limitation, legal costs and other professional fees on an indemnity basis) and expenses of whatsoever nature incurred or suffered by the Company, Holdings or any of their subsidiaries or affiliates arising from: (a) any income taxes or other taxes due on amounts paid to or on behalf of Consultant by the Company, or any other required remittances to any governmental entities, agencies or programs (including, without limitation, any interest, penalties or gross-ups thereon) arising in respect of Consultant for which the Company, Holdings or any of their subsidiaries or affiliates is called upon to account to the relevant taxing authority; and (b) any liability for any employment-related claim or any claim based on worker status brought by Consultant against the Company, Holdings or any of their subsidiaries or affiliates arising out of or in connection with Consultant's provision of services pursuant to this Agreement. Consultant hereby acknowledges that Consultant will have no recourse against the Company or Holdings (or any of their directors, officers, personnel, representatives, agents, successors, subsidiaries or affiliates) for any such liability, loss, damage, cost or expense.

4. Indemnification. The Company will indemnify Consultant during the term of this Agreement and thereafter to the full extent permitted by law as if he were an officer of the Company for all claims related to or arising out of his serving as a consultant of the Company hereunder; provided that in no event will Consultant be indemnified pursuant to this Section 4 in connection with any claims, causes of action, demands, fees or liabilities of any kind whatsoever, arising out of or relating to (a) the enforcement of the Company's rights hereunder or with respect to the Employment Agreement or any agreements identified in the Employment Agreement or (b) Consultant's illegal conduct, fraud (including, without limitation, undiscovered financial fraud), embezzlement or other willful misconduct.

5. Early Termination of Agreement. In the event this Agreement is terminated prior to its expiration due to Consultant's death or disability or by the Company without Cause (as defined in the Employment Agreement to the extent applicable) or by Consultant after a material breach of this Agreement by the Company, the Company will continue to pay Consultant, without set-off, counterclaim or other withholding, the consulting fee through the originally

scheduled expiration date of this Agreement, and will continue to provide Consultant and his dependents with COBRA (or other medical, dental and/or life insurance benefits) consistent with Section 1(c) through the originally scheduled expiration date of this Agreement.

6. Survival. Sections 2, 3 and 4 will survive and continue in full force in accordance with the terms thereof, notwithstanding any termination of this Agreement.

7. Severability. The Parties agree that if any provision of this Agreement is declared or determined by any court of competent jurisdiction to be illegal, invalid or unenforceable, the legality, validity and enforceability of the remaining parts, terms or provisions will not be affected thereby, and said illegal, unenforceable or invalid part, term or provision will be deemed not to be part of this Agreement.

8. Entire Agreement; Amendment. Except as otherwise set forth herein, this Agreement represents the entire agreement and understanding between Consultant and the Company concerning the specific subject matter of this Agreement and supersedes and replaces any and all prior agreements and understandings between Consultant and the Company concerning the specific subject matter of this Agreement. Any modification or amendment of this Agreement, or additional obligation assumed in connection with this Agreement, will be effective only if placed in writing and signed by both Parties or by authorized representatives of each of the Parties.

9. Captions; Drafter Protection. This Agreement's headings and captions are provided for reference and convenience only, and will not be employed in the construction of this Agreement. It is agreed and understood that the general rule pertaining to construction of contracts, that ambiguities are to be construed against the drafter, will not apply to this Agreement.

10. Counterparts. This Agreement may be executed in counterparts, and each counterpart will have the same force and effect as an original and will constitute an effective, binding agreement on the part of each of the undersigned.

11. Binding Effect; Assignment. Neither this Agreement, nor any rights or benefits hereunder, may be assigned, delegated, transferred, pledged or hypothecated without the prior written consent of the Parties, except that the Company may assign this Agreement to any assignee or successor to substantially all of the business or assets of the Company or Holdings or any direct or indirect subsidiary of either of them without prior written consent of Consultant. In the event of Consultant's death, any amounts owed to Consultant hereunder shall instead be paid to Consultant's designated beneficiary (or, if none, to Consultant's estate).

12. No Reliance. Consultant acknowledges and agrees that he has not relied upon any advice whatsoever from the Company as to any provision of this Agreement, including, but not limited to, the taxability, whether pursuant to federal, state, local or foreign income tax statutes or regulations, or otherwise, of the payments made, action taken, or consideration transferred hereunder and that Consultant will be solely liable for all tax obligations arising therefrom.

13. Governing Law; Arbitration. This Agreement will be governed by and construed and enforced according to the laws of the State of New York. Any disputes arising from or relating to this Agreement shall be subject to arbitration pursuant to Section 21 of the Employment Agreement (which provisions shall be deemed expanded to apply to any dispute concerning or relating to Consultant's service with the Company or Holdings, or the termination of Consultant's service).

14. No Waiver. The failure of any party to insist upon the performance of any of the terms and conditions in this Agreement, or the failure to prosecute any breach of any of the terms and conditions of this Agreement, will not be construed thereafter as a waiver of any such terms or conditions. This entire Agreement will remain in full force and effect as if no such forbearance or failure of performance had occurred.

15. Warranties. Consultant warrants that he will not deliver or disclose to the Company information which infringes any property right of any third party relating to proprietary or trade secret information or copyrights. Consultant warrants that he is not a party to any other existing agreement which would prevent him from entering into this Agreement or which would adversely affect this Agreement, and agrees that he will not, during the term of this Agreement, enter into any such agreement.

16. Confidentiality. Unless otherwise required by law or regulation, or as necessary to perform his services for the Company hereunder, Consultant agrees to maintain absolute confidentiality of the services performed by Consultant hereunder and the information, reports and other work product produced by, or made available to, Consultant in connection with this Agreement or his services hereunder.

17. Voluntary Execution. Consultant acknowledges that he is executing this Agreement voluntarily and of his own free will. Consultant further acknowledges that he has read, fully understands and intends to be bound by the terms of this Agreement, and has had an opportunity to carefully review it with his attorney prior to executing it or warrants that he has chosen not to have his attorney review this Agreement.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the Effective Date.

SIRIUS XM RADIO INC.

By: /s/ Patrick Donnelly
Patrick Donnelly
Executive Vice President, General Counsel and
Secretary

/s/ James E. Meyer
James E. Meyer

TAX SHARING AGREEMENT

This Tax Sharing Agreement (this “Agreement”) is made and entered into as of February 1, 2021, by and between **LIBERTY MEDIA CORPORATION**, a Delaware corporation (“LMC”), for and on behalf of itself and each LMC Affiliate (as defined below), and **SIRIUS XM HOLDINGS INC.**, a Delaware corporation (the “Company”), for and on behalf of itself and each Company Affiliate (as defined below).

WITNESSETH:

WHEREAS, LMC and the Company are expected to become a part of an Affiliated Group (as defined below), and such Affiliated Group expects to file a consolidated federal income Tax Return in accordance with Section 1501 of the Code (and certain consolidated state and local income Tax Returns) for the Tax year during which the Company becomes a Member (as defined below) of such Affiliated Group and for subsequent Tax years; and

WHEREAS, it is deemed equitable and desirable that the parties hereto enter into this Agreement to set forth (i) the general principles under which they will calculate, allocate, and share consolidated federal, state and local income Tax liabilities (as determined under Treasury Regulation Section 1.1502-2 and any analogous provisions of state or local Tax Law) of the Affiliated Group as between the LMC Group, on the one hand, and the Company Group, on the other hand, (ii) the manner in which they will prepare and file various Tax Returns (as defined below) and meet certain other reporting obligations, (iii) the method for reimbursing LMC for payment of the Company Group’s allocable share of consolidated federal, state and local income Tax liabilities and compensating the Company for use of a Tax Asset (as defined below) of any Member of the Company Group in arriving at such consolidated federal, state and local income Tax liabilities, and (iv) the provisions governing various related matters.

NOW, THEREFORE, the parties signatory hereto agree as follows:

1. **Definitions.** For purposes of this Agreement, the following terms shall be defined as follows:

(a) “Affiliated Group” shall mean, for any federal, state, or local Tax jurisdiction, the consolidated, combined or unitary group that files a Joint Return.

(b) “Agreement” shall have the meaning set forth in the first paragraph hereof, as such agreement may be amended or supplemented from time to time.

