

TiVo Mini Operator's Guide

V1.0



TiVo Mini Operator's Guide

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U.S. Patent Nos. 6,215,526; 6,233,389; 6,310,886; 6,327,418; 6,385,739; 6,487,646; 6,490,722; 6,535,253; 6,642,939; 6,643,798; 6,728,713; 6,757,837; 6,757,906; 6,792,195; 6,847,778; 6,850,691; 6,868,225; 6,965,730; 7,055,031; 7,158,531; 7,200,321; 7,216,235; 7,228,556; 7,321,716; 7,409,546; 7,484,234; 7,493,015; 7,529,465; 7,543,325; 7,558,472; 7,590,240; D434,043; D435,561; D445,801; D517,059. 5,315,448; 6,381,747; 6,516,132.

TiVo remote control: U.S. Pat. Nos. D424,061; D424,577; D431,552; D433,403; D463,788.

Other patents pending.

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Introduction

1

TiVo Mini is TiVo's next multi-room *client*. It is deployed with a TiVo Premiere Q as the *Host* DVR. TiVo Mini provides the same rich TiVo experience as all other TiVo products.

The main features and advantages of TiVo Mini include:

- *LTS (Live TV Streaming)* with *Pause/Resume* and *Trick Play*
- *MRS (Multi-Room Streaming)* for recorded shows
- *Remote scheduling* of recordings on the Host DVR
- Viewing of *MSO QAM-based VOD and PPV*
- *Third-party application* support with YouTube, Pandora, Picasa, and more



The main focus of TiVo Mini is to enable the rich TiVo Experience in any TV in the home – thus providing:

- The best of TV and the web on *any* TV
- The same great TiVo experience *everywhere*
- The ability to find your favorite shows, automatically record, and watch on *any* TV
- The *freedom* to start watching in one room and resume in another
- Access to Live TV, MSO QAM-based VOD, YouTube, Pandora, and much more on *any* TV in the home
- The ability to stream HD recordings to up to *three* TVs in the home
- Pause/Resume and Trick Play of Live TV from *any* TV in the home
- The ability to remotely schedule recordings on your DVR from *any* TV in the home

This guide has been developed to help you learn about all of these exceptional features, and more, of TiVo Mini.

This chapter has some additional introductory information in the following sections:

- [Overview of TiVo Mini on page 6](#)
- [Overview of this guide on page 7](#)

Introduction

Overview of TiVo Mini

TiVo Mini is a *TiVo IP STB (Internet Protocol Set-Top Box)* that serves as a *client* to a *Host TiVo DVR* to support *LTS (Live TV Streaming)*, as well as to watch *QAM-based VOD (Video On Demand)* and recorded programs.

To provide this functionality, *TiVo Mini* relies on its *Host DVR* to access a tuner, the *CableCARD*, or the *DVR hard drive* to play or record programming content.

TiVo Mini does *not* rely on the *Host DVR* to access broadband applications and *OTT (Over-The-Top Content)*, such as YouTube, music, photos and other broadband applications. The *Host DVR* is, however, required for the initial setup of *TiVo Mini*.

This section will give you some basic information about *TiVo Mini*, as follows:

- [Basic design of TiVo Mini on page 6](#)
- [Uses for TiVo Mini on page 6](#)

Basic design of TiVo Mini

TiVo Mini has:

- Wired connectivity to a *Host DVR* and other *TiVo DVRs*
- Direct wired connectivity to broadband for broadband and *OTT* applications

TiVo Mini does *not* have:

- A tuner
- A *CableCARD*
- A hard drive

Uses for TiVo Mini

TiVo Mini is designed to provide a consistent experience with a *TiVo DVR* on any TV in the home.

It allows end users to:

- Watch Live TV
- Watch content recorded on *TiVo DVRs* on the same account and network through *MRS (Multi-Room Streaming)*
- Access, rent, and watch *MSO QAM-based VOD*
- Access broadband applications and *OTT* content, such as YouTube, music and photos

Overview of this guide

- [Scope of this guide](#) on page 7
- [Audience for this guide](#) on page 8
- [Prerequisites for this guide](#) on page 8
- [Related documentation](#) on page 8

Scope of this guide

This guide is organized as follows:

- [TiVo Mini Product Specifications](#) on page 9 – explains, with graphics, TiVo Mini hardware and software, and the requirements for setting up Tivo Mini in a home environment with a Host DVR.
- [Guided Setup for TiVo Mini](#) on page 17 – explains the installation process, especially how to connect the Mini to the Host DVR and how to set it up for an end user. It also discusses provisioning and accessories for TiVo Mini.
- [Using TiVo Mini](#) on page 23 – explains how to use TiVo Mini for LTS (Live TV Streaming), for watching QAM-based VOD, for watching recorded content, and so on.
- [Default Groups and Service States for TiVo Mini](#) on page 31 – explains the Expected Default Groups and Service States for TiVo Mini.
- [TiVo Mini Architecture](#) on page 33 – explains TiVo Mini network, what TiVo Mini gets from the Host DVR, and the Whole Home Use Cases for TiVo Mini.
- [Troubleshooting TiVo Mini](#) on page 35 – explains some functional limitations and disconnected states for TiVo Mini. It also includes a complete listing of all error messages for TiVo Mini, with suggestions for possible resolution.
- [Terminology Used in this Guide](#) on page 45 – provides a glossary of abbreviations and terms, some of which are industry-specific, and some of which are TiVo-specific.
- [Using a TiVo Remote](#) on page 47 – provides, simply for reference, a graphic of the standard TiVo Remote Control, which is also used for TiVo Mini, and its basic functions.
- [Safety Instructions for TiVo Products](#) on page 49 – provides a list of Safety Instructions that apply to all TiVo products. Some specific information for TiVo Mini has been added.
- [TiVo Mini Guided Setup Flow](#) on page 51 – provides flow charts of the entire TiVo Mini Guided Setup, providing all of the scenarios that were introduced in chapter 3.

Note: This guide does *not* go into detail about how to use the Host DVR. TiVo Mini does not affect the operation of the Host DVR, except that one or two of the tuners must be allocated to the Mini(s), and then those tuner(s) are no longer available to the Host DVR.

Introduction

Audience for this guide

This guide is intended to be used by the following groups:

- MSO learning and development team
- MSO support management

Prerequisites for this guide

Before reading this guide, and trying to install TiVo Mini, it is assumed that you have the following knowledge:

- Good understanding of core TiVo DVRs
- Good understanding of *MRS (Multi-Room Streaming)*
- Good understanding of *MMA (Manage My Account)*

Related documentation

For more information, several other documents related to TiVo Mini are available, as follows:

- *TiVo Mini DVR Expander Viewer's Guide*
- *TiVo Onsite Installation Guide*
- *TiVo Mini Warehouse Staging, v1.0*

TiVo Mini Product Specifications

2

This chapter provides the product specifications for TiVo Mini, as follows:

- *Safety instructions and proper placement of TiVo Mini* on page 9
- *Hardware, software, and networking requirements* on page 10
- *Shipping carton contents and characteristics* on page 10
- *Connections and buttons* on page 11
- *Hardware specifications* on page 14

Safety instructions and proper placement of TiVo Mini

Before you begin installation, make sure all of the equipment you will be using is turned off, and TiVo Mini is unplugged.

TiVo Mini was designed and manufactured to meet strict quality and safety standards.

There are, however, some installation and operating precautions of which you should be particularly aware. Please review the *Safety Instructions for TiVo Products* on page 49 thoroughly before proceeding.

The following placement notes are particularly important as you are installing TiVo Mini:

- **Ventilation:**
 - Make completely sure the air vents on both the top and bottom of TiVo Mini are not blocked.
 - Place TiVo Mini on a hard surface so the “feet” can provide a space between the bottom ventilation holes and that surface.
 - Do not put TiVo Mini on a soft surface, such as a bed, sofa, rug, carpet, etc.
 - Do not put TiVo Mini in a built-in installation, such as a bookcase or cabinet that has doors, because this may impede the flow of air through the ventilation openings.
 - Do not place TiVo Mini on a heat source, such as other audio/video equipment.
 - Never place anything on top of TiVo Mini.
- **Wall mounting:**
 - Do not mount TiVo Mini on a wall, without using TiVo Mini Wall Mount Kit.
 - Read the instructions that come with the mounting kit carefully before beginning installation.

Warning: Failure to set up the Mini properly, and/or failure to use the correct hardware, and/or failure to follow the correct procedures could result in a hazardous situation to people and damage to equipment and/or surfaces.

For example, damage could result to the horizontal surface on which TiVo Mini is placed if there is no free air movement, such as in a cabinet with the doors closed.

TiVo Mini Product Specifications

Hardware, software, and networking requirements

Before installing TiVo Mini, make sure the setup meets the following requirements:

- [Hardware and software requirements on page 10](#)
- [Networking requirements on page 10](#)
- [Home network and account requirements on page 10](#)

Hardware and software requirements

The hardware and software required to install TiVo Mini includes:

- TiVo Mini
- TiVo Premiere Q
- TiVo Client Software, version 20.2.2.x or greater

Networking requirements

TiVo Mini supports the following network elements:

- MoCA
- Ethernet

Note: Wi-Fi is not supported for TiVo Mini.

Home network and account requirements

Home network and account requirements for TiVo Mini are as follows:

- TiVo Mini must be on the same TiVo account as the Host DVR.
- All devices must be on the same network and subnet.
- All accounts associated with the devices must be activated and in good standing.
- TiVo Mini and all networked DVRs must be connected to the home router using a high-bandwidth connection (Ethernet or MoCA).
- No more than 10 devices (with a TSN) can be associated with a user account.

Shipping carton contents and characteristics

TiVo Minis are shipped to an MSO, as follows:

- Contents of carton: 7 TiVo Minis
- Dimensions of carton: 8.3" w x 12.8" d x 8.75" h
- Weight of carton: 7.1 lbs.
- Cartons per pallet: 80
- Quantity of units per pallet: 560 TiVo Minis
- Full pallet weight: 600 lbs.

Note: TiVo Mini power adapters are shipped separately in bulk.

Connections and buttons

This section provides illustrations of the following:

- [Front panel buttons/connections](#) on page 11
- [Back panel buttons/connections](#) on page 12
- [Bottom buttons/connections](#) on page 13