(c) “Business Day” shall mean any day other than a Saturday, Sunday or a day on which banking institutions in New York, New York are authorized or required by law or executive order to close.

- (d) “Code” shall mean the Internal Revenue Code of 1986, as amended.
- (e) “Company” shall have the meaning set forth in the first paragraph hereof, except as otherwise provided by Section
- (f) “Company Affiliate” means any corporation or other Legal Entity directly or indirectly “controlled” by the Company at the time in question, where “control” means the ownership of 50% or more of the equity interests of such corporation or other Legal Entity (by voting power or value) or the possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of such corporation or other Legal Entity.
- (g) “Company Group” means, with respect to any Taxable year (or portion thereof) beginning on or after the Effective Date, the Company and each Subsidiary of the Company (but only while such Subsidiary is a Subsidiary of the Company).
- (h) “Company Successor” shall have the meaning given to such term in Section 23(a)
- (i) “Company Successor Parent” shall have the meaning given to such term in Section 23(a).
- (j) “Consolidated Return Regulations” shall mean the Treasury Regulations promulgated under Chapter 6 of Subtitle A of the Code, including, as applicable, any predecessor or successor regulations thereto.
- (k) “Contested Company Group Item” shall have the meaning given to such term in Section 9(b).
- (l) “Controlling Party” shall have the meaning given to such term in Section 9(a).
- (m) “Deconsolidation Event” means, with respect to the Company and each member of the Company Group, any event or transaction that causes the Company and/or one or more members of the Company Group to no longer be eligible to join with LMC or one or more members of the LMC Group in the filing of a Joint Return.
- (n) “DIT” shall mean any “deferred intercompany transaction” or “intercompany transaction” within the meaning of the Consolidated Return Regulations, or any similar provisions of state, local or prior federal Tax Law.
- (o) “Due Date” shall have the meaning given to such term in Section 6(b).
- (p) “Effective Date” shall mean the date of this Agreement.
- (q) “ELA” shall mean any “excess loss account” within the meaning of the Consolidated Return Regulations, or any similar provisions of state, local or prior federal Tax Law.

(r) “Estimated Tax Installment Date” means, with respect to United States federal income Taxes, the estimated Tax installment due dates prescribed in Section 6655(c) of the Code and, in the case of any other Tax, means any other date on which an installment payment of an estimated amount of such Tax is required to be made.

(s) “Exchange Act” shall mean the Securities Exchange Act of 1934, as amended.

(t) “Final Determination” shall mean the final resolution of liability for any Tax for any Taxable period, by or as a result of: (i) a closing agreement or similar final settlement with the Internal Revenue Service or the relevant state or local Governmental Authorities, (ii) an agreement contained in Internal Revenue Service Form 870-AD or other similar form, (iii) an agreement that constitutes a determination under Section 1313(a)(4) of the Code, (iv) any allowance of a refund or credit in respect of an overpayment of Tax, but only after the expiration of all periods during which such refund or credit may be recovered by the jurisdiction imposing the Tax, (v) a deficiency notice with respect to which the period for filing a petition with the Tax Court or the relevant state or local tribunal has expired, (vi) a decision, judgment, decree or other order of any court of competent jurisdiction that is not subject to appeal or as to which the time for appeal has expired, or (vii) the payment of any Tax with respect to any item disallowed or adjusted by a Tax Authority provided that LMC and the Company agree that no action should be taken to recoup such payment.

(u) “Group” shall mean either the LMC Group or the Company Group.

(v) “Independent Accountant” shall have the meaning set forth in Section 2(b)(i)

(w) “Interest Rate” means the Rate determined below, as adjusted as of each Interest Rate Determination Date. The “Rate” means, with respect to each period between two consecutive Interest Rate Determination Dates, a rate determined two (2) Business Days before the earlier Interest Rate Determination Date equal to the interest rate that would be applicable on such date to a “large corporate underpayment” (within the meaning of Section 6621(c) of the Code) under Sections 6601 and 6621 of the Code. Interest will be calculated on the basis of a year of 360 days and the actual number of days for which due.

(x) “Interest Rate Determination Date” means the Due Date and each March 31, June 30, September 30, and December 31 thereafter.

(y) “Joint Return” shall mean any federal, state or local Tax Return for any Taxable period ending on or after the Effective Date that includes at least two Members, of which one Member is a member of the Company Group and the other Member is a member of the LMC Group.

(z) “Legal Entity” shall mean a corporation, partnership, limited liability company or other legal entity under the corporation, partnership, limited liability company or other organizational laws of a state or other jurisdiction.

(aa) “LMC” shall have the meaning set forth in the first paragraph hereof, except as otherwise provided by Section 23.

(ab) “LMC Affiliate” shall mean any corporation or other Legal Entity directly or indirectly “controlled” by LMC where “control” means the ownership of 50% or more of the equity interests of such corporation or other Legal Entity (by voting power or value) or the possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of such corporation or other Legal Entity; *provided, however*, that such term shall not include the Company or any Company Affiliate.

(ac) “LMC Group” means, with respect to any Taxable year (or portion thereof) beginning on or after the Effective Date, LMC and each Subsidiary of LMC (but only while such Subsidiary is a Subsidiary of LMC); *provided, however*, that such term shall not include any Subsidiary of LMC for such Taxable year (or portion thereof) as and to the extent that such Subsidiary is a member of the Company Group.

(ad) “LMC Successor” shall have the meaning given to such term in Section 23(b)(i).

(ae) “LMC Successor Parent” shall have the meaning given to such term in Section 23(b)(i).

(af) “LMC Successor Transaction” shall have the meaning given to such term in Section 23(b)(ii).

(ag) “Losses” shall mean any and all damages, losses, deficiencies, liabilities, obligations, penalties, judgments, settlements, claims, payments, fines, interest, costs and expenses (including, without limitation, the fees and expenses of any and all actions and demands, assessments, judgments, settlements and compromises relating thereto and the costs and expenses of attorneys’, accountants’, consultants’ and other professionals’ fees and expenses incurred in the investigation or defense thereof or the enforcement of rights hereunder); *provided, however*, that “Losses” shall exclude any special or punitive damages; *provided, further*, that the foregoing proviso will not be interpreted to limit indemnification for Losses incurred as a result of the assertion by a claimant (other than the parties hereto and their successors and assigns) in a third-party claim for special or punitive damages.

(ah) “Member” or “member” shall mean an entity that is an includible corporation as defined in Section 1504(b) of the Code (or any analogous provisions of state, local or other applicable Tax Law).

(ai) “Parent” shall mean, as the context may require, the common parent of any consolidated, combined, or unitary group that has filed, or is required to file, any Joint Return.

(aj) “Person” shall mean an individual, corporation, limited liability company, partnership, trust, incorporated or unincorporated association, joint venture or other entity.

(ak) “Post-Deconsolidation Period” means any Taxable period beginning after the date of a Deconsolidation Event.

(al) “Pre-Deconsolidation Period” means any Taxable period beginning on or before the date of a Deconsolidation Event.

(am) “Redetermination” shall mean any redetermination of Taxes as the result of any Tax Proceeding, a claim for refund, an amended Tax Return or otherwise in which (x) additional Taxes to which such determination relates are subsequently paid, (y) a Tax Refund or a Tax Benefit relating to such Taxes is received or used, or (z) the amount or character of any Tax Item is adjusted or redetermined.

(an) “Separate Return” shall mean any Tax Return that is not a Joint Return.