Front panel buttons/connections

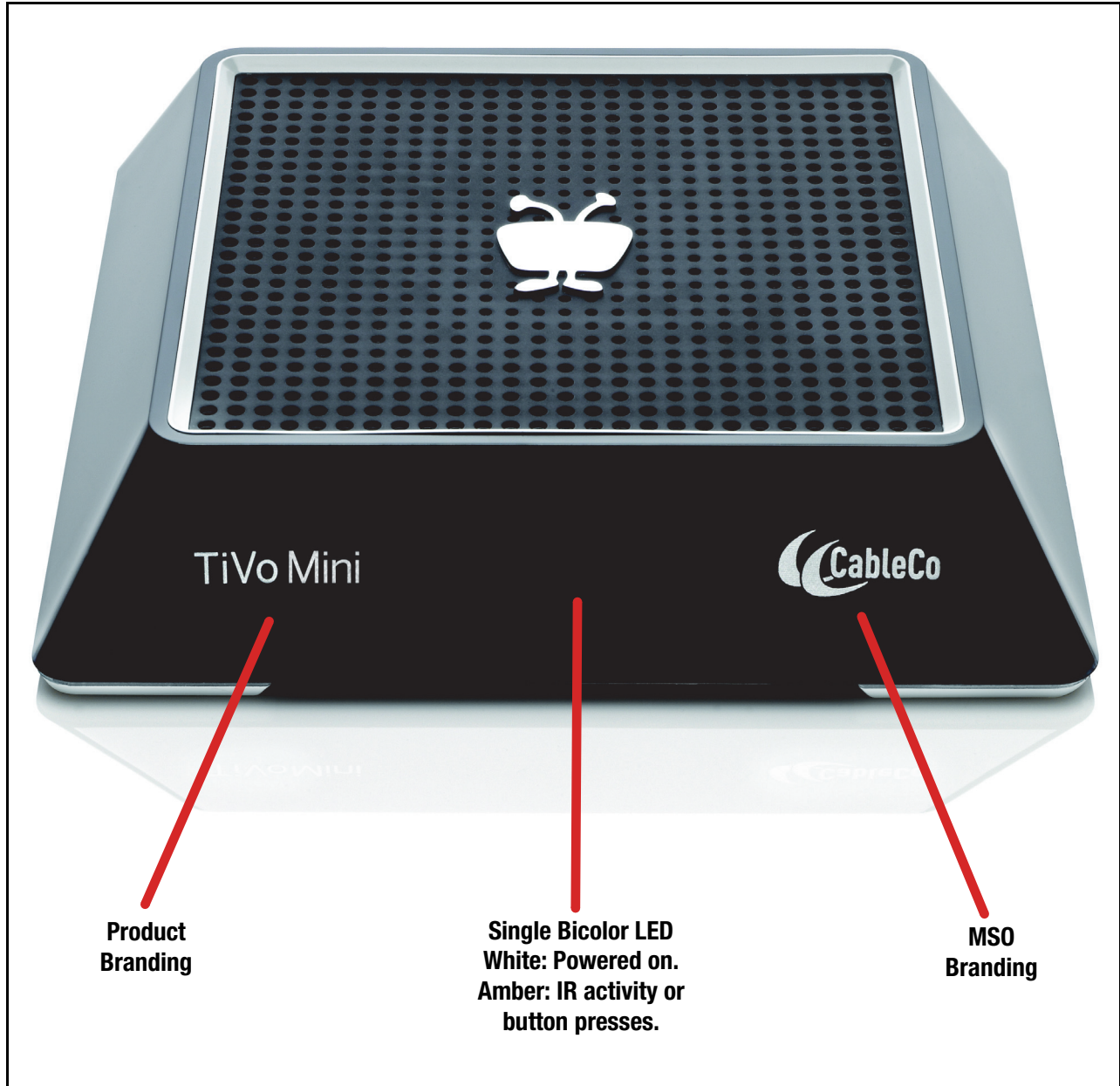


Figure 2–1: TiVo Mini Front Panel

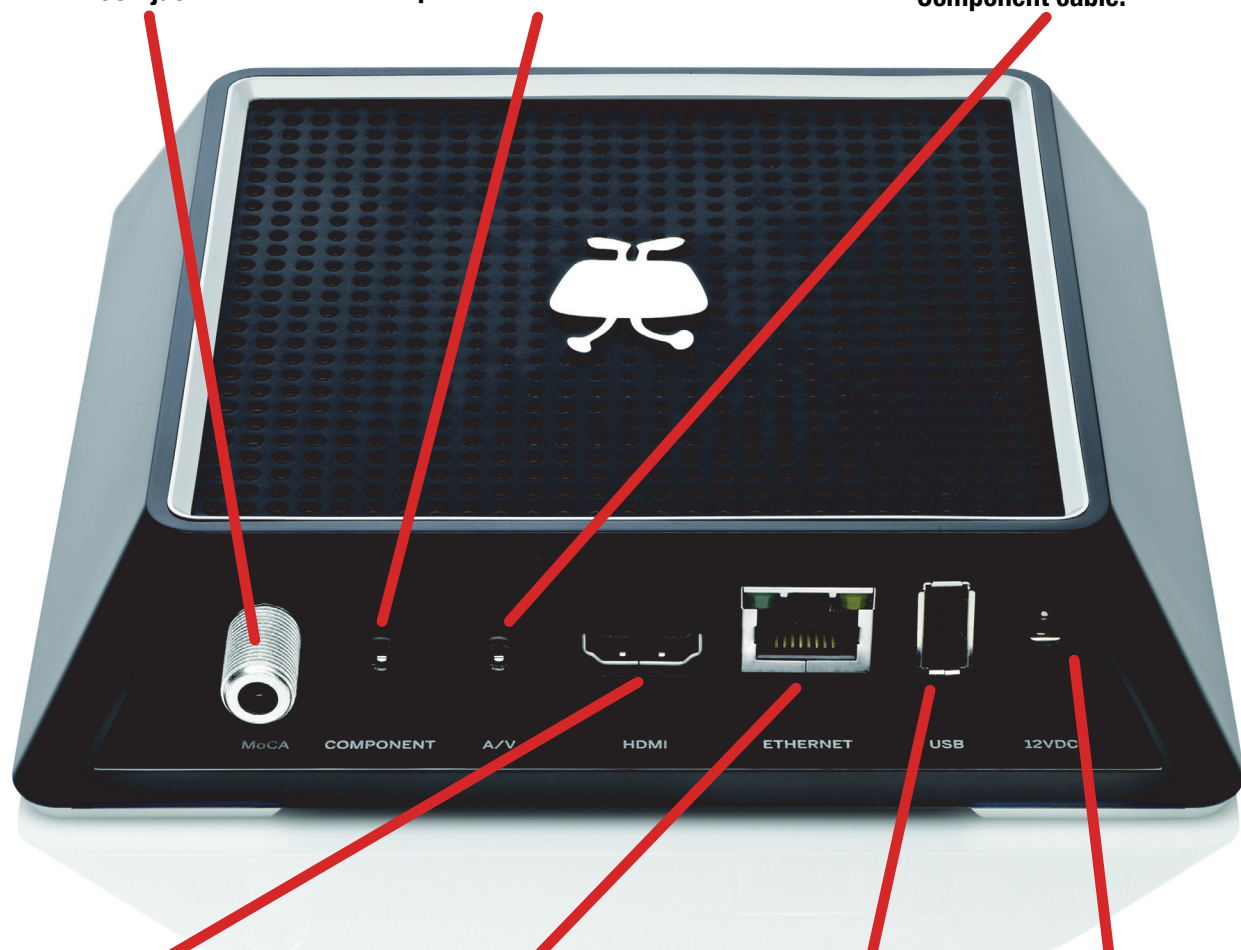
TiVo Mini Product Specifications

Back panel buttons/connections

MoCA: Connects TiVo Mini to your home MoCA network, if you are using one. Connect the coaxial RF cable coming from the wall to this MoCA jack.

Component (green): Connects TiVo Mini to a TV or A/V system using a Component Video Output breakout cable. Component Video Output provides a high definition picture. Connect a separate cable for audio.

A/V (yellow): Connects TiVo Mini to a TV or A/V system using a Composite Video Output breakout cable. Composite Video Output provides standard definition picture quality. It does not provide high definition video. This cable is required for audio when using Component cable.



HDMI: Connects TiVo Mini to a TV, A/V receiver, or home theater system. The HDMI port provides a pure digital connection for high definition video and digital audio all in one cable.

Ethernet: Connects TiVo Mini to your home network using Ethernet cable.
Left LED is Link Activity:
Blinking Green = Packet RX/TX [off otherwise]
Right LED is Link Status:
Green = 10 Mbit full duplex or 100 Mbit half/full
Yellow = Gbit half/full
[off = no link or 10 Mbit half duplex]

USB: Can be used with the IR adapter (see *IR Adapter* on page 22).

12VDC: Connects TiVo Mini to A/C power. **Important:** Use ONLY TiVo-supplied power adapters (see page 15).

Figure 2–2: TiVo Mini Back Panel

Bottom buttons/connections

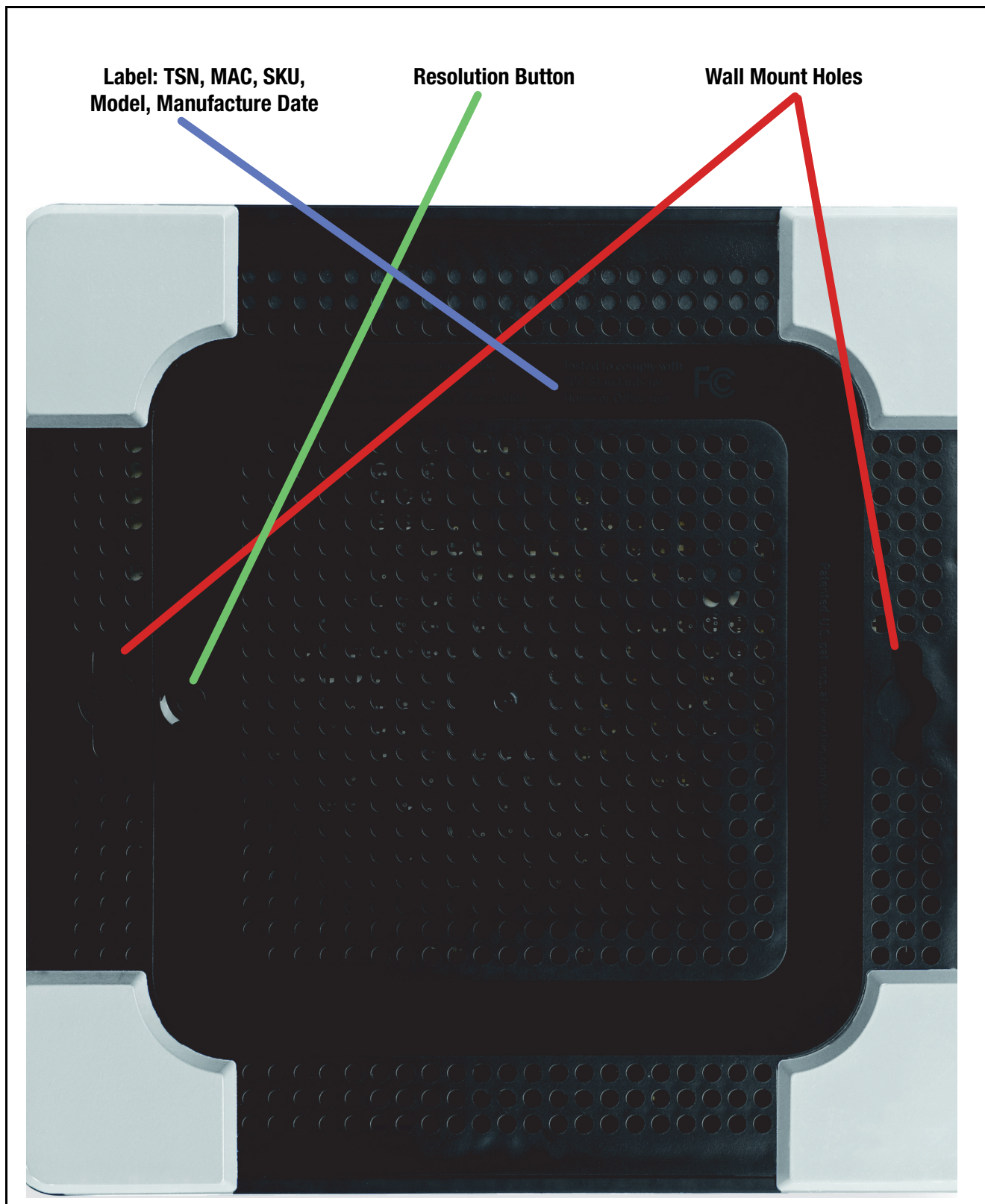


Figure 2-3: TiVo Mini Bottom

Hardware specifications

This section lists the hardware specifications for TiVo Mini and for its power adapters.

- **Video Out**
 - HDMI (1) (combined audio/video)
 - Component Video (1) (via breakout cable)
 - Composite Video (1) (via breakout cable)
- **Audio Out**
 - HDMI (1) (combined audio/video)
 - Stereo L/R (via breakout cable)
- **RF In**
 - MoCA (1)
- **Expansion port**
 - USB (1)
 - Ethernet (1)
- **Ambient (external) operating temperature**
 - 15 °C to 35 °C or 59 °F to 95 °F
- **Operating humidity**
 - 5% to 80%
- **Dimensions**
 - 6.1" w x 6.1" d x 1.25" h
- **Model**
 - TCDA92000
- **SoC**
 - Broadcom BCM7418
- **Ethernet LEDs**
 - Left LED is Link Activity:
 - Blinking Green = Packet RX/TX
 - [off otherwise]
 - Right LED is Link Status:
 - Green = 10 Mbit full duplex or
 - 100 Mbit half/full
 - Yellow = Gbit half/full
 - [off = no link or 10 Mbit half duplex]
- **Front Status LED**
 - Single Bicolor LED
 - White: Powered on.
 - Amber: IR activity or button presses

TiVo Mini Product Specifications

- **12 VDC Power Adapter** – Each TiVo Mini needs its own TiVo 12 VDC power adapter. Power adapters for TiVo Mini are shipped separately in bulk.

Warning: TiVo Minis have UL certification for safety and ESD immunity **only using the following specified TiVo-supplied power adapters**. TiVo does not support the use of other power adapters. If you use a power adapter not qualified by TiVo, TiVo waives all liability for both the product, as well as for the safety of the product, during staging and thereafter in the field.

Two power adapters have been certified to work with TiVo Mini:

- *Power Adapter SPWR-00022-000 (24W) on page 15*
- *Power Adapter SPWR-00023-000 (12W) on page 16*

Power Adapter SPWR-00022-000 (24W)

Power Adapter SPWR-00022-000 has the following specifications. The label for this adapter is shown in Figure 2–4.

- **Input:** 100-240 VAC, 50/60 Hz, 0.6A max inrush, maximum continuous input power, 29.24W
- **Output:** 12V, 2A (24W) max

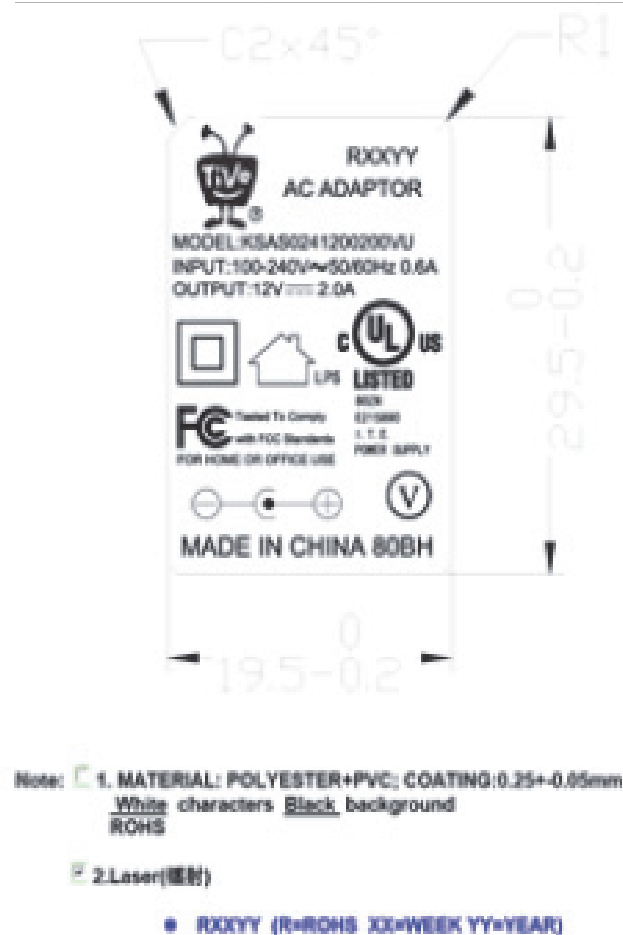


Figure 2–4: Label for Power Adapter SPWR-00022-000 (24W)

TiVo Mini Product Specifications

Power Adapter SPWR-00023-000 (12W)

Power Adapter SPWR-00023-000 has the following specifications. The label for this adapter is shown in Figure 2-5.

- **Input:** 100-120 VAC, 50/60 Hz, 0.4A max inrush, maximum continuous input power, 18W
- **Output:** 12V, 1A (12W) max



Figure 2-5: Label for Power Adapter SPWR-00023-000 (12W)

Guided Setup for TiVo Mini

3

This chapter guides you through the setup for TiVo Mini.

- [Setting up TiVo Mini with Host DVR on page 17](#)
- [Provisioning TiVo Mini on page 21](#)
- [Accessories for TiVo Mini on page 22](#)

Setting up TiVo Mini with Host DVR

To set up TiVo Mini with a Host DVR, follow these steps:

- [Preparing Host DVR for use with TiVo Mini on page 17](#)
- [Installing TiVo Mini on page 18](#)
- [Performing TiVo Mini Guided Setup on page 18](#)

Preparing Host DVR for use with TiVo Mini

To prepare the Host DVR for use with TiVo Mini, follow these steps:

Note: This setup *must* be done in HDUI, but you can switch the Host DVR back to “TiVo with SD Menus” after you have completed the setup.

1. Verify that the Host DVR meets the requirements listed in [Hardware and software requirements on page 10](#).
2. Verify that the Host DVR is connected to the home network using either a wired Ethernet or MoCA connection. **If there is a wireless connection, disconnect it.**
 - For **wired Ethernet**: Connect the Host DVR to an open port on the router or to an Ethernet jack in the wall using an Ethernet cable.
 - For **MoCA**: If MoCA is enabled in the home, connect the coaxial cable from the wall to the CABLE/MoCA port on the back of the Host DVR.
3. Allocate one of the tuners from the Host DVR to TiVo Mini. If you are installing more than one Mini or other networked device, you can allocate up to two tuners so any two networked devices can watch Live TV at the same time. (For more about how the tuners are shared, see [Tuner allocation on page 23](#).)

Note: Any tuner allocated to networked devices can no longer be used to record shows.

- a. Go to **Messages & Settings > Settings > Remote, CableCARD, & Devices**.
- b. Select **Allow Live TV on networked devices**.
- c. Depending on the number of Minis and other networked TiVo devices, choose one of the following (you can allocate only up to two tuners per Host DVR, which the networked devices will share):
 - **Allow 1 tuner to be used by networked devices.**
 - **Allow 2 tuners to be used by networked devices.**

Guided Setup for TiVo Mini

4. If the Host DVR is unnamed, give it a name to simplify the connection of the Mini:
 - On the **Remote, CableCARD & Devices** screen, select **Name this DVR**.
 - Choose a name from the list or enter a new name.