(ao) “Separate Return Tax Liability” means an amount equal to the hypothetical federal, state or local Tax liability that the members of the Company Group included in a Joint Return filed in any Tax jurisdiction would have incurred if they had filed a consolidated return, combined return (including nexus combination, domestic combination, line of business combination or any other form of combination), unitary return, or separate return, as the case may be, separate from the members of the LMC Group, for the relevant Tax period in such Tax jurisdiction (based upon the assumption that such members of the Company Group were required to file in such Tax jurisdiction), and their income was taxable at the highest corporate tax rate in effect for such period in such Tax jurisdiction; *provided, however*, that (1) the Separate Return Tax Liability shall be computed by LMC using such methods, conventions, practices, principles, positions, and elections (for example, the election to deduct or credit foreign Taxes) as are consistent with the methods, conventions, practices, principles, positions and elections that are used by LMC or Parent, as the case may be, in preparing the applicable Joint Return, and by taking into account only those Tax Assets of the Company Group (or other Tax Items of loss, deduction or credit of the Company Group) that are included in and used in the applicable Joint Return to create any Tax Benefit (without regard to whether the Company Group could have used such Tax Assets or Tax Items on its hypothetical separate return), (2) the Consolidated Return Regulations (or any similar provisions of state or local Tax Law) and the Joint Returns filed by the Affiliated Group in such Tax jurisdiction shall determine the timing of the recognition of Tax Items with respect to DITs and ELAs and the determination of which Legal Entity shall bear the Tax benefit or burden of such Tax Items, and the Company Group shall be responsible for the Tax Items recognized by its respective members with respect to any DITs and ELAs, (3) the Separate Return Tax Liability with respect to a Joint Return filed in a state or locality shall be computed by taking into account such Tax Items, and such receipts or other data used to compute apportionment factors, of each Company Group member as are taken into account with respect to such Company Group member in preparing such Joint Return, regardless of whether such Company Group member separately has tax nexus with such state or locality, and (4) although the Separate Return Tax Liability is to be computed on a hypothetical basis as if the members of the Company Group that are part of the Affiliated Group were separate from the other members of the Affiliated Group, the fact that such members of the Company Group are included in a Joint Return and the effect that such inclusion has on the calculation of any Tax

Item or on any Tax reporting requirement, shall nevertheless be taken into account for purposes of computing the Separate Return Tax Liability.

(ap) “spin-off entity” shall have the meaning given to such term in Section 12(b).

(aq) “Subsidiary” when used with respect to any Person, means (i)(A) a corporation a majority in voting power of whose share capital or capital stock with voting power, under ordinary circumstances, to elect directors is at the time, directly or indirectly, owned by such Person and/or one or more Subsidiaries of such Person, whether or not such power is subject to a voting agreement or similar encumbrance, (B) a partnership or limited liability company in which such Person or a Subsidiary of such Person is, at the date of determination, (1) in the case of a partnership, a general partner of such partnership with the power affirmatively to direct the policies and management of such partnership or (2) in the case of a limited liability company, the managing member or, in the absence of a managing member, a member with the power affirmatively to direct the policies and management of such limited liability company, or (C) any other Person (other than a corporation, partnership, or limited liability company) in which such Person and/or one or more Subsidiaries of such Person, directly or indirectly, at the date of determination thereof, has or have (1) the power to elect or direct the election of a majority of the members of the governing body of such Person, whether or not such power is subject to a voting agreement or similar encumbrance, or (2) in the absence of such a governing body, at least a majority voting interest or (ii) any other Person of which an aggregate of 50% or more of the equity interests are, at the time, directly or indirectly, owned by such Person and/or one or more Subsidiaries of such Person.

(ar) “Tax” and “Taxes” means any and all federal, state, local or non-U.S. taxes, charges, fees, duties, levies, imposts, rates or other like governmental assessments or charges, and, without limiting the generality of the foregoing, shall include income, gross receipts, net worth, property, sales, use, license, excise, franchise, capital stock, employment, payroll, unemployment insurance, social security, Medicare, stamp, environmental, value added, alternative or added minimum, ad valorem, trade, recording, withholding, occupation or transfer taxes, together with any related interest, penalties and additions imposed by any Tax Authority. The term “Taxable” shall have a correlative meaning; *provided that*, references to “Taxable period” for any franchise or other doing business Tax (including, but not limited to, the Texas franchise Tax) shall mean the Taxable period during which the income, operations, assets, or capital comprising the base of such Tax is measured, regardless of whether the right to do business for another Taxable period is obtained by the payment of such Tax.

(as) “Tax Asset” shall mean any Tax Item that has accrued for Tax purposes, but has not been realized during the Taxable period in which it has accrued, and that could reduce a Tax in another Taxable period, including a net operating loss, net capital loss, disallowed business interest, general business tax credit, foreign tax credit, charitable deduction, credit related to alternative minimum tax, or any other Tax credit.

(at) “Tax Authority” means, with respect to any Tax, the governmental entity or political subdivision, agency, commission or authority thereof that imposes such Tax, and the

agency, commission or authority (if any) charged with the assessment, determination or collection of such Tax for such entity or subdivision.

(au) “Tax Benefit” means a reduction in the Tax liability (or increase in Tax Refund) of a Taxpayer for any Taxable period. Except as otherwise provided in this Agreement, a Tax Benefit shall be deemed to have been realized or received from a Tax Item in a Taxable period only if and to the extent that the Tax liability (or Tax Refund) of the Taxpayer for such period, after taking into account the effect of the Tax Item on the Tax liability (or Tax Refund) of such Taxpayer in the current period and all prior periods, is less than (or, in case of a Tax Refund, greater than) it would have been had such Tax liability (or Tax Refund) been determined without regard to such Tax Item.

(av) “Tax Item” shall mean any item of income, gain, loss, deduction, credit, recapture of credit or any other item which increases or decreases Taxes paid or payable, including an adjustment under Section 481 of the Code resulting from a change in accounting method.

(aw) “Tax Law” means the law of any governmental entity or political subdivision thereof, and any controlling judicial or administrative interpretations of such law, relating to any Tax.

(ax) “Tax Package” shall have the meaning given to such term in Section 3(c).

(ay) “Tax Proceeding” shall mean any Tax audit, assessment, or other examination by any Tax Authority, as well as any controversy, litigation, other proceeding, or appeal thereof relating to Taxes, whether administrative or judicial, including proceedings relating to competent authority determinations.

(az) “Tax Refund” shall mean any refund of Taxes, including any reduction in a Tax liability by means of a credit, offset or otherwise.

(ba) “Tax Return” means any report of Taxes due, any claims for refund of Taxes paid, any information return with respect to Taxes, or any other similar report, statement, declaration, or document filed or required to be filed (by paper, electronically or otherwise) under any applicable Tax Law, including any attachments, exhibits, or other materials submitted with any of the foregoing, and including any amendments or supplements to any of the foregoing.

(bb) “Taxpayer” means any taxpayer and its Affiliated Group or similar group of entities as defined under corresponding provisions of the laws of any other jurisdiction of which a taxpayer is a member.

(bc) “Treasury Regulations” shall mean the regulations promulgated by the U.S. Department of the Treasury under the Code.

2. Separate Return Tax Liability of the Company Group; Payments for Tax Benefits

(a) Payment of Separate Return Tax Liability by the Company to LMC

(i) Estimated Tax Payments. With respect to each Taxable period for which a Joint Return will be filed, at least five (5) Business Days prior to each relevant Estimated Tax Installment Date, the Company shall pay to LMC an amount equal to the installment of the estimated Separate Return Tax Liability, as shown in the computation provided by LMC to the Company pursuant to Section 2(b)(i). For the avoidance of doubt, the amounts paid by the Company to LMC under this Section 2(a)(i) shall be taken into account in determining the amounts to be paid by the Company or LMC, as the case may be, pursuant to Section 2(a)(ii).

(ii) Final Return Tax Payments. With respect to each Taxable period for which a Joint Return will be filed (other than a Joint Return relating to estimated Tax payments), at least ten (10) Business Days prior to the due date (including extensions) for the filing of each such Joint Return,

(1) the Company shall pay to LMC an amount equal to the excess, if any, of (x) the Separate Return Tax Liability of the Company Group for such Taxable period and such Joint Return over (y) the aggregate amount, if any, previously paid by the Company to LMC with respect to such Taxable period and such Joint Return under Section 2(a)(i), as shown in the computation provided by LMC to the Company pursuant to Section 2(b)(i); and

(2) LMC shall pay to the Company an amount equal to the excess, if any, of (x) the aggregate amount, if any, previously paid by the Company to LMC with respect to such Taxable period and such Joint Return under Section 2(a)(i) over (y) the Separate Return Tax Liability of the Company Group for such Taxable period and such Joint Return, as shown in the computation provided by LMC to the Company pursuant to Section 2(b)(i).

(b) Determination of Separate Return Tax Liability.