Installing TiVo Mini

To install TiVo Mini, so that it works with the Host DVR, follow these steps:

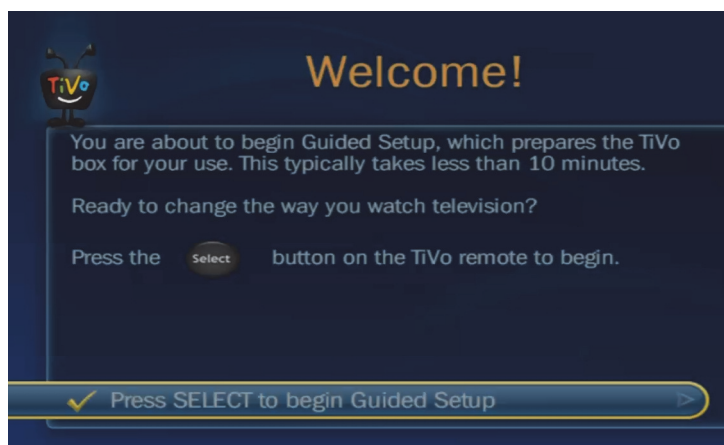
1. Connect the Mini to the TV.
 - For a high-definition TV, connect the HDMI cable (included in the package) between TiVo Mini and the TV.
 - For other types of TVs, use component and/or composite cables.
2. Connect TiVo Mini to the home network using wired Ethernet or MoCA (wireless is not supported).
 - For **wired Ethernet**: Connect TiVo Mini to an open port on the router or to an Ethernet jack in the wall using an Ethernet cable.
 - For **MoCA**: If MoCA is enabled in the home, connect the coaxial cable from the wall to the CABLE/MoCA port on the back of TiVo Mini.
3. Plug in the power cord for TiVo Mini.

Performing TiVo Mini Guided Setup

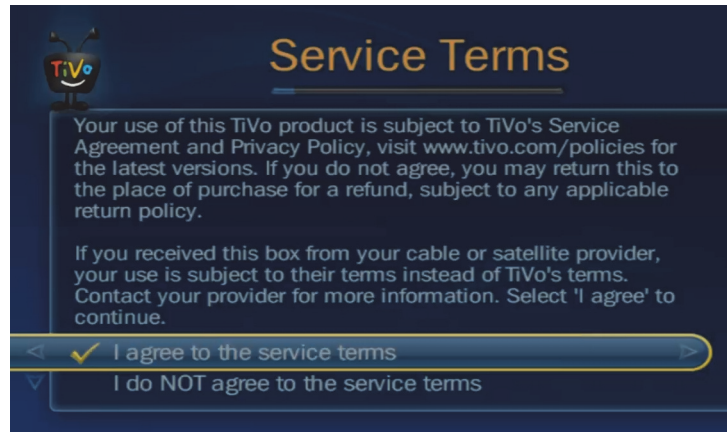
This section walks you through a typical Guided Setup for TiVo Mini.

Note: For a detailed set of flow charts describing all of the scenarios in the Guided Setup, see [TiVo Mini Guided Setup Flow](#) on page 51.

1. Turn on the TV to which the Mini is attached. The “Welcome!” screen is displayed. As instructed, simply press SELECT on your remote to begin the setup process.



- The next screen presents TiVo's "Service Terms." As instructed, select "agree" to continue.



- The next screen asks if you want to change "Video Formats." You would usually keep the automatic settings, so select "Keep automatic settings."

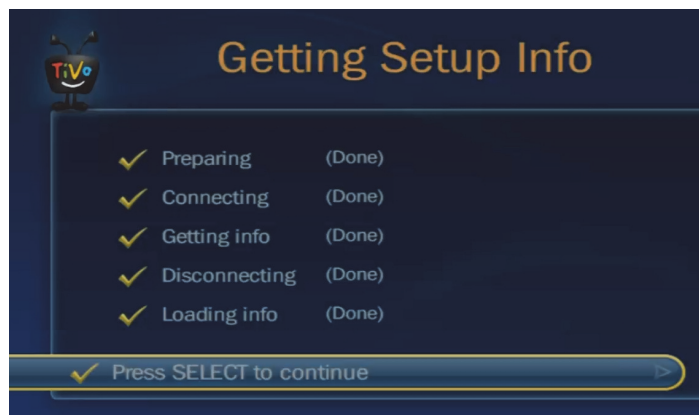


- If you are not using HDMI, you can select "Change settings." You will be taken to the "Video Output Formats" screen, where you can change TV aspect ratio, etc.



Guided Setup for TiVo Mini

5. You will then see the “Getting Setup Info” screen, which will go through a series of steps to prepare, connect, get info, then disconnect, and load the information. At the end of these steps, you will see the following screen, and as instructed, you should press the SELECT button on your remote to continue.



6. You will then be instructed to “Name This TiVo Box,” and you should select a name from the left side, or enter a personal name in the box at the right.



7. Then, you will be asked to connect TiVo Mini to a Host DVR.

Note: If only one Host DVR is detected, it will be automatically selected for you, and you will not see this screen.



8. You will then see the Congratulations! screen. Simply press the TiVo button on your remote to go to *TiVo Central* to start viewing.



Provisioning TiVo Mini

TiVo Mini can be associated with an end-user account, and this account can be activated or deactivated with the same systems that exist for the DVRs today.

Provisioning can be done in two different ways:

- [MSO back-end provisioning on page 21](#)
- [PartnerId/ MSOserviceId on page 21](#)

MSO back-end provisioning

All traditional DVR web services APIs are supported for TiVo Mini.

Note: See the *TiVo IT Web Services Guide* for more detail.

PartnerId/ MSOserviceId

The PartnerID for an MSO box is set by TiVo.

The MSOserviceId is set at activation and is required for auto-staging.

Guided Setup for TiVo Mini

Accessories for TiVo Mini

The following accessories are available for use with TiVo Mini:

- [IR Adapter on page 22](#)
- *Wall Mount Kit* – The Wall Mount Kit for TiVo Mini will be available soon. Documentation will be provided at that time.

IR Adapter

The TiVo IR Adapter lets you control TiVo Mini if it is located in a position that does not have direct line of sight for an IR remote.

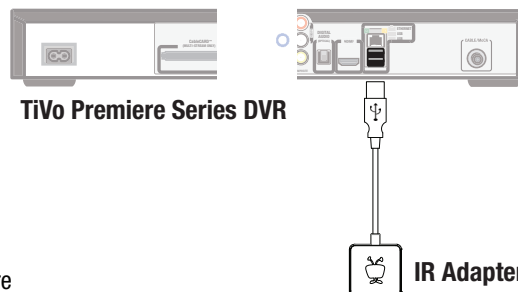
Note: The IR Adapter supports remotes with IR codes of 0 or 4. The DVR IR code setting is ignored. This avoids conflicts with nearby IR adapters, as long as they do not have IDs that match the one used on the TiVo Mini.

To set up the adapter, follow these steps:

1 Connect the adapter to your TiVo box*.

Plug the IR Adapter USB connector into the TiVo box's USB port.

* Software version 20.2.2 or later required.



2 Position the IR adapter.

Position in either of the orientations shown below. If needed, secure the adapter with the included Velcro patch.

Option 1:



Option 2:



Note: Make sure that the TiVo remote will have an unobstructed view of the adapter when the adapter is in position.

Figure 3–1: Positioning the IR Adapter

Using TiVo Mini

4

This chapter defines all of the functions of TiVo Mini, including:

- *LTS (Live TV Streaming) from Host DVR* on page 23
- *Watching QAM-based VOD from Host DVR (also LTS)* on page 26
- *MRS (Multi-Room Streaming) for recorded content* on page 27
- *Remotely scheduling a recording on Host DVR* on page 27
- *Remotely deleting content from Host or other DVR* on page 27
- *Video Window only with Program Guide on TiVo Mini* on page 28
- *Using TiVo Thumb Ratings with TiVo Mini* on page 28
- *Using Parental Controls with TiVo Mini* on page 28
- *Using broadband services directly with TiVo Mini* on page 28
- *Launch Points for TiVo Mini* on page 30

LTS (Live TV Streaming) from Host DVR

One of the main features of TiVo Mini is *LTS (Live TV Streaming)* from the Host DVR.

You simply press the **LIVE TV** button on TiVo Mini remote.

There are a few things to note about LTS on TiVo Mini, as described in the following sections:

- *Tuning/channel-change time* on page 23
- *Tuner allocation* on page 23
- *Returning a tuner for use by another device* on page 24
- *Tuner conflicts* on page 24

Tuning/channel-change time

Unlike changing channels and tuning to channels on a TiVo DVR, Live TV Streaming on TiVo Mini requires a momentary pause for setup and buffering.

Tuner allocation

If there are multiple TiVo devices in a household, the use of the tuners on the Host DVR is on a first-come, first-served basis. As described in *Setting up TiVo Mini with Host DVR* on page 17, only up to two tuners can be allocated on the Host DVR.

Using TiVo Mini

Returning a tuner for use by another device

Unless you explicitly “exit out,” a tuner will continue to be allocated to TiVo Mini for an hour and a half. After this time, and without remote activities, it will be automatically returned to the pool for other TiVo devices to access, and you will see a message to this effect.

To “exit out,” go to *TiVo Central*, and press the *TiVo* button. This releases the tuner.

Tuner conflicts

The following tables have been designed to help you understand tuner conflicts:

Table 4–1: Resolving TiVo Mini Tuner Conflicts - Live TV Streaming and QAM-based VOD

Scenario	Message Title	Message Text
No tuners reserved		
No dedicated tuner reserved - Live TV Streaming	Watch Live TV Not Allowed	In order to Watch Live TV, you must first set the <Host DVR> to allow TiVo Mini to watch live TV. To do so, go to “Allow Live TV on Networked Devices” on the <Host DVR> and change the current settings to allow other boxes to watch live TV.
No dedicated tuner reserved - QAM-based VOD	Watch VOD Not Allowed	In order to Watch VOD, you must first set the <Host DVR> to allow TiVo Mini to watch VOD. To do so, go to “Allow Live TV on Networked Devices” on the <Host DVR> and change the current settings to allow other boxes to watch VOD.
All reserved tuners in use		
Only one reserved tuner - Live TV Streaming	Can't Watch Live TV Now	Another <TiVo device> is using the <Host DVR> to watch live TV. You cannot watch live TV until the other <TiVo device> has pressed the TiVo button.

Table 4–1: Resolving TiVo Mini Tuner Conflicts - Live TV Streaming and QAM-based VOD (continued)

Scenario	Message Title	Message Text
All reserved tuners in use (continued)		
Only one reserved tuner - QAM-based VOD	VOD is Temporarily Unavailable	Another <TiVo device> is using the <Host DVR> to watch live TV. You cannot watch VOD until the other <TiVo device> has pressed the TiVo button.
Multiple reserved tuners - Live TV Streaming	Can't Watch Live TV Now	<p><number> other <TiVo device> are using the <Host DVR> to watch live TV.</p> <p>You cannot watch live TV until one of these <TiVo device> has pressed the TiVo button.</p>
Multiple reserved tuners - QAM-based VOD	VOD is Temporarily Unavailable	<p><number> other <TiVo device> are using the <Host DVR> to watch live TV.</p> <p>You cannot watch VOD until one of these <TiVo device> has pressed the TiVo button.</p>
Host has lock on tuners		
Host restarting	Can't Watch Live TV Now	<p>Live TV is temporarily unavailable because the <Host DVR> is restarting.</p> <p>Once the <Host DVR> has finished, you will be able to watch live TV again.</p>
Host repeating Guided Setup	Can't Watch Live TV Now	<p>Live TV is temporarily unavailable because the <Host DVR> is repeating Guided Setup.</p> <p>Once the <Host DVR> has finished, you will be able to watch live TV again.</p>
Host in Settings screen that requires locking tuners, for example, "Allow Live TV on Networked Devices"	Can't Watch Live TV Now	<p>Live TV is temporarily unavailable because the <Host DVR> is using a setting that requires all tuners.</p> <p>Once the <Host DVR> has finished, you will be able to watch live TV again.</p>

Using TiVo Mini

Table 4–2: Resolving TiVo Mini Tuner Conflicts - Scheduling In-Progress Program

Scenario	Overlay	Reason/How to Resolve
All tuners on Host DVR recording	Currently Recording <Number> Shows	Shows are currently recording on all tuners. To change to <channel number>, the <Host DVR> must stop recording <program name>.
All tuners but foreground on Host DVR are recording	Currently in Use	All tuners on the <Host DVR> are recording shows or being watched by someone else in the house. To record this show, the <Host DVR> must stop recording <program name>.

Watching QAM-based VOD from Host DVR (also LTS)

To watch *QAM* (*Quadrature Amplitude Modulation*)-based *VOD* (*Video On Demand*) from the Host DVR, select the **ON DEMAND** button on the remote.

You can also access this from *Tivo Central* by selecting:

- **Find TV, Movies, & Videos > Video on Demand**
- **Find TV, Movies, & Videos > Browse TV & Movies**
- **My Shows.**

Watching QAM-based VOD is also a form of *LTS* (*Live TV Streaming*), so you are using a live TV tuner, and although you can allocate up to *two* tuners, **a Host DVR can display only one QAM-based VOD show at a time, that is, the QAM-based VOD session limit is one per CableCARD.**

MRS (Multi-Room Streaming) for recorded content

You can watch recorded shows from *any*, not just the Host, DVR in the home on TiVo Mini:

- Shows from the Host DVR are displayed in the **My Shows** list and accessed from *TiVo Central*.
- Shows from other DVRs can be accessed by pressing the **DOWN** arrow on the remote control. When another DVR is displayed, follow these steps:
 - a. Highlight the name of the DVR.
 - b. Press **SELECT** to see the **My Shows** list for that DVR.
 - c. Press the **TiVo button** and select **My Shows** to return to the Host DVR shows.

Note: Selecting a show from a non-Host DVR does not change it to the Host DVR. To change the Host to another DVR, see [Setting up TiVo Mini with Host DVR on page 17](#).

When you have finally selected a show, using any of the above methods, to watch (stream) it:

1. Highlight it in the **My Shows** list.
2. Press **PLAY**.
3. Watch it from the point it was stopped on the other DVR (if applicable), or go back to the beginning.

Remotely scheduling a recording on Host DVR

TiVo Mini lets you set up a recording on the Host DVR. All of the Host DVR scheduling options are available using the Mini.

Note: For this task, the Mini uses a tuner that has not been allocated for *LTS (Live TV Streaming)* or watching QAM-based VOD.

Remotely deleting content from Host or other DVR

Recorded shows on the Host or other DVR can be deleted from TiVo Mini by highlighting the show or group name and pressing **CLEAR**.

Warning: This will erase the show from the Host or other DVR.

Using TiVo Mini

Video Window only with Program Guide on TiVo Mini

The Video Window (Picture-In-Picture, or PIP) is available only on TiVo Mini when viewing the Program Guide.

It is not available during any other function.

This scenario was designed intentionally, so that a tuner would not be unnecessarily allocated.

Using TiVo Thumb Ratings with TiVo Mini

You can use the **Thumbs Up** and **Thumbs Down** to rate shows on TiVo Mini. However, these ratings are then applied to the Host DVR, not specifically to TiVo Mini.

Using Parental Controls with TiVo Mini

TiVo Mini has its own Parental Controls, which can be set differently for the Mini from the Host DVR.

However, the setup procedure is exactly the same as any TiVo DVR.

As a reminder, to set up Parental Controls:

1. From *TiVo Central*, select **Settings & Messages > Parental Controls**.
2. Enter a four-digit password.
3. For confirmation, enter the password again.