(i) Manner of Calculation. For each Taxable period during which a Joint Return will be filed, LMC shall provide to the Company, not less than twenty (20) Business Days prior to the due date (including extensions) for the filing of such Joint Return (1) a pro forma draft of the portion of such Joint Return that reflects the Tax Items of the Company Group, (2) a statement that sets forth in reasonable detail the computation of the Separate Return Tax Liability of the Company Group in respect of such Joint Return, and (3) the amount payable by the Company or LMC, as determined in accordance with this Agreement, pursuant to Section 2(a); *provided, however*, that in the case of any Joint Return relating to estimated Tax payments, LMC shall provide the foregoing information to the Company not less than ten (10) Business Days prior to each relevant Estimated Tax Installment Date. If the Company disagrees with any Tax Item of the Company Group reflected on the pro forma draft of any Joint Return or any tax position relating to the computation of the Separate Return Tax Liability, then the

Company shall promptly notify LMC and the parties shall use their reasonable best efforts to resolve the dispute. If the parties are unable to resolve any such dispute within ten (10) Business Days after the Company gives notice to LMC, then the matter shall be referred to a nationally recognized accounting firm that is mutually acceptable to LMC and the Company (the “Independent Accountant”) to resolve such dispute. All costs, fees, and expenses incurred with respect to the resolution of such dispute shall be borne equally by LMC and the Company, except that if the Independent Accountant determines that the proposed position submitted by a party to the Independent Accountant for its determination is frivolous, has not been asserted in good faith, or is not supported by substantial authority, then 100% of such costs, fees, and expenses shall be borne by such party. If any dispute related to the computation of the Separate Return Tax Liability has not been resolved by the due date for the payment of the Separate Return Tax Liability (including installments of estimated Separate Return Tax Liability) with respect to the applicable Joint Return as described in Section 2(a), then the Company or LMC, as the case may be, shall make its payment based upon the original statement prepared by LMC, and any adjustments to such payment will be made in accordance with Section 5 following the resolution of such dispute.

(ii) Separate Return Tax Liability. For purposes of this Agreement, the “Separate Return Tax Liability” shall be determined as if the Company Group were filing a separate Tax Return under the Code or any analogous provisions of state or local Tax Law, and the term will not have the same meaning as set forth in Treasury Regulation Section 1.1502-12. For the avoidance of doubt, (A) the computation of the Separate Return Tax Liability of the Company Group shall be determined without regard to whether the Affiliated Group is obligated to pay a Tax liability for the applicable Taxable period and (B) no Tax Asset or other Tax Item that has previously been taken into account in any Taxable period for the Company Group’s benefit in determining the Separate Return Tax Liability payable under Section 2(a) or any amount payable under Section 2(c) or Section 5, or that has otherwise been realized by the Company Group, shall again be taken into account in this computation. If the Separate Return Tax Liability of the Company Group for a Taxable period is less than zero, then the Separate Return Tax Liability of the Company Group shall be deemed to be zero for such period for purposes of Section 2(a).

(c) Payment for Tax Benefits. Within ten (10) Business Days of filing a Joint Return, LMC shall (i) pay to the Company an amount equal to the Tax Benefit (if any) that the LMC Group recognized on such Joint Return as a result of the Separate Return Tax Liability being less than zero for such Taxable period or otherwise as a result of the use by the LMC Group of Tax Assets of the Company Group and (ii) provide to the Company a statement setting forth in reasonable detail the computation of the amount so payable. For the avoidance of doubt, no Tax Asset or other Tax Item that has been taken into account in any Taxable period for the Company Group’s benefit in determining the Separate Return Tax Liability payable under Section 2(a) or

any amount payable under this Section 2(c) or Section 5, or that has otherwise been realized by the Company Group, shall again be taken into account for purposes of determining any amount payable under this Section 2(c).

3. Preparation and Filing of Tax Returns.

(a) Joint Returns. LMC shall be responsible for (i) preparing and filing (or causing to be prepared and filed) all Joint Returns for any Taxable period and (ii) remitting (or causing to be remitted) to the proper Tax Authority the Tax shown on such Joint Returns.

(b) Separate Returns.

(i) LMC Separate Returns. LMC shall be responsible for (1) preparing and filing (or causing to be prepared and filed) all Separate Returns for any Taxable period that include one or more members of the LMC Group and (2) remitting (or causing to be remitted) to the proper Tax Authority the Tax shown on such Separate Returns.

(ii) Company Separate Returns. The Company shall be responsible for (1) preparing and filing (or causing to be prepared and filed) all Separate Returns for any Taxable period that include one or more members of the Company Group and (2) remitting (or causing to be remitted) to the proper Tax Authority the Tax shown on such Separate Returns.

(c) Provision of Information. The Company shall provide LMC with all information necessary for LMC or Parent to properly and timely file all Joint Returns. Such information may include, but need not be limited to (i) a Tax Return package for Joint Returns and Separate Returns of the Company Group, (ii) an estimated Tax package for Joint Returns and Separate Returns of the Company Group, (iii) a Tax provision package, (iv) a Tax projection package, and (v) workpapers and other supporting documentation relating to the foregoing (collectively, the "Tax Package"). With respect to any Tax Items of the Company Group includible in a Joint Return, the Tax Package shall be prepared, with respect to such Tax Items, using the methods, conventions, practices, principles, positions, and elections used by LMC or Parent in preparing the applicable Joint Return. In the event the Company fails to provide information necessary for LMC or Parent to properly and timely file a Joint Return in the form reasonably requested by LMC and within sufficient time to permit the timely filing of such Joint Return, the twenty (20) Business Day notice period (or ten (10) Business Day notice period in the case of estimated Tax payments) in Section 2(b)(i) shall be waived, and any penalties, interest, or other payment obligation assessed against the Affiliated Group by reason of a delay in filing such Tax Return shall be payable by the Company, but only to the extent that such delay is attributable to the Company's failure to provide the necessary information on a timely basis. If the Company provides information in the form requested by LMC and within sufficient time to permit the timely filing of a particular Tax Return, any penalties, interest, or other payments assessed against the Affiliated Group by reason of a delay in filing such Tax Return shall not be payable by the Company.

(d) Special Rules Relating to the Preparation of Tax Returns.

(i) Except as otherwise provided in this Agreement, the party that is responsible for filing (or causing to be filed) a Tax Return pursuant to this Section 3 shall have the exclusive right, in its sole discretion, with respect to such Tax Return to determine (1) the manner in which such Tax Return shall be prepared and filed, including the methods, conventions, practices, principles, positions, and elections to be used and the manner in which any Tax Item shall be reported, (2) whether any extensions may be requested, (3) whether an amended Tax Return shall be filed, (4) whether any claims for refund shall be made, (5) whether any refunds shall be paid by way of refund or credited against any liability for the related Tax, and (6) whether to retain outside firms to prepare or review such Tax Return; *provided, however*, that with respect to Joint Returns, LMC shall prepare such Joint Returns in good faith and shall consult with the Company prior to changing any method of accounting if such action would impact the Company Group.

(ii) With respect to any Separate Return for which the Company is responsible for filing (or causing to be filed), the Company may not take (and shall cause the members of the Company Group not to take) any positions that it knows, or reasonably should know, are inconsistent with the methods, conventions, practices, principles, positions, or elections used by LMC in preparing any Joint Return, except to the extent that (A) the failure to take such position would be contrary to applicable Tax Law or (B) taking such position would not reasonably be expected to adversely affect any member of the LMC Group. The Company and the other members of the Company Group shall (1) allocate Tax Items between such Separate Return for which the Company is responsible and any related Joint Return for which LMC is responsible that is filed in the same Tax year in a manner that is consistent with the reporting of such Tax Items on such related Joint Return and (2) make any applicable elections required under applicable Tax Law necessary to effect such allocation.

4. Tax Liability of the Company in the Event of Disaffiliation. Although neither party has any plan or intent to effectuate any transaction that would constitute a Deconsolidation Event, the parties have set forth how certain Tax matters with respect to a Deconsolidation Event would be handled in the event that, as a result of changed circumstances, a transaction that constitutes a Deconsolidation Event occurs at some future time.

(a) In General. In the case of a Deconsolidation Event, (i) the Company and the Company Affiliates shall remain liable under this Agreement for the Separate Return Tax Liability of the Company Group for the Taxable period during which such Deconsolidation Event occurs and for prior Taxable periods in which any such disaffiliated members of the Company Group were members of the Affiliated Group, and the Company shall be required to pay LMC all amounts for such Taxable periods that are determined pursuant to this Agreement and (ii) the Company shall remain entitled to receive, and LMC shall remain liable to pay, any

Tax Benefit, Tax Refund or other amounts payable to the Company under this Agreement that relate to any Pre-Deconsolidation Period. Moreover, should a Tax Proceeding ultimately result in assessment of a Tax deficiency (or payment of a Tax Refund) against any Affiliated Group for years in which the Company or the other members of the Company Group were affiliated with such Affiliated Group, the Company and the Company Affiliates shall remain liable for the Company Group's portion of such Tax deficiency (or remain entitled to receive their portion of such Tax Refund) determined pursuant to this Agreement, plus interest and penalties as provided in Section 6(a), if any.

(b) Allocation of Tax Items. In the case of a Deconsolidation Event, all Tax computations for (i) any Pre-Deconsolidation Periods ending on the date of the Deconsolidation Event and (ii) the immediately following Taxable period of the Company or any disaffiliated members of the Company Group, shall be made pursuant to the principles of Section 1.1502-76(b) of the Treasury Regulations or any similar provision of federal, state or local Tax Law, as reasonably determined by LMC.

(c) Carrybacks.

(i) In General. In the case of a Deconsolidation Event, LMC agrees to pay to the Company the Tax Benefit from the recognition by LMC or Parent on a Joint Return for any Pre-Deconsolidation Period of a carryback of any Tax Asset of the Company Group from a Post-Deconsolidation Period (other than a carryback of any Tax Asset which increases any Taxes, or reduces any Tax Benefit, attributable to the LMC Group for any reason); *provided, however*, that no payment shall be required to be made with respect to any Tax Benefit recognized by LMC or Parent with respect to any Tax Asset that has previously been taken into account in any Taxable period for the Company Group's benefit to reduce the Separate Return Tax Liability payable under Section 2(a) or to determine any amount payable to the Company under Section 2(c) or Section 5. If subsequent to the payment by LMC to the Company for any such Tax Benefit, there shall be a Redetermination which results in a decrease (1) to the amount of the Tax Asset so carried back or (2) to the amount of such Tax Benefit, the Company shall repay to LMC any amount paid to the Company pursuant to this Section 4(c)(i) which would not have been payable to the Company pursuant to this Section 4(c)(i) had the amount of the Tax Benefit been determined in light of these events. Nothing in this Section 4(c)(i) shall require LMC to file an amended Tax Return or claim for refund of Taxes.

(ii) Relinquishment. In the case of a Deconsolidation Event, notwithstanding any other provision of this Agreement, to the extent permitted by law, the Company hereby expressly agrees to elect (under Section 172(b)(3) of the Code and, to the extent feasible, any similar provision of any federal, state or local Tax Law, including Section 1.1502-21(b)(3) of the Treasury Regulations) to relinquish any right to carryback net operating losses (or other Tax Items, to the extent permissible) to any Pre-Deconsolidation Periods of LMC (in which event no

payment shall be due from LMC to the Company in respect of such net operating losses or other Tax Items).

(d) Continuing Covenants. Each of LMC (for itself and each LMC Affiliate) and the Company (for itself and each Company Affiliate) agrees (i) not to take any action reasonably expected to result in an increased Tax liability to the other, a reduction in a Tax Asset of the other or an increased liability to the other under this Agreement, and (ii) to take any action reasonably requested by the other that would reasonably be expected to result in a Tax Benefit; *provided*, in either such case, that the taking or refraining to take such action does not result in any additional cost not fully compensated for by the other party or any other adverse effect to such party. The parties hereby acknowledge that the preceding sentence is not intended to limit, and therefore shall not apply to, the rights of the parties with respect to matters otherwise covered by this Agreement.

5. Adjustments.

(a) Adjustment Payments. In the event of any Redetermination of any Joint Return, or resolution of any dispute between the parties by the Independent Accountant or otherwise, which affects the calculation of the Company Group's Separate Return Tax Liability or any other calculations or determinations under this Agreement for any Taxable period, the amounts required to be paid pursuant to Section 2(a) and Section 2(c), as applicable, (as well as any amounts required to be paid under Section 6 below) shall be recomputed for such Taxable period to take into account such Redetermination or dispute resolution. The Company shall pay LMC, or LMC shall pay the Company, as applicable, an amount equal to the difference between the payment or payments previously made between the parties in respect of such redetermined Joint Return or Separate Return Tax Liability and the amount that would have been paid pursuant to this Agreement in respect of such redetermined Joint Return (if such redetermined Joint Return had been filed on the basis of the Redetermination) or Separate Return Tax Liability. In the event LMC or Parent is required to pay to any Tax Authority any amount for additional Taxes due to the disallowance of all or part of any Tax Item for which the Company received a payment pursuant to Section 2(c) (or if LMC or Parent would have been so required to pay any Tax Authority but for other credits or adjustments), the Company shall pay to LMC the amount of such additional Tax paid by LMC or Parent (or which LMC or Parent would have been required to pay but for other credits or adjustments); *provided, however*, the amount so paid by the Company to LMC shall not exceed the cumulative amount paid to the Company pursuant to Section 2(c) with respect to such Tax Item (except as provided in Section 6 below). If a payment is made as a result of a Redetermination or dispute resolution which does not conclude the matter, further adjusting payments will be made, as appropriate, to reflect the outcome of any subsequent Redeterminations or dispute resolution, as applicable.

(b) Timing of Payments. Any payment by LMC or the Company required (x) by any dispute resolution shall be paid within five (5) Business Days after the date such dispute is resolved and (y) by any Redetermination in which (i) additional Taxes are paid, will be due five (5) Business Days after the date on which the additional Taxes were paid or, if later, five (5) Business Days after the date of a request from the other party for the payment, (ii) a Tax Refund

or Tax Benefit is received or used, will be due five (5) Business Days after the Tax Refund or Tax Benefit was received or used, or (iii) the amount or character of a Tax Item was adjusted or redetermined, will be due five (5) Business Days after the date on which the final action resulting in such adjustment or redetermination is taken by a Tax Authority or either party or their Subsidiaries, as applicable.

6. Payments.

(a) Payment of Interest, Penalties, and Expenses. Interest, penalties, and expenses incurred by LMC or Parent in connection with the amendment of any Joint Return and/or any Tax Proceeding, shall be borne equitably by those parties whose Tax liability may be affected by such amendment or Tax Proceeding, unless otherwise provided under this Agreement. LMC shall act in good faith with respect to any interest, penalties, and expenses to be charged to the Company.

(b) Interest on Late Payments. Payments pursuant to this Agreement that are not made by the date prescribed in this Agreement or, if no such date is prescribed, not later than five (5) Business Days after demand for payment is made (the “Due Date”) shall bear interest for the period from and including the date immediately following the Due Date through and including the date of payment at the Interest Rate. Such interest will be payable at the same time as the payment to which it relates.

(c) Rules Regarding Payments for Tax Refunds or Tax Benefits. If a party receives or uses a Tax Refund or Tax Benefit for which the other party is entitled to reimbursement under this Agreement, then unless otherwise specified in this Agreement, the party receiving or using the Tax Refund or Tax Benefit shall pay to the other party entitled to reimbursement, within five (5) Business Days following the receipt or use of such Tax Refund or Tax Benefit, an amount equal to such Tax Refund or Tax Benefit. For purposes of this Agreement, a Tax Benefit (other than a Tax Refund) shall be considered used or received (i) at the time the Tax Return is filed with respect to such Tax Benefit, or (ii) if no Tax Return is filed, (x) at the time a Tax Refund generated by use of such Tax Benefit is received or (y) if no Tax Refund is received, at the time the Tax would have been due in the absence of such Tax Benefit. The amount of such Tax Benefit shall be the amount by which Taxes are actually reduced by such Tax Benefit (or the amount by which a Tax Refund is actually increased by such Tax Benefit).