You can also establish the Rating Limits for movies originally released in theaters.

However, TiVo Mini *inherits* the Channel Locks set on the Host DVR, so they cannot be set specifically on TiVo Mini.

Using broadband services directly with TiVo Mini

You can access broadband services directly on TiVo Mini, as follows:

- [YouTube on page 29](#)
- [Photos, Music, and other Applications on page 29](#)

YouTube

To watch YouTube on TiVo Mini, from *TiVo Central*, choose **Find TV, Movies, & Videos > YouTube**.

On the YouTube home page, use the arrow buttons on the TiVo remote to explore the menus. You can browse by channel (categories covering everything from animation, to comedy, to music, and more), search for a particular video, or sign in to see your subscriptions and favorite videos.

A **BACK** option appears on every page except the home page. Select it to go back to the previous menu. (Using the **LEFT** arrow on your remote control will not take you to the previous menu.)

You can also search and browse for YouTube videos using the TiVo menus. When you search or browse using the TiVo menus, shows available from YouTube display a YouTube logo on the right side of the screen.

Photos, Music, and other Applications

TiVo Mini also provides access to photos, music, and other applications.

Note: These lists of applications are for illustrative purposes only. Supported applications can differ for each MSO. The list of applications can change at any time, depending on what the MSO chooses to offer.

- To see music and photo viewing options, from *TiVo Central*, select **Music & Photos**.

Some of the options usually available include:

- Photos and slide shows
- Picasa and Photobucket
- Streaming music from a PC or Mac using the free TiVo Desktop Application
- Pandora Internet Radio
- Rhapsody Music Service
- Live365 Internet Radio Network

- To see additional applications (apps), from *TiVo Central*, select **Apps**.

Some of the options usually available include:

- Buying movie tickets online
- SameGame
- Wordsmith
- Skull & Bones

Launch Points for TiVo Mini

The following table provides the Launch Points for TiVo Mini, all starting at *TiVo Central*.

Table 4–3: Launch Points for TiVo Mini

Feature/App	Launch Point	Next selection	Next selection
QAM-based VOD	Find TV, Movies ... [customizable]	<MSO> VOD	
	Find TV, Movies ... [customizable]	Browse TV & Movies	Available from ...
	My Shows	<MSO> VOD	
YouTube	Find TV, Movies ... [customizable]		
	My Shows		
Pandora	Music & Photos		
Rhapsody Music Service	Music & Photos		
Live365	Music & Photos		
Podcaster	Music & Photos		
Photobucket's Selections	Music & Photos	Photos & Slideshows	
Picasa Web Albums	Music & Photos	Photos & Slideshows	
Music Streaming	Music & Photos	Music on ...	
Photo Streaming	Music & Photos	Photos & Slideshows	
Photo Show	Music & Photos	Photos & Slideshows	
Browse & Buy Movie Tickets	Apps		
SameGame	Apps		
Wordsmith	Apps		
Skull & Bones	Apps		

Default Groups and Service States for TiVo Mini

This chapter defines the following:

- *Expected default groups for TiVo Mini* on page 31
- *Service states/service lifestyle for TiVo Mini* on page 32

Expected default groups for TiVo Mini

Table 5–1 shows the default AP flags and DG groups for TiVo Mini.

Table 5–1: TiVo Mini APs and DGs

Type	Name
application	AP_hdui
application	AP_hme
application	AP_mrs
application	AP_musicphotos
application	AP_tunetoapp
distribution group	DG_hme_<mso_name>_notuner_prod
distribution group	DG_sa4_<mso_name>_notuner_prod
distribution group	DG_mso_<mso_name>_notuner_US
distribution group	DG_flash_site_akamai
special feature	SF_nopgd

Service states/service lifestyle for TiVo Mini

The service lifecycle for TiVo Mini is depicted in Figure 5–1.

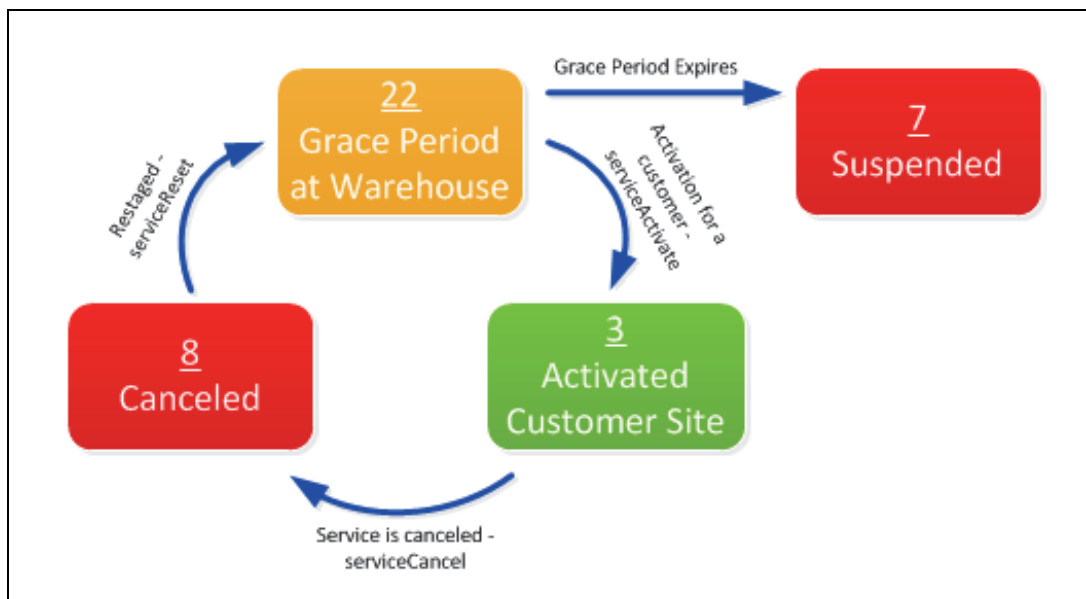


Figure 5–1: TiVo Mini Service Lifecycle

- **Service State 22 – Grace Period:** Each TiVo Mini is shipped to an MSO from TiVo in service state 22. Any TiVo Mini returned from an end user can – and must – be re-set to service state 22 with a web service API *serviceReset* call.
Note: The Grace Period can be customized for each MSO.
- **Service State 3 – Activated:** MSOs can send the web service API *serviceActivate* call to activate each TiVo Mini. This is the service state for TiVo Mini during normal operation. All features are available.
- **Service State 8 – Canceled:** MSOs can send a web service API *serviceCancel* call to cancel service to TiVo Mini. This deactivates TiVo Mini and disables all features.
- **Service State 7 – Grace Period Expired:** In service state 7, the grace period has expired, and nothing will work on TiVo Mini.

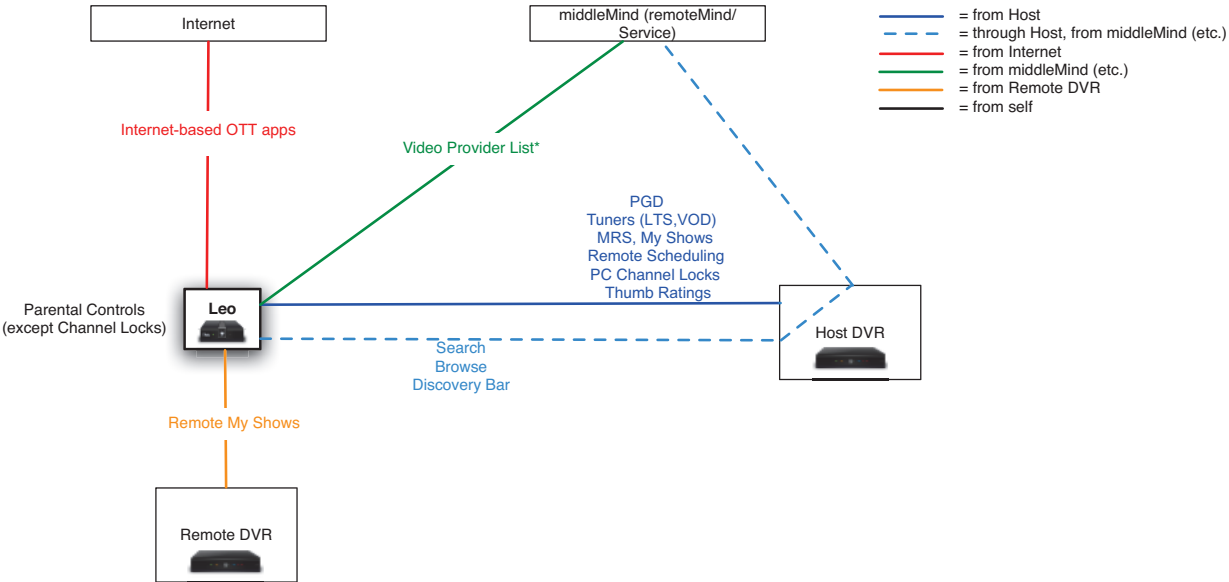
TiVo Mini Architecture

This chapter describes TiVo Mini architecture, as follows:

- *TiVo Mini Network* on page 33
- *What TiVo Mini Gets from the Host DVR* on page 34
- *Whole Home Use Cases for TiVo Mini* on page 34

TiVo Mini Network

Here is a diagram of TiVo Mini network:



What TiVo Mini Gets from the Host DVR

TiVo Mini gets the following data from the Host DVR.

Note: If TiVo Mini loses the LAN, this data will be unavailable. See also *Disconnected states for TiVo Mini* on page 37.

- PGD
- Tuners (for Live TV Streaming and QAM-based VOD)
- MRS, My Shows
- Remote Scheduling
- Parental Controls Channel Locks
- Thumb Ratings
- Search
- Browse
- Discovery Bar
- Poster Art

Whole Home Use Cases for TiVo Mini

The following table shows the *Whole Home Use Cases* for TiVo Mini, in other words, it shows the functions that TiVo Mini can do, depending on the Whole Home method and the type of DVR through which it is trying to perform the function.

Table 6–1: Whole Home Use Cases for TiVo Mini

TiVo DVR to which TiVo Mini is connected	LTS (Live TV Streaming)*	MRS (Multi-Room Streaming)	MRV (Multi-Room Viewing)
Host DVR**	Y	Y	N
Other MSO Premiere series DVRs	N	Y	N
Retail Premiere series DVRs	N	Y	N
* This includes watching QAM-based VOD. ** The Host DVR must be an MSO Premiere Q.			

Troubleshooting TiVo Mini

This chapter will help you troubleshoot TiVo Mini:

- *Functional limitations for TiVo Mini* on page 35
- *Unsupported configurations for TiVo Mini* on page 35
- *Some basic issues/resolutions for TiVo Mini* on page 35
- *Disconnected states for TiVo Mini* on page 37
- *Error messages for TiVo Mini* on page 38

Note: For the most up-to-date information, especially for troubleshooting and other caveats, always consult the latest *TiVo Mini Release Notes*, which should be available through your account manager.

Functional limitations for TiVo Mini

There are currently a few functional limitations for TiVo Mini:

- Live TV can be viewed on TiVo Mini only from the default DVR Host.
- Only TiVo DVRs with more than two tuners can be used as that Host.

Unsupported configurations for TiVo Mini

Some configurations are currently not supported for TiVo Mini, for example:

- Any TiVo device connected through Wi-Fi.
- The use of a retail TiVo device as the Host DVR.
- The use of Ethernet over power to connect to any TiVo device.

Some basic issues/resolutions for TiVo Mini

Here are a few basic troubleshooting scenarios with TiVo Mini:

- *No video output* on page 36
- *TiVo Mini not powering up, instability* on page 36
- *Can't select DVR as Host* on page 36

Troubleshooting TiVo Mini

No video output

Issue: There is no video output.

Resolution: To troubleshoot this problem:

- Ensure the TV is set to the correct video source.
- Ensure all cables are secure.
- Change the video output resolution on TiVo Mini:
 - a. Press the Resolution button (located on the bottom of TiVo Mini). Each time you press the button, the output resolution will change.
 - b. Repeat pressing the Resolution button until a resolution is accepted by the TV. Wait a few moments between each press for the new resolution to sync with the TV.

TiVo Mini not powering up, instability

Issue: TiVo Mini is not powering up or experiences instability and reboots.

Resolution: To resolve this problem:

- Ensure the power adapter being used is a TiVo-approved power adapter for TiVo Mini.
- Try a different TiVo-approved power adapter for TiVo Mini.

Can't select DVR as Host

Issue: You can't select a DVR as the default Host.

Resolution: Ensure the following requirements have been satisfied:

- Both devices are running TiVo Client Software, version 20.2.2 or greater.
- Both devices are on the same TiVo account.
- Both devices are on the same network and subnet.
- Both devices are activated and in good standing (Service State 3).
- Both devices are connected to the home router using a high-bandwidth connection (Ethernet or MoCA).
- There are no more than 10 devices (with a TSN) associated with the user account.

Disconnected states for TiVo Mini

The following table describes disconnected states – specifically how they affect the interaction of TiVo Mini with its Host DVR.

Table 7–1: TiVo Mini Disconnected States

LAN (between Mini and Host DVR)	WAN (internet) for Mini	WAN (internet) for Host DVR	Internet-based OTT Apps	PGD Tuners (LTS, VOD) MRS My Shows Remote Scheduling PC Channel Locks Thumb Ratings	Search Browse Discovery Bar	Poster Art
Y	Y	Y	Y	Y	Y	Y
Y	Y	N	Y	Y	N	N
Y	N	Y	N	Y	Y	N
Y	N	N	N	Y	N	N
N	Y	Y	Y	N	N	N
N	Y	N	Y	N	N	N
N	N	Y	N	N	N	N
N	N	N	N	N	N	N

Error messages for TiVo Mini

You may see one or more of the following error messages associated with TiVo Mini.

Table 7-2: Error Messages Specific to TiVo Mini

ID	Message displayed	Further explanation	Why this can happen	What to try
C421	Host Disconnected - NO DVRs Found	There may be a problem with your home network, or the network connection on TiVo Mini may be unplugged.	<ul style="list-style-type: none"> • You access “My Shows,” and none of the registered DVRs (including the Host) are found on the network. • You access a content screen (or other Host-reliant screen) and become disconnected from the Host. 	<ol style="list-style-type: none"> 1. Verify that all network connections are secure and the cables have not become crimped or damaged. 2. Verify that the IP addresses and ports needed to connect to TiVo service are not blocked. <p>Note: If you need assistance, please contact the router manufacturer.</p> <ol style="list-style-type: none"> 3. Powercycle the network, then force a connection to TiVo service. <p>SPECIAL INSTRUCTIONS: If you are in a dorm or apartment using provided Internet service, contact the dorm or apartment IT department. Ask them to add the TiVo’s MAC to the allowed list, and verify all necessary ports have been opened. Also verify that you do not need a password to connect to the Internet.</p>

Table 7–2: Error Messages Specific to TiVo Mini (continued)

ID	Message displayed	Further explanation	Why this can happen	What to try
C422	Host Disconnected - Some DVRs Found	There may be a problem with your home network or the network connection for your Host TiVo DVR may be unplugged.	You access “My Shows,” and some of the registered DVRs are found on the network, but not the Host DVR.	You can still watch shows from other TiVo DVRs on your network. If you want to change the Host TiVo DVR, use the Settings menu to change it.
M58	TiVo Mini Service Interrupted	The TiVo box has not connected to the TiVo service for 30 days. Please connect to the TiVo service now. Until the TiVo box connects successfully, shows will not record		<ol style="list-style-type: none"> 1. Force a connection to the TiVo service. 2. Check your Network, MoCA, or phone connection. 3. If neither of these steps resolved the problem, please contact TiVo Customer Support.
M126	Service Did Not Respond	Your request could not be processed. Please try again.	There has been an error in loading data.	<p>This error is usually temporary. If it continues, use the following troubleshooting steps:</p> <ol style="list-style-type: none"> 1. If you are using broadband or MoCA, check that all of your connections are secure. 2. For Wireless G or Wireless N connections only, see M86. 3. Document what you were doing before the error message occurred and contact TiVo Customer Support.