(d) Tax Consequences of Payments. For all Tax purposes and to the extent permitted by applicable Tax Law, the parties hereto shall treat any payment made pursuant to this Agreement as a capital contribution or a distribution, as the case may be, under the principles of Treasury Regulation Section 1.1552-1(b)(2), Treasury Regulation Section 1.1502-33(d)(1)(ii), Revenue Ruling 73-605, 1973-2 C.B. 109 or Revenue Ruling 76-302, 1976-2 C.B. 257, as applicable, and such payments will not create liabilities or receivables among the parties. If the receipt or accrual of any payment under this Agreement causes, directly or indirectly, an increase in the taxable income of the recipient under one or more applicable Tax Laws, such payment shall be increased so that, after the payment of any Taxes with respect to the payment, the recipient thereof shall have realized the same net amount it would have realized had the payment not resulted in taxable income. To the extent that any payment for which any party

hereto (the indemnifying party) is required to pay another party (the indemnified party) pursuant to this Agreement may be deducted or credited in determining the amount of any other Taxes required to be paid by the indemnified party (for example, state Taxes which are permitted to be deducted in determining federal Taxes), the amount of any payment made to the indemnified party by the indemnifying party shall be decreased by taking into account any resulting reduction in other Taxes of the indemnified party. If such a reduction in Taxes of the indemnified party occurs following the payment made to the indemnified party with respect to the relevant indemnified Taxes, the indemnified party shall promptly repay the indemnifying party the amount of such reduction when actually realized. If the Tax Benefit arising from the foregoing reduction of Taxes described in this Section 6(d) is subsequently decreased or eliminated, then the indemnifying party shall promptly pay the indemnified party the amount of the decrease in such Tax Benefit.

7. Indemnification.

(a) Indemnification by LMC. LMC shall indemnify and hold harmless each member of the Company Group from and against (i) any Taxes which a member of the LMC Group is required to pay to a Tax Authority (except for Taxes, including the amount of any Separate Return Tax Liability, which LMC has a right of reimbursement hereunder from the Company), or in respect of which LMC is required to make a payment hereunder to the Company, (ii) any Taxes imposed upon any member of the Company Group pursuant to Treasury Regulation Section 1.1502-6 or any analogous provision of state or local Tax Law for any Taxable period for which a Joint Return was filed in any Tax jurisdiction (except for Taxes, including the amount of any Separate Return Tax Liability, which LMC has a right of reimbursement hereunder from the Company) and (iii) any Taxes and Losses arising out of or based upon any breach or nonperformance of any covenant or agreement made or to be performed by LMC contained in this Agreement. For the avoidance of doubt, in no event shall LMC be required to indemnify the Company with respect to the loss of any Tax attributes by any member of the Company Group.

(b) Indemnification by the Company. The Company shall indemnify and hold harmless each member of the LMC Group from and against (i) any Taxes which a member of the Company Group is required to pay to a Tax Authority (except for Taxes which the Company has a right of reimbursement hereunder from LMC or Taxes described in Section 7(a)(ii)) or in respect of which the Company is required to make a payment hereunder to LMC and (ii) any Taxes and Losses arising out of or based upon any breach or nonperformance of any covenant or agreement made or to be performed by the Company contained in this Agreement. For the avoidance of doubt, in no event shall the Company be required to indemnify LMC with respect to the loss of any Tax attributes by any member of the LMC Group.

8. Appointment of Agent. The Company consents to the appointment of LMC (and Parent, if Parent is not LMC) as agent for the members of the Company Group in respect of all matters relating to Joint Returns, and agrees that LMC (and Parent) shall have full authority to determine the Company Group's Separate Return Tax Liability in accordance with Section 2, to file Joint Returns (or otherwise cause any Joint Returns to be filed) and to make or change any Tax elections (or cause any Tax elections to be made or changed) on behalf of the Company

Group, and to control Tax Proceedings in accordance with Section 9, in each case, except as otherwise provided in this Agreement. The agency power of LMC (and Parent), as described in this Section 8, shall extend to all periods during which the Company or any member of the Company Group is a member of any Affiliated Group, and, in the event of the disaffiliation of the Company or any member of the Company Group, LMC (and Parent) shall retain its agency powers described herein to make or change on behalf of the Company, or any member of the Company Group, any election or other decision affecting Tax liabilities for such periods that the Company or such member of the Company Group was affiliated with the Affiliated Group.

9. Tax Proceedings.

(a) In General. Except as provided in Section 9(b), (i) with respect to any Joint Returns and any Separate Returns described in Section 3(b)(i), LMC, and (ii) with respect to Separate Returns described in Section 3(b)(ii), the Company (in either case, the “Controlling Party”), shall have the exclusive right, in its sole discretion, to control, contest, and represent the interests of each member of the LMC Group and/or the Company Group, as applicable, in any Tax Proceeding relating to such Tax Return and to resolve, settle or agree to any deficiency, claim or adjustment proposed, asserted or assessed in connection with or as a result of any such Tax Proceeding. Except as otherwise provided in Section 9(b), the Controlling Party’s rights shall extend to any matter pertaining to the management and control of a Tax Proceeding, including execution of waivers, choice of forum, scheduling of conferences and the resolution of any Tax Item.

(b) Participation of Non-Controlling Party. In any Tax Proceeding relating to a Joint Return in which any Tax Item of the Company Group is a subject of such Tax Proceeding (a “Contested Company Group Item”), the Company shall be entitled to participate in such Tax Proceeding at its expense, insofar as the liabilities of the Company Group are concerned, and LMC shall consult with the Company with respect to any Contested Company Group Item, shall act in good faith with a view to the merits in connection with such Tax Proceeding, shall keep the Company updated and informed with respect to such Contested Company Group Item and shall not settle or compromise any Contested Company Group Item in excess of \$500,000 without the Company’s prior written consent, such consent not be unreasonably withheld or delayed.

(c) Notice. If a party becomes aware of the existence of a Tax issue that may give rise to an indemnification obligation under this Agreement, such party shall give prompt notice to the other party of such issue (and such notice shall contain factual information, to the extent known, describing any asserted Tax liability in reasonable detail), and shall promptly forward to the other party copies of all notices and material communications with any Tax Authority relating to such issue. Failure to give timely notice shall not affect the indemnities given hereunder except, and only to the extent that, the indemnifying party shall have been actually materially prejudiced as a result of such failure.

10. Cooperation. The parties shall cooperate with one another in all matters relating to Taxes (and each shall cause its respective affiliates to so cooperate). The Company shall provide LMC, and LMC shall provide the Company, with such cooperation and information as is necessary in order to enable LMC, Parent and the Company to satisfy its Tax, accounting and

other legitimate requirements. Unless otherwise provided under this Agreement, such cooperation and information shall include (i) making the parties' respective knowledgeable employees available during normal business hours, (ii) providing the information required by reasonable Tax and accounting questionnaires from the other party (at the times and in the format as reasonably required by such other party), (iii) maintaining such books and records and providing such information as may be necessary or reasonably useful in the filing of Joint Returns and Separate Returns, (iv) executing such documents as may be necessary or reasonably useful in connection with any Tax Proceeding, the filing of Joint Returns and Separate Returns, or the filing of refund claims by a member of the LMC Group or the Company Group (including certification, to the best of a party's knowledge, of the accuracy and completeness of the information it has supplied), and (v) taking any actions which the other party may reasonably request in connection with the foregoing matters.

11. Foreign Tax Returns. If the parties (or any members of their respective Groups) are required to file (or the parties determine that it is in their best interests to file) a foreign Tax Return for any Taxable period ending on or after the Effective Date that includes at least two Legal Entities, of which one Legal Entity is a member of the Company Group and the other Legal Entity is a member of the LMC Group (or any such Legal Entity of one Group is required or able to file a Tax Return reflecting the Tax Assets of a Legal Entity of the other Group pursuant to a similar or analogous scheme under applicable foreign Tax Law), the parties shall reasonably cooperate with one another to complete such Tax Returns, and to allocate the responsibility for payment of any Taxes or Tax Benefits with respect to such Tax Returns, consistent with the underlying principles of calculation and allocation in this Agreement, with such changes as are necessary to reflect the Tax Laws of the applicable jurisdiction.

12. Binding Effect; Assignment.

(a) **General.** Except as otherwise provided in Section 12(b) or 23, this Agreement shall be binding upon and shall inure to the benefit of LMC, the Company, and each other party hereto and each other Legal Entity that becomes a party hereto pursuant to Section 12(b) or 23, and this Agreement shall inure to the benefit of, and be binding upon, any successors or assigns of the parties hereto. Except as otherwise provided in Section 12(b) or 23, each of LMC and the Company may assign its right to receive payments under this Agreement but may not assign or delegate any other right or obligation hereunder.

(b) **Assignment for Spin-Off Transaction.** If LMC effects a spin-off, split-off or other distribution of the shares of a Subsidiary of LMC (such Subsidiary, a "spin-off entity") that is the beneficial owner (as determined pursuant to Rule 13d-3 and Rule 13d-5 under the Exchange Act and any successor regulation) of equity securities of the Company representing at least 80% of the combined voting power and 80% of the value of the total outstanding equity securities of the Company (within the meaning of Section 1504(a)(2) of the Code), and the shares of any series of capital stock of such spin-off entity are registered under Section 12(b) or 12(g) of the Exchange Act, then LMC shall have the right to assign its rights and obligations under this Agreement to the spin-off entity for Taxable periods (or portions thereof) beginning after the effective date of such transaction. Notwithstanding any assignment to the spin-off entity, LMC shall continue to

have all of its rights and obligations under this Agreement with respect to Taxable periods (or portions thereof) ending on or before the effective date of such transaction. The parties agree to cooperate in entering into any agreement reasonably requested to reflect the foregoing assignment of rights and obligations by LMC to the spin-off entity.

13. No Third Party Beneficiaries. Except as provided in Sections 7, 12 and 23, this Agreement is solely for the benefit of LMC and the Company and is not intended to confer upon any other Person any rights or remedies hereunder.

14. Application of Agreement. This Agreement shall be applicable only to Taxable periods of the Company and the members of the Company Group ending on or after the Effective Date and to each Taxable period thereafter.

15. Interpretation. This Agreement is intended to calculate, allocate and settle certain Tax liabilities of the members of the LMC Group and the Company Group, and any situation or circumstance concerning such calculation and allocation that is not specifically contemplated hereby or provided for herein shall be dealt with in a manner consistent with the underlying principles of calculation and allocation in this Agreement.

16. Legal and Accounting Fees. Unless otherwise specified herein, any fees or expenses (including internal expenses) for legal, accounting or other professional services rendered in connection with Tax research relating to the Company Group, the preparation of a Joint Return or any statement relating to any Separate Return Tax Liability or other calculations under this Agreement or the conduct of any Tax Proceeding shall be allocated between LMC and the Company in a manner resulting in LMC and the Company, respectively, bearing a reasonable approximation of the actual amount of such fees or expenses hereunder reasonably related to, and for the benefit of, their respective Groups. The Company shall pay LMC for any fees and expenses allocated to the Company pursuant to this Section 16 within five (5) Business Days after the date the Company receives notice from LMC requesting such payment.

17. Effect of the Agreement. This Agreement shall determine the liability of LMC and the Company to each other as to the matters provided for herein, whether or not such determination is effective for purposes of the Code or state or local Tax Laws, or for financial reporting purposes or for any other purposes.

18. Allocation Among the Company and Its Included Subsidiaries. Nothing herein shall be deemed to preclude or require any allocation of the Separate Return Tax Liability of the Company Group among or between the Company and its Subsidiaries.

19. Modifications. This Agreement shall not be modified or terminated except by a writing duly signed by each of the parties hereto, and no waiver of any provisions of this Agreement shall be effective unless in a writing duly signed by the party sought to be bound, except that any addition of a new party pursuant to Section 12(b) or 23 shall not require a writing signed by any other party.

20. Entire Agreement. This Agreement embodies the entire agreement among the parties hereto with respect to the matters covered hereby and thereby, and all prior written or oral agreements, representations, warranties or covenants previously existing between the parties with respect to such subject matter are cancelled and are not part of this Agreement.

21. Changes in Law.

(a) Any references to the Code or Treasury Regulations, or a law of another jurisdiction, shall be deemed to refer to the relevant provisions of any successor statute or regulation and shall refer to such provisions as in effect from time to time.

(b) If, due to any change in applicable law or regulations or their interpretation by any court of law or other governing body having jurisdiction subsequent to the Effective Date, performance of any provision of this Agreement or any transaction contemplated thereby shall become impracticable or impossible, the parties hereto shall use their commercially reasonable efforts to find and employ an alternative means to achieve the same or substantially the same result as that contemplated by such provision.

22. Notices. All notices, requests, and other communications hereunder shall be in writing and shall be delivered in person, by facsimile (with confirming copy sent by one of the other delivery methods specified herein), by electronic mail, by overnight courier or sent by certified, registered or express air mail, postage prepaid, and shall be deemed given when so delivered in person, or when so received by facsimile, electronic mail or courier, or, if mailed, three (3) calendar days after the date of mailing, as follows:

If to LMC or any member of the LMC Group:

Liberty Media Corporation
12300 Liberty Boulevard
Englewood, Colorado 80112

Attention: Chief Legal Officer
Email: legalnotices@libertymedia.com
Facsimile: (720) 875-5401

If to the Company or any member of the Company Group:

Sirius XM Holdings Inc.
1221 Avenue of the Americas
35th Floor
New York, New York 10017

Attention: Chief Financial Officer
Facsimile: (212) 584-5353

or to such other address as the party to whom notice is given may have previously furnished to the other party in writing in the manner set forth above.

23. Successors.

(a) Successors to the Company. In the event of any merger, consolidation, reorganization, statutory share exchange, conversion of the Company from a corporation to a limited liability company or other legal entity or other transaction affecting the Company, that results in the exchange or conversion of the equity securities of the Company for or into equity securities of (x) the successor to the Company in such transaction (or to the extent applicable, the acquiror of all or substantially all of the Company's businesses) (a "Company Successor") or (y) any Person of which the Company or such successor is a Subsidiary as a result of and after giving effect to such transaction (a "Company Successor Parent"), then (A) for Taxable periods (or portions thereof) beginning at or after the effective time of such transaction, (i) all references herein to the Company, other than in the last sentence of this Section 23(a), shall mean and refer to such Company Successor or Company Successor Parent, as applicable, and (ii) all references herein to any equity securities of the Company shall mean and refer to the equity securities or ownership interests of such Company Successor or Company Successor Parent, as applicable, into which such equity securities shall have been converted (or for which such equity securities shall have been exchanged), and (B) in connection with any such transaction, the Company will cause such Company Successor or Company Successor Parent, as applicable, to become a party to this Agreement, and be bound hereby, as of the effective time of such transaction. For the avoidance of doubt, this Agreement shall continue to be binding upon the Company notwithstanding any change in ownership of the Company.

(b) Successors to LMC.

(i) In the event of any merger, consolidation, reorganization, statutory share exchange, conversion of LMC from a corporation to a limited liability company or other legal entity or other transaction affecting LMC, that results in the exchange or conversion of any class or series of capital stock of LMC for or into equity securities of (x) the successor to LMC in such transaction (or to the extent applicable, the acquiror of all or substantially all of LMC's businesses) (a "LMC Successor") or (y) any Person of which LMC or such successor is a Subsidiary after giving effect to such transaction (a "LMC Successor Parent"), and if (but only if) such LMC Successor or LMC Successor Parent owns, directly or indirectly, the equity securities of the Company that were owned, directly or indirectly, by LMC immediately prior to such transaction, then (A) for Taxable periods (or portions thereof) beginning at or after the effective time of such transaction, (i) all references in this Agreement to LMC, other than in Section 23(b)(ii), shall mean and refer to such LMC Successor or LMC Successor Parent, as applicable, and (ii) all references herein to any class or series of capital stock of LMC shall mean and refer to the equity securities or ownership interests of such LMC Successor or LMC Successor Parent, as applicable, into which such class or series of capital stock of LMC shall have been converted (or for which it shall

have been exchanged), and (B) such LMC Successor or LMC Successor Parent, as applicable, shall become a party to this Agreement, and be bound hereby, as if such Person were a signatory hereto (whether or not such Person signs a counterpart of this Agreement or enters into a joinder agreement or similar instrument with respect hereto).

(ii) Notwithstanding the provisions of clause (i) of this Section 23(b), and without limiting the rights of any LMC Successor or LMC Successor Parent, the Company agrees that following the effective time of a transaction described in clause (i) of this Section 23(b) (a “LMC Successor Transaction”) in which LMC continues as a legal entity, and with respect to Joint Returns for Taxable periods beginning prior to the effective time of such LMC Successor Transaction, (a) LMC shall continue to have the authority to act as agent for the members of the Company Group, (b) LMC shall have the authority to file such Joint Returns (or otherwise cause such Joint Returns to be filed) and to make or change any Tax elections (or cause any Tax elections to be made or changed) on behalf of the Company Group, and (c) LMC shall have the right to control Tax Proceedings with respect to any member of the Company Group relating to such Joint Returns, subject to providing the Company with the participation and control rights to which it would otherwise be entitled pursuant to Section 9.