Troubleshooting TiVo Mini

Table 7–2: Error Messages Specific to TiVo Mini (continued)

ID	Message displayed	Further explanation	Why this can happen	What to try
P104	Set Channel Locks on DVR	You cannot lock channels on TiVo Mini – you must lock them on the Host DVR.		To set Channel Locks, go to the Host DVR, and from <i>TiVo Central</i> , select Settings & Messages > Settings > Parental Controls > Channel Locks .
R323	Can't Record Now		There are no tuners available on the Host.	The only thing you can do is to wait until a tuner is available.
V70	Ineligible DVR Selected	The TiVo DVR you have selected cannot be used by TiVo Mini to watch live TV or QAM-based VOD. This may be a temporary problem.	You have selected a DVR that is not eligible to be a Host DVR for TiVo Mini for one of the following reasons: <ul style="list-style-type: none"> • It is not a Series 4 or newer model. • It does not have more than two tuners. • It has not made a recent connection to TiVo Service. • It is not on the same TiVo account as TiVo Mini. 	Check for any or all of the reasons listed at left If there is an account issue, please contact TiVo Customer Support.
V71	Watch Live TV Not Allowed	In order to watch Live TV, you must first set the Host DVR to allow TiVo Mini to watch live TV.	The Host DVR has not been set up, or has not been set up properly, to allow other networked TiVo devices to watch live TV or QAM-based VOD.	Set up, or check the settings for, the Host DVR. (See <i>Setting up TiVo Mini with Host DVR</i> on page 17.)
V79	Watch VOD Not Allowed	In order to watch QAM-based VOD, you must first set the Host DVR to allow TiVo Mini to watch VOD. <i>Note:</i> Watching QAM-based VOD requires a Live TV tuner.	The Host DVR has not been set up, or has not been set up properly, to allow other networked TiVo devices to watch live TV or QAM-based VOD.	Set up, or check the settings for, the Host DVR. (See <i>Setting up TiVo Mini with Host DVR</i> on page 17.)

Table 7–2: Error Messages Specific to TiVo Mini (continued)

ID	Message displayed	Further explanation	Why this can happen	What to try
V80	Can't Watch Live TV Now	A "stream" can be either a live TV stream or a stream from "My Shows." You can have a maximum of three of these going at any one time. The Host DVR is already sending out the maximum number of streams.	Other TiVo devices are using the same Host DVR, and that has put this resource at the maximum of three streams.	Check to see if another TiVo device in the system could "release" a tuner on this same Host DVR, if it is not actually being used.
V81	Can't Watch VOD Now	A "stream" can be either a live TV stream or a stream from "My Shows." You can have a maximum of three of these going at any one time. The Host DVR is already sending out the maximum number of streams.	Other TiVo devices are using the same Host DVR, and that has put this resource at the maximum of three streams.	Check to see if another TiVo device in the system could "release" a tuner on this same Host DVR, if it is not actually being used.
V82	Live TV Not Found	There is a temporary problem displaying Live TV from the Host DVR.		Try restarting the Live TV viewing again.
V85	Reserved Tuner Not Available	The only reserved tuner on the Host DVR is already in use by another device.		Check to see if the other TiVo device in the system could "release" the tuner, if it is not actually being used.
V86	No Reserved Tuners Available	The only reserved tuners on the Host DVR are already in use by other devices.		Check to see if another TiVo device in the system could "release" a tuner, if it is not actually being used.
V87	Live TV/VOD Interrupted	The connection to the Host DVR has been interrupted due to a network problem, unplugged device, or reboot.		Check your home network connections, power connections, and Host DVR status.

Troubleshooting TiVo Mini

Table 7–2: Error Messages Specific to TiVo Mini (continued)

ID	Message displayed	Further explanation	Why this can happen	What to try
V89	Live TV Unavailable - Host Repeating Guided Setup	The Host DVR is repeating its Guided Setup.		When the Host DVR has completed its setup, you will be able to watch Live TV at that time.
V90	Live TV Unavailable - Host Blocking Tuners	The Host DVR is performing a task that requires access to all of its tuners.		When the Host DVR has completed this task, you will be able to watch Live TV at that time.
V91	VOD Unavailable - Host Restarting	The Host DVR is restarting		When the Host DVR has started up again, you will be able to watch Live TV at that time.
V92	VOD Unavailable - Host Repeating Guided Setup	The Host DVR is restarting		When the Host DVR has started up again, you will be able to watch QAM-based VOD at that time.
V93	VOD Unavailable - Host Blocking Tuners	The Host DVR is performing a task that requires access to all of its tuners.		When the Host DVR has completed this task, you will be able to watch QAM-based VOD at that time.

Table 7–2: Error Messages Specific to TiVo Mini (continued)

ID	Message displayed	Further explanation	Why this can happen	What to try
V114	Can't Connect to DVR	<p>The TiVo box could not be reached.</p> <p>There may be a temporary problem with your network or one of the devices may have become unplugged. If you continue to experience this problem, check your network settings.</p>		<ol style="list-style-type: none"> 1. Ensure that the Host DVR has not lost power or been restarted. After power is restored and/or a restart is complete, you should be able to access the TiVo box. 2. Force a connection to the TiVo service on the Host DVR. If the Host DVR does not connect successfully to the network, troubleshoot the network error you receive.
V115	Can't Connect to TTCB Service	<p>The TiVo service could not be reached because of a network issue. There may be a temporary problem with your network or one of the devices may have become unplugged. If you continue to experience this problem, check your network settings.</p> <p>The network issue could be one of the following:</p> <ul style="list-style-type: none"> • The network cable has been unplugged or the network may be down. • The network connection was broken. • The network connection could not be established. • There has been an unexpected problem. 		<ol style="list-style-type: none"> 1. Ensure that the source TiVo box has not lost power or been restarted. Once you have restored power and/or a restart is complete, you will be able to access the TiVo box. 2. Force a connection to the TiVo service on the source DVR. If the source DVR does not successfully connect to the network, troubleshoot the network error you receive.

Troubleshooting TiVo Mini

Table 7-2: Error Messages Specific to TiVo Mini (continued)

ID	Message displayed	Further explanation	Why this can happen	What to try
V117	Maximum Streams (Can't Play Show)	A "stream" can be either a live TV stream or a stream from "My Shows." You can have a maximum of three of these going at any one time. The Host DVR is already sending out the maximum number of streams.	Other TiVo devices are using the same Host DVR, and that has put this resource at the maximum of three streams.	Check to see if another TiVo device in the system could "release" a tuner on this same Host DVR, if it is not actually being used.
V304	Order From DVR	TiVo Mini cannot download the item you are trying to order.		Try ordering the item directly from the Host DVR.

Terminology Used in this Guide



The following terminology and abbreviations are used in this guide:

Term or Abbreviation	Meaning	Definition
Client		Any TiVo device, such as TiVo Mini, that receives and displays a stream from a Host DVR.
DVR	Digital Video Recorder	A consumer electronics device or application software that records video in a digital format to a disk drive or other memory device.
Host DVR	Host Digital Video Recorder	The DVR that has the necessary TiVo software (and tuners) to act as a multi-room Host to a client device.
IP	Internet Protocol	The principal communications protocol used for relaying network packets across an internetwork using the Internet Protocol Suite.
IP STB	Internet Protocol Set-Top Box	A set-top box that does not rely on a tuner, but instead relies on an internet connection, to receive television data.
LTS	Live TV Streaming	The streaming of linear content delivered over QAM, which can include TV, PPV, and QAM-based VOD.
MAC / MAC address	Media Access Control	On a local area network, the Media Access Control (MAC) address is a unique number that identifies a computer or other hardware device.
MAK	Media Access Key	A special identifier used to allow a PC to access the “Now Playing” list of a TiVo DVR, transfer files using the “TiVoToGo Home Media” feature, and play back those files as they are transferred to the PC.
MMA	Manage My Account	A section of TiVo.com where end users can modify attributes of their account – change their contact information, update the credit card used for monthly billing, activate a second DVR, etc.

Terminology Used in this Guide

Term or Abbreviation	Meaning	Definition
MoCA	Multimedia over Coax Alliance	A trade group promoting a standard that uses coaxial cables to connect consumer electronics and home networking devices in homes.
MRS	Multi-Room Streaming	A TiVo feature that allows two TiVo boxes to stream content to each other through a local network. Unlike Multi-Room Viewing, it does not require the video to be copied from one box to the other, which allows “Copy Once” content to be streamed from one box to the next and makes TiVo Mini eligible to be a “receiving” box (unlike MRV).
MRV	Multi-Room Viewing	A Tivo feature that allows a video stream to be transferred from one TiVo box to another in whole or in part. Unlike Multi-Room Streaming, the show is <i>copied</i> to the destination, meaning that the destination must have a recordable hard drive (which TiVo Mini does not).
OTT	Over-The-Top Content	The broadband delivery of video and audio without the Internet Service Provider being involved in the control or distribution of the content itself.
PGD	Program Guide Data	Electronically transmitted information about the schedule of upcoming television programs.
QAM	Quadrature Amplitude Modulation	A modulation scheme that is both analog and digital. It conveys two analog message signals, or two digital bit streams, by changing (modulating) the amplitudes of two carrier waves, using the amplitude-shift keying (ASK) digital modulation scheme or amplitude modulation (AM) analog modulation scheme.
STB	Set-Top Box	An information appliance device that usually contains a tuner and connects to a television set and an external source of signal, turning the source signal into content in a form that can then be displayed on a television screen or other display device.
TSN	TiVo Service Number	A 15-digit hexadecimal string that uniquely identifies a TiVo product.
VOD	Video On Demand	An interactive TV system that allows the viewer to select content and view it at a time of his or her own choosing.

Using a TiVo Remote

B

The use of a TiVo Remote Control is exactly the same for TiVo Mini as it is for any other TiVo DVR.



Figure B-1: TiVo Mini with Remote Control

Figure B-2, on the following page, shows the details for a standard TiVo Remote Control.

Using a TiVo Remote



Figure B-2: TiVo Remote Control Functions

Safety Instructions for TiVo Products



Before you begin installation, make sure all of the equipment you will be using is turned off, and TiVo Mini is unplugged.

TiVo Mini was designed and manufactured to meet strict quality and safety standards.

There are, however, some installation and operating precautions of which you should be particularly aware:

1. **Read and Follow Instructions** – Read and follow all safety instructions before installing or operating TiVo Mini.
2. **Retain Instructions** – Retain these safety instructions for future reference.
3. **Heed Warnings** – Be particularly aware of any warnings displayed on TiVo Mini and in these safety instructions.
4. **Ventilation** – Make completely sure the air vents on both the top and bottom of TiVo Mini are not blocked. Place TiVo Mini on a *hard* surface so the “feet” can provide a space between the bottom ventilation holes and that surface. Do not put TiVo Mini on a soft surface, such as a bed, sofa, rug, carpet, etc. Do not put TiVo Mini in a built-in installation, such as a bookcase or cabinet, because this may impede the flow of air through the ventilation openings. Never place anything on top of TiVo Mini.
5. **Water and Moisture** – Do not place or use TiVo Mini near water – for example, near a bathtub, washbowl, kitchen sink or laundry tub; or in a wet basement; or near a swimming pool, etc.
6. **Heat** – Do not place or use TiVo Mini near heat sources, such as radiators, heat registers, stoves or other appliances (including amplifiers) that produce heat.
7. **Wall Mounting** – Do not mount TiVo Mini on a wall, without using TiVo Mini Wall Mount Kit. Failure to use the correct hardware and/or to follow the correct procedures could result in a hazardous situation to people and damage to the system. Read the instructions that come with the mounting kit carefully before beginning installation.
8. **Carts** – Move a cart and TiVo product combination with care. Quick stops, excessive force and uneven surfaces could cause the cart and TiVo product combination to overturn.
9. **Tilt/Stability** – All televisions must comply with recommended international global safety standards for tilt and stability properties of their cabinet design. Do not compromise these design standards by applying excessive pull force to the front, or top, of the cabinet, which could ultimately overturn the product. Also, do not endanger yourself, or children, by placing electronic equipment and/or toys on top of the cabinet. Such items could unexpectedly fall from the top of the set, causing product damage and/or personal injury.
10. **Power Cord Protection** – Route power supply cords so they are unlikely to be walked on or pinched by items placed on or against them, paying particular attention to cords and plugs, convenience receptacles and the point where they exit from a TiVo product.