24. Governing Law; Jurisdiction; Waiver of Jury Trial.

(a) This Agreement and the legal relations among the parties hereto will be governed in all respects, including validity, interpretation and effect, by the laws of the State of Delaware applicable to contracts made and performed wholly therein, without giving effect to any choice or conflict of laws provisions or rules that would cause the application of the laws of any other jurisdiction. Each of the parties hereto irrevocably agrees that any legal action or proceeding with respect to this Agreement, and the rights and obligations arising hereunder, or for recognition and enforcement of any judgment in respect of this Agreement, and the rights and obligations arising hereunder brought by the other party hereto or its successors or assigns, shall be brought and determined exclusively in the Delaware Court of Chancery and any state appellate court therefrom within the State of Delaware (or, if the Delaware Court of Chancery declines to accept jurisdiction over a particular matter, any state or federal court within the State of Delaware). Each of the parties hereto hereby irrevocably submits with regard to any such action or proceeding for itself and in respect of its property, generally and unconditionally, to the personal jurisdiction of the aforesaid courts and agrees that it will not bring any action relating to this Agreement or the transactions contemplated hereby in any court other than the aforesaid courts. Each of the parties hereto hereby irrevocably waives, and agrees not to assert as a defense, counterclaim or otherwise, in any action or proceeding with respect to this Agreement (a) any claim that it is not personally subject to the jurisdiction of the above named courts for any reason other than the failure to serve in accordance with Section 22 and this Section 24, (b) any claim that it or its property is exempt or immune from jurisdiction of any such court or from any legal process commenced in such courts (whether through service of notice, attachment prior to judgment, attachment in aid of execution of judgment, execution of judgment or otherwise) and

(c) to the fullest extent permitted by applicable law, any claim that (i) the suit, action or proceeding in such court is brought in an inconvenient forum, (ii) the venue of such suit, action or proceeding is improper or (iii) this Agreement or the subject matter hereof may not be enforced in or by such courts. Process in any such suit, action or proceeding may be served on any party anywhere in the world, whether within or without the jurisdiction of any such court. Without limiting the foregoing, each party agrees that service of process on such party as provided in Section 22 shall be deemed effective service of process on such party.

EACH PARTY HERETO ACKNOWLEDGES AND AGREES THAT ANY CONTROVERSY WHICH MAY ARISE UNDER THIS AGREEMENT IS LIKELY TO INVOLVE COMPLICATED AND DIFFICULT ISSUES, AND, THEREFORE, EACH SUCH PARTY HEREBY IRREVOCABLY AND UNCONDITIONALLY WAIVES TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT SUCH PARTY MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY ACTION DIRECTLY OR INDIRECTLY ARISING OUT OF, UNDER OR IN CONNECTION WITH OR RELATING TO THIS AGREEMENT. EACH PARTY HERETO CERTIFIES AND ACKNOWLEDGES THAT (A) NO REPRESENTATIVE, AGENT OR ATTORNEY OF ANY OTHER PARTY HERETO HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT, IN THE EVENT OF SUCH ACTION, SEEK TO ENFORCE THE FOREGOING WAIVER, (B) EACH SUCH PARTY UNDERSTANDS AND HAS CONSIDERED THE IMPLICATIONS OF THIS WAIVER, (C) EACH SUCH PARTY MAKES THIS WAIVER VOLUNTARILY, AND (D) EACH SUCH PARTY HAS BEEN INDUCED TO ENTER INTO THIS AGREEMENT BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION 24(b).

25. Termination. This Agreement shall terminate at such time as all obligations and liabilities of the parties hereto have been satisfied. The obligations and liabilities of the parties arising under this Agreement shall continue in full force and effect until all such obligations have been met and such liabilities have been paid in full, whether by expiration of time, operation of law, or otherwise. The obligations and liabilities of each party are made for the benefit of, and shall be enforceable by, the other parties and their successors and permitted assigns.

26. Headings; Interpretation. The headings used in this Agreement are for convenience only and shall not in any way affect the meaning or interpretation of any provision hereof. When a reference is made in this Agreement to a "Section" or "Sections," such reference shall be to a Section or Sections of this Agreement unless otherwise indicated. The words "include," "includes," "included," and "including," when used herein shall be deemed in each case to be followed by the words "without limitation." The words "hereof," "herein," "hereby," and "hereunder" and words of similar import when used in this Agreement shall refer to this Agreement as a whole and not to any particular provision of this Agreement. The words "date hereof" shall refer to the date of this Agreement. The term "or" is not exclusive and means "and/or" unless the context in which such phrase is used shall dictate otherwise. The word "extent" in the phrase "to the extent" shall mean the degree to which a subject or other such thing extends, and such phrase shall not mean simply "if" unless the context in which such phrase is used shall dictate otherwise. The definitions contained in this Agreement are applicable to the singular as

well as the plural forms of such terms and to the masculine as well as to the feminine and neuter genders of such term. Whenever the context may require, any pronoun shall include the corresponding masculine, feminine and neuter forms.

27. Counterparts. This Agreement may be executed in multiple counterparts each of which shall be deemed an original, but all of which shall together constitute one Agreement.

IN WITNESS WHEREOF, each of the parties have caused this Agreement to be executed by its respective duly authorized officer as of the date first set forth above.

LIBERTY MEDIA CORPORATION
for itself and on behalf of each LMC Affiliate

BY: /s/ Tim Lenneman

Tim Lenneman
Senior Vice President

SIRIUS XM HOLDINGS INC.
for itself and on behalf of each Company Affiliate

BY: /s/ Thomas Barry

Thomas Barry
Senior Vice President

SIRIUS XM HOLDINGS INC.
SUBSIDIARIES

Sirius XM Radio Inc.

Automatic Labs Inc.

Satellite CD Radio LLC

Sirius XM Connected Vehicle Services Inc.

Sirius XM Connected Vehicle Services Holdings Inc.

SXM CVS Canada Inc.

XM 1500 Eckington LLC

XM E-mail Inc.

XM Investment LLC

XM Radio LLC

Pandora Media, LLC

AdsWizz Inc.

Stitcher Media LLC

Audios Ventures Inc. (dba Simplecast)

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Sirius XM Holdings Inc.:

We consent to the incorporation by reference in the registration statements No. 333-229468, 333-228088, 333-152574, 333-159206, 333-160386, 333-179600, 333-204302, and 333-205409 of Sirius XM Holdings Inc. of our reports dated February 2, 2021, with respect to the consolidated balance sheets of Sirius XM Holdings Inc. and subsidiaries as of December 31, 2020 and 2019, the related consolidated statements of comprehensive income, stockholders' equity (deficit), and cash flows for each of the years in the three-year period ended December 31, 2020, and the related notes and financial statement schedule II (collectively, the consolidated financial statements), and the effectiveness of internal control over financial reporting as of December 31, 2020, which reports appear in the December 31, 2020 annual report on Form 10-K of Sirius XM Holdings Inc.

Our report on the consolidated financial statements refers to a change in the method of accounting for leases effective January 1, 2019 due to the adoption of Accounting Standard Update (ASU) 2016-02 and all related amendments, which established Accounting Standard Codification (ASC) Topic 842, *Leases*.

/s/ KPMG LLP

New York, New York
February 2, 2021

CERTIFICATION OF CHIEF EXECUTIVE OFFICER

I, Jennifer C. Witz, certify that:

1. I have reviewed this Annual Report on Form 10-K for the fiscal year ended December 31, 2020 of Sirius XM Holdings Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

By: /s/ JENNIFER C. WITZ

Jennifer C. Witz
Chief Executive Officer and Director
(Principal Executive Officer)

February 2, 2021

CERTIFICATION OF CHIEF FINANCIAL OFFICER

I, Sean S. Sullivan, certify that:

1. I have reviewed this Annual Report on Form 10-K for the fiscal year ended December 31, 2020 of Sirius XM Holdings Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

By: /s/ SEAN S. SULLIVAN

Sean S. Sullivan
Executive Vice President and Chief
Financial Officer
(Principal Financial Officer)

February 2, 2021