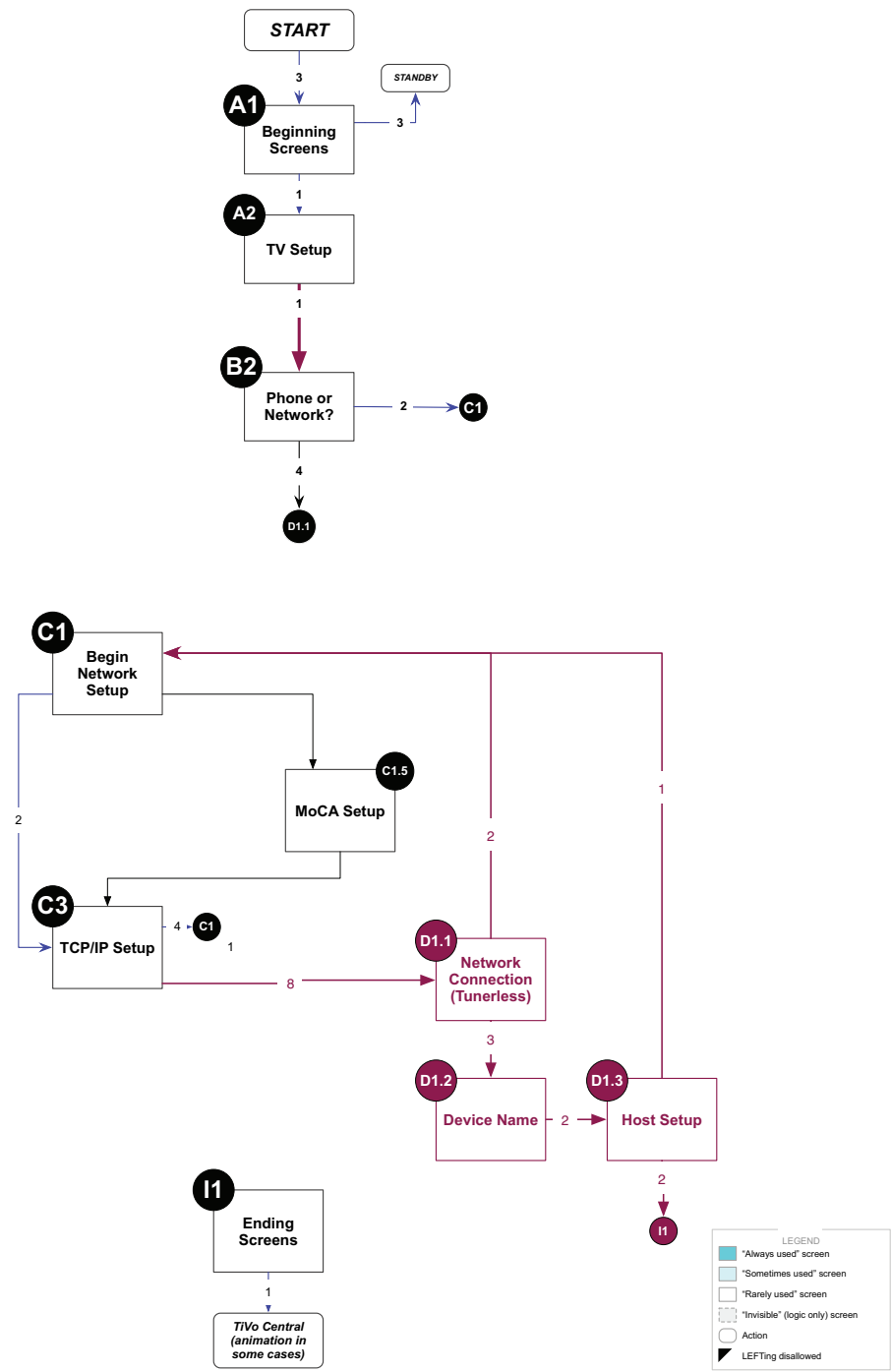
Safety Instructions for TiVo Products

11. **Object and Liquid Entry** – Never push objects of any kind into a TiVo product through cabinet slots, as they may touch dangerous voltage points or short the parts, increasing the risk of fire or electric shock. Never spill liquid of any kind on a TiVo product.
12. **Damage Requiring Service** – A TiVo product should be serviced by qualified service personnel when:
 - a. the power cord or plug is damaged or frayed;
 - b. liquid has spilled into the product;
 - c. the product has been exposed to rain or water;
 - d. the product does not operate normally when you follow the operating instructions (adjust only those controls discussed in this guide, as improper adjustment of other controls may result in damage, often requiring extensive work by a qualified technician to restore the product to normal performance);
 - e. the product has been dropped or the cabinet damaged;
 - f. the product exhibits a distinct change in performance.
13. **Servicing** – Do not attempt service to a TiVo product beyond that described in the troubleshooting chapter (see *Troubleshooting TiVo Mini on page 35*). All other servicing should be referred to qualified service personnel.
14. **Cleaning** – Unplug all TiVo products from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners; use a damp cloth for cleaning. If a TiVo product comes in contact with any liquid, unplug the power adapter and let the product dry thoroughly before plugging it back in.
15. **Power Source** – TiVo products should be operated only from the type of power source indicated on the marking label or in this guide. If you are unsure of the type of power supply to your home, consult your dealer or local power company.
16. **Overloaded Power Outlets** – Do not overload wall outlets and extension cords, because this increases the risk of fire or electric shock.
17. **Coaxial Cable Grounding** – Ground the coaxial cable shield/screen as close as practical to the point of entry of the cable into the home. For products sold in the United States and Canada, this is per Article 800-93 and Article 800-100 of the NEC (or Canadian Electrical Code Part 1), which provides guidelines for proper grounding of the coaxial cable shield.
18. **Electric Shock** – Do not disassemble a TiVo product – to avoid the risk of electric shock. Take it to a qualified service person when service or repair work is required. Opening or removing covers may expose you to dangerous voltage or other risks. Incorrect reassembly can cause electric shock when the product is subsequently used.
19. **Moving** – Avoid moving a TiVo product when it is plugged in – to avoid accumulative shock.
20. **CAUTION – Battery Replacement** – There is a danger of explosion if a battery is incorrectly replaced. Replace batteries only with the same or equivalent type of battery recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

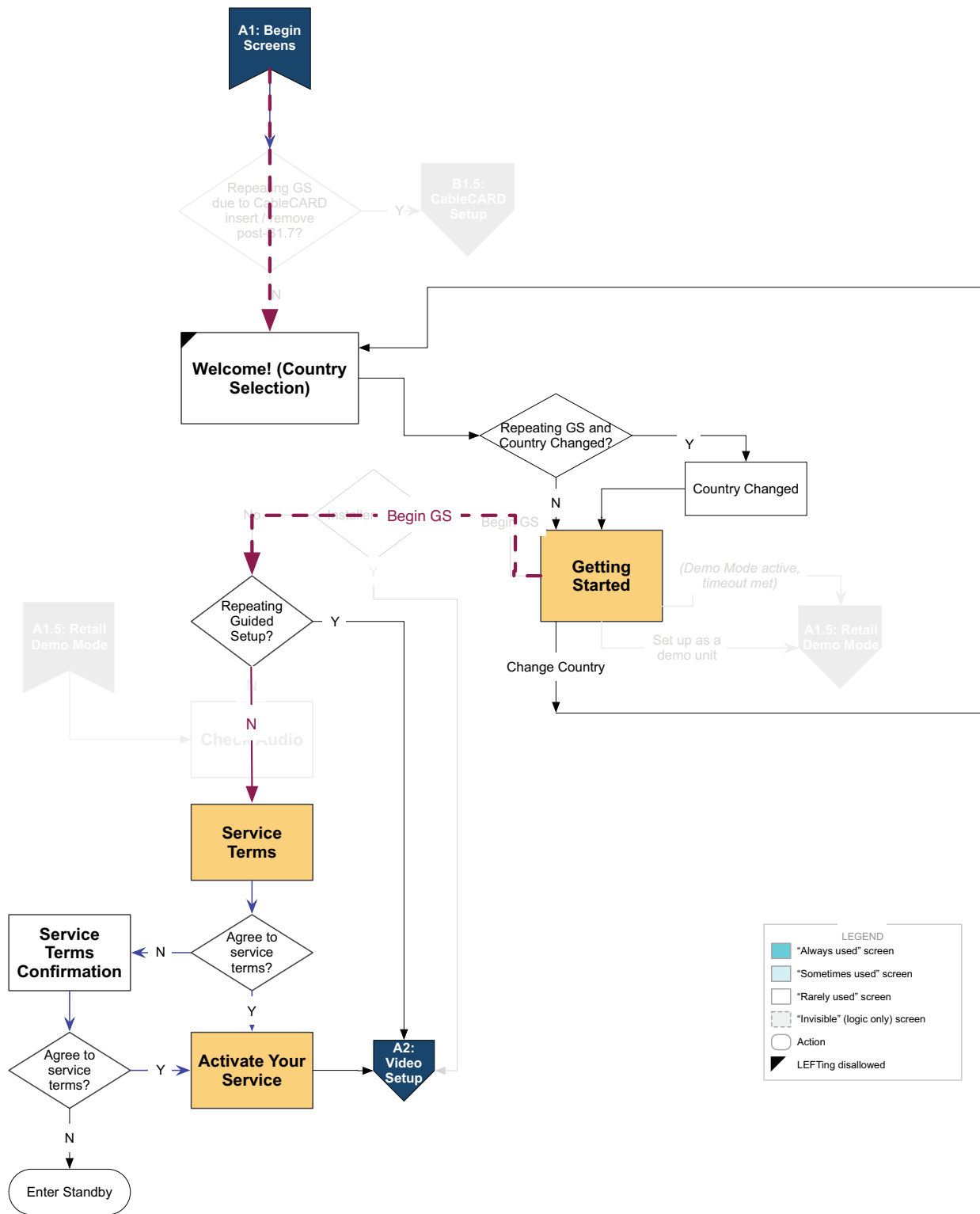
TiVo Mini Guided Setup Flow



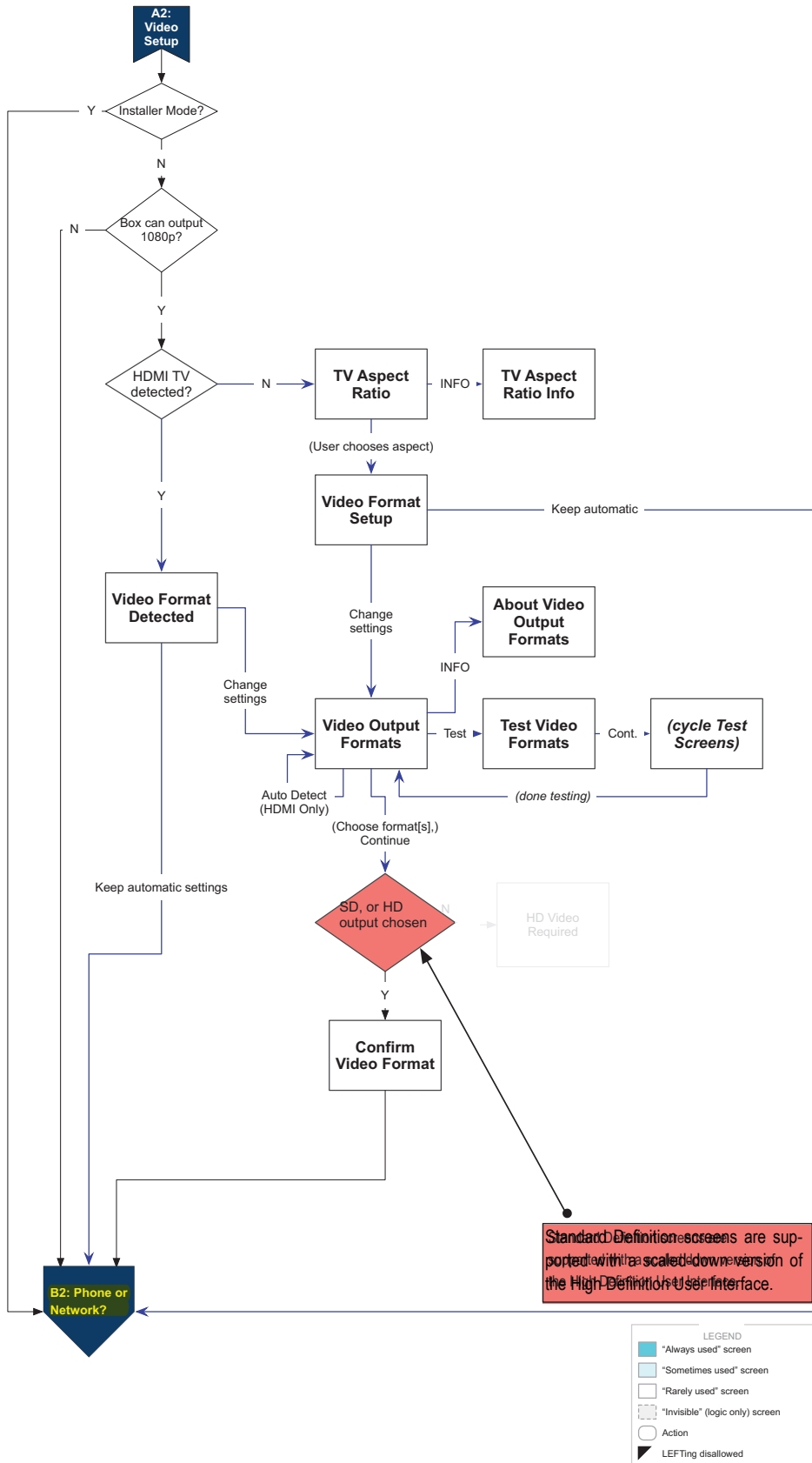
The following diagrams provide all of the possible scenarios for Guided Setup, not just the typical one described in *Guided Setup for TiVo Mini* on page 17.



TiVo Mini Guided Setup Flow

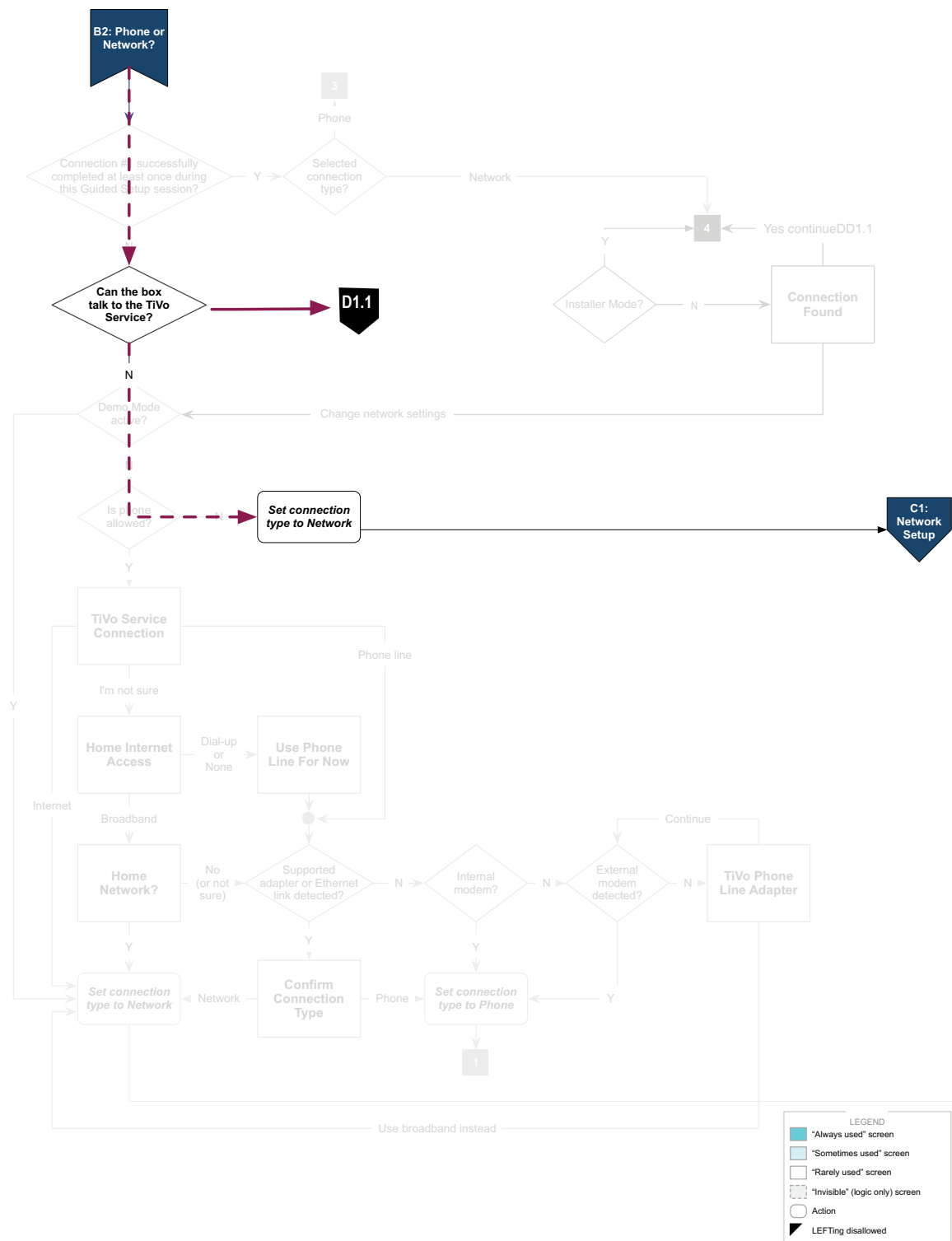


TiVo Mini Guided Setup Flow

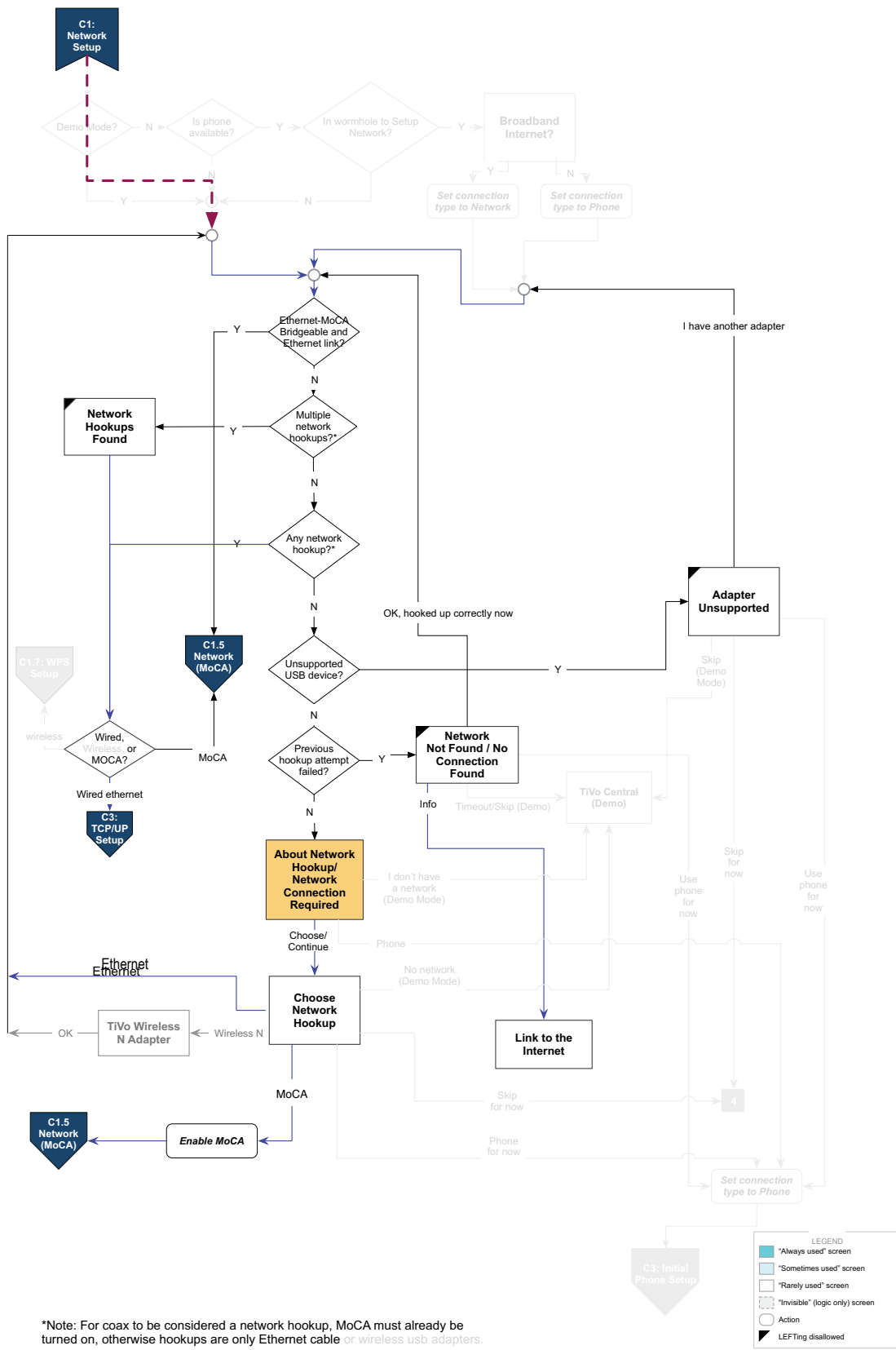


Standard Definition screens are supported with a scaled-down version of the High Definition User Interface.

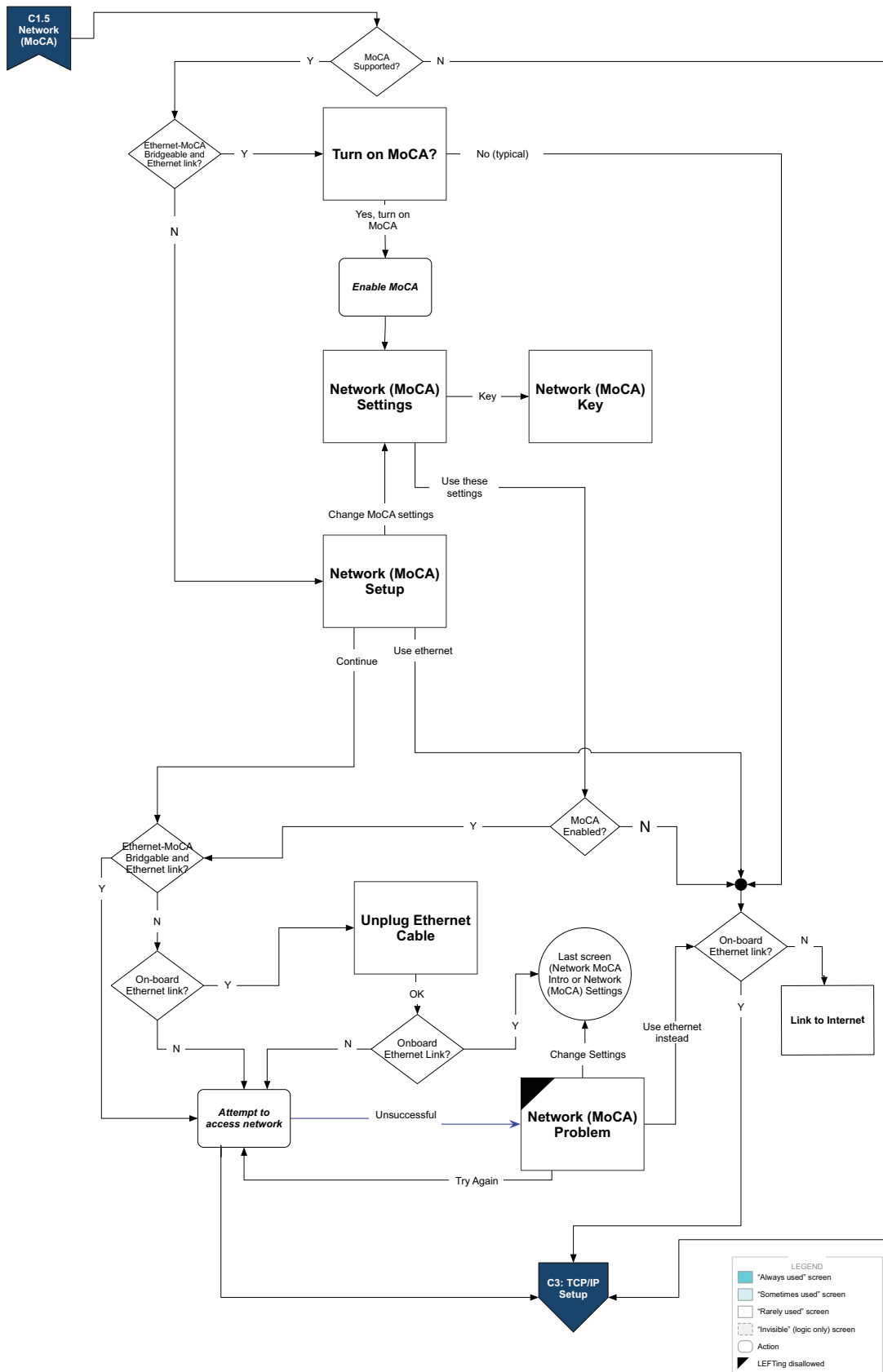
TiVo Mini Guided Setup Flow



TiVo Mini Guided Setup Flow

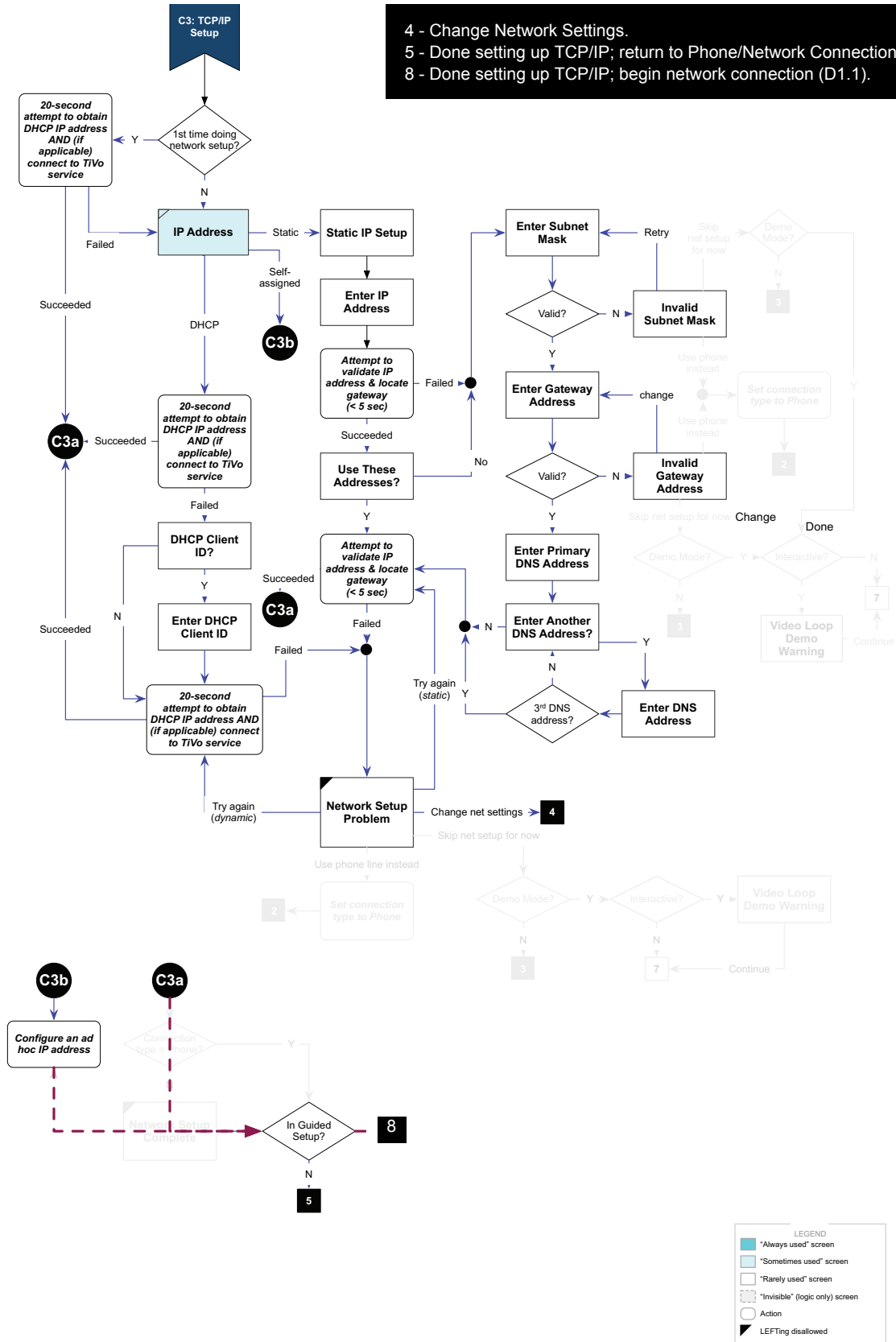


TiVo Mini Guided Setup Flow

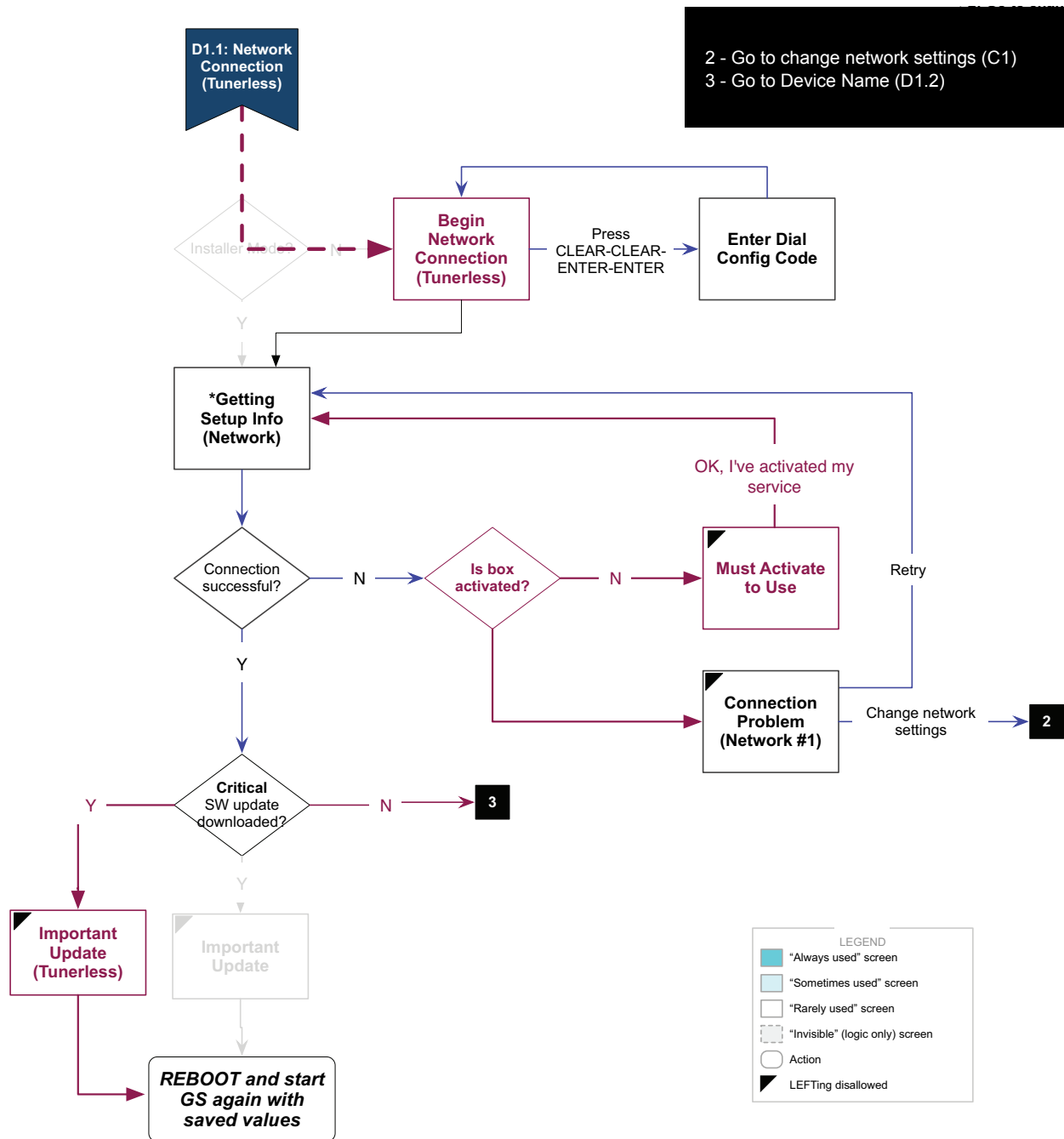


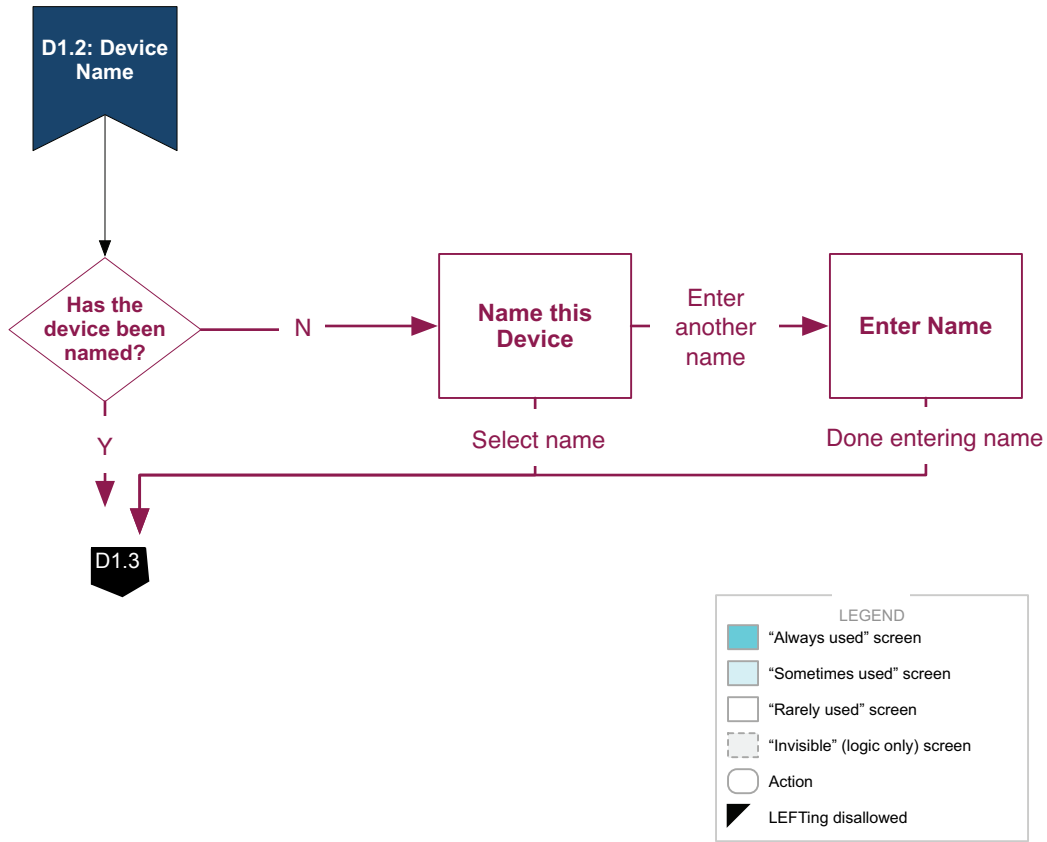
TiVo Mini Guided Setup Flow

4 - Change Network Settings.
 5 - Done setting up TCP/IP; return to Phone/Network Connection
 8 - Done setting up TCP/IP; begin network connection (D1.1).

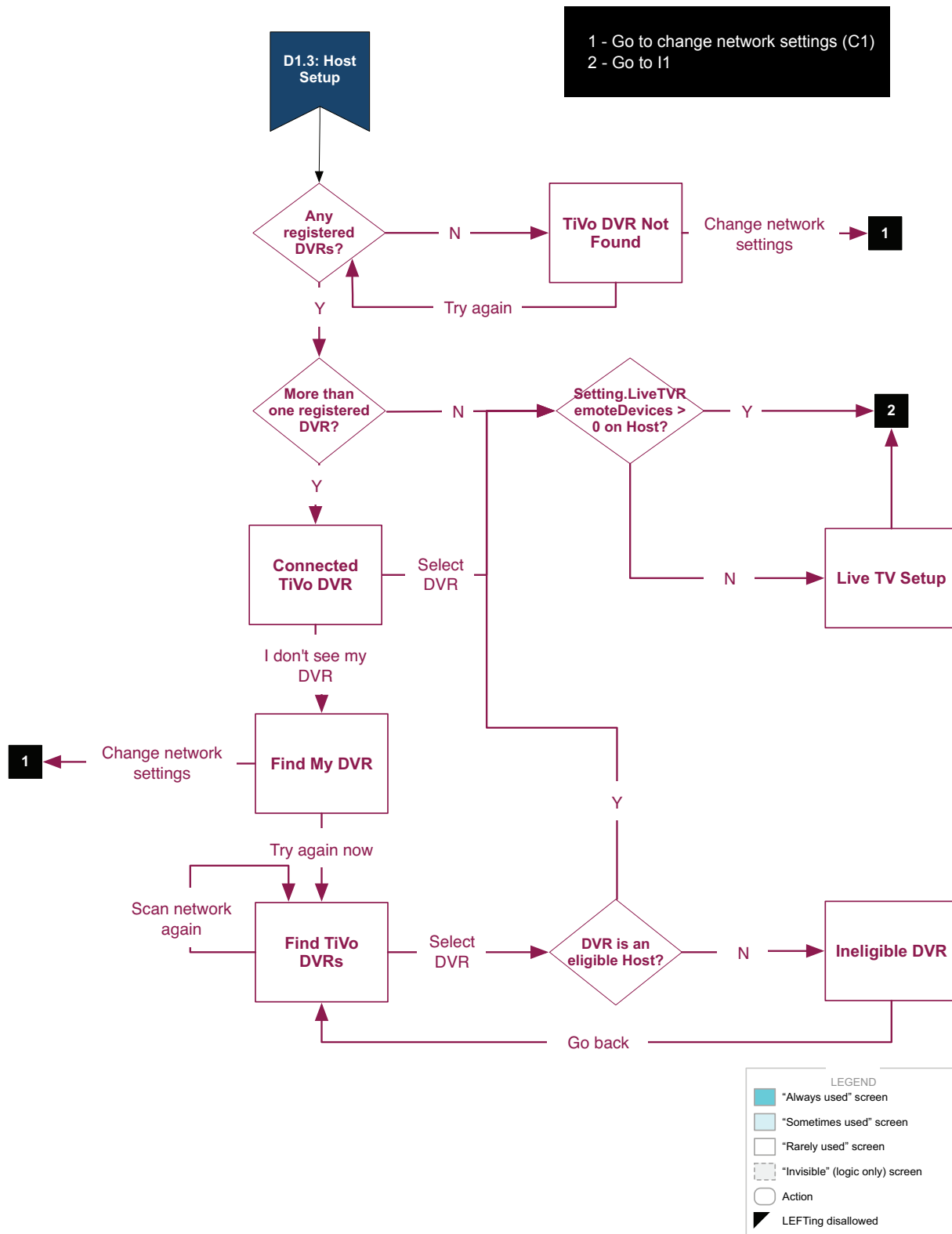


TiVo Mini Guided Setup Flow

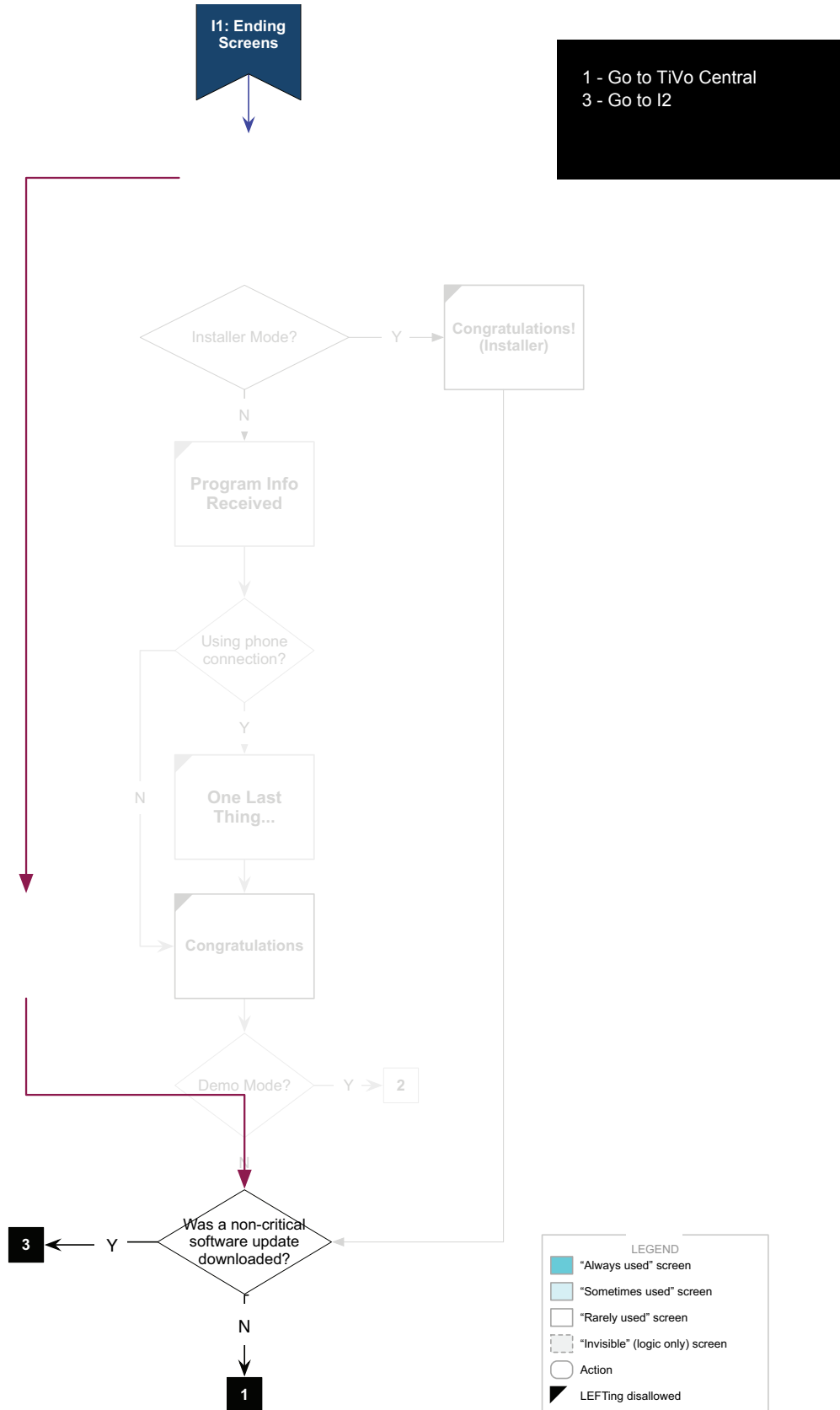




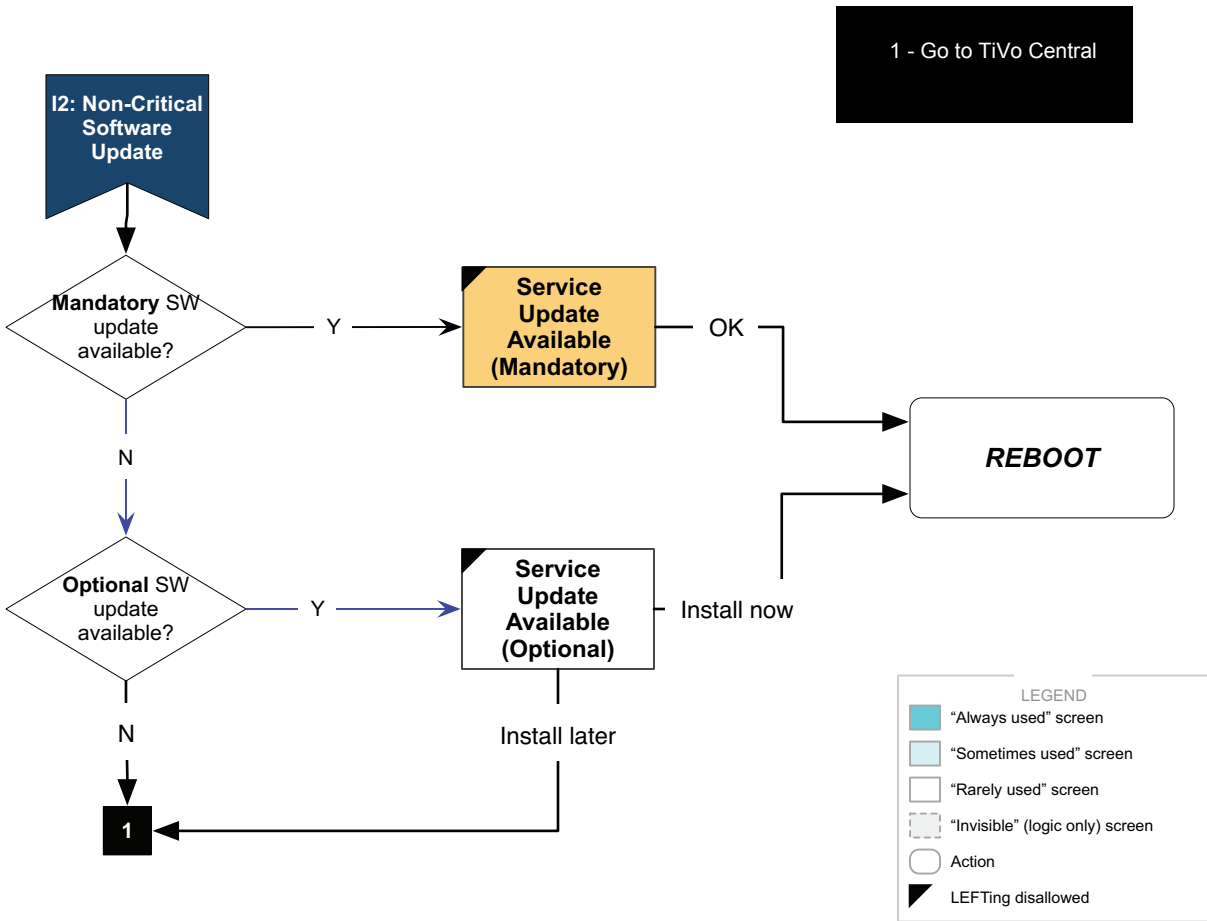
TiVo Mini Guided Setup Flow



TiVo Mini Guided Setup Flow



TiVo Mini Guided Setup Flow



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