



Product Catalog
AN/PRC-148 Family of Radios



Trusted by warfighters for years, AN/PRC-148 radios are serving the military, civilian agencies, and allied and coalition forces globally.

About Thales Communications, Inc.

Thales Communications, Inc., a pioneer of software-defined radio (SDR) technology, is a global leader in the development, manufacture, and support of innovative communications systems for warfighters and first responders. The company serves the ground, naval, airborne, and homeland security domains with tactical electronic equipment and information systems that address the technological and environmental challenges presented in real-world situations, especially those with size, weight, and power constraints.

Thales Communications is part of Thales, a global technology leader for the defense and security, aerospace, and transportation markets. Thales Communications is a U.S. proxy company, considered 100% American by the U.S. Government. As a gateway for international technologies, Thales Communications facilitates the introduction of broader Thales technologies into the U.S. market.

Thales Communications is headquartered in Clarksburg, Maryland, where its products are developed and manufactured. Additionally, the company has set up maintenance and repair depots supporting troops in Kuwait, Iraq, and Afghanistan. Establishing in-theater facilities as close as possible to warfighters is critical for those who use and depend on the equipment.

The AN/PRC-148.

The AN/PRC-148 legacy began with the Multiband Inter/Intra Team Radio (MBITR), which replaced more than 60 pounds of communications equipment with a single radio weighing less than two pounds. The AN/PRC-148 MBITR was designed and developed under a U.S. Government program of record, as was the next-generation MBITR—the AN/PRC-148 Joint Tactical Radio System (JTRS) Enhanced MBITR, or JEM.

The AN/PRC-148, the smallest, lightest, and most widely fielded multiband, portable radio in the world, is the cornerstone of a complete communications system for mounted and dismounted operations.

Ready for the Net-Centric Future.

The AN/PRC-148 JEM is not only the first fielded production radio developed under the U.S. Department of Defense JTRS program of record, but is also the first fully functional radio designed for net-centric warfare. In keeping with JTRS program goals, the AN/PRC-148 JEM can be enhanced with legacy waveforms and software—such as increased data throughput, networking, over-the-air cloning and improved satellite communications—ensuring interoperability with presently fielded radios as well as with newly developed and future capabilities. All features are available via simple software upgrades.

Software-Defined Multiband Interoperability.

Gone are the days when a unit leader had to rely on trained radio operators burdened with cumbersome manpacks and entering frequencies from notebooks. With 16 sets of 16 programmed channels in the 30-512 MHz range—downloaded from a computer or keyed from the front panel—the AN/PRC-148 JEM gives the warfighter push-button access to units in his area of operation. From an infantry unit on VHF SINCGARS, to an aircraft on UHF HAVEQUICK, to operations over a UHF long-range satellite link, a unit leader can see all available links by name or frequency right on the display screen and communicate with them seamlessly with the push of a button.

Flexible Mobility.

The AN/PRC-148 JEM is a highly adaptable radio, not just in software configuration but also in mode and range of operation. The small, lightweight 5 Watt radio can be worn anywhere on the body—hip, chest, or back. By using the handheld Remote Control Unit, which features an embedded GPS capability, the warfighter can send and receive situational awareness data. The AN/PRC-148 JEM's range of communication can be quickly extended from 3.72 miles (6 kilometers) to more than 18.64 miles (30 kilometers), simply by inserting it into one of the Thales Vehicle Adapter (VA) configurations, which recharges the radio's batteries.



Rapid Dismount.

The JEM can be dismounted from the VA configuration in less than two seconds with a single push-button action, with no cables to disconnect and no loss in communication. The AN/PRC-148 JEM's versatility is further extended by its ability to serve as a secure means of sending data. With the addition of the 56 kbps high-throughput waveform, it adds a new dimension to point-to-point communications. It can also enhance the battlespace capabilities of weapon systems that rely on dependable high-speed data communications.

Delivering Full Connectivity.

With its broad capabilities, flexibility, reliability, and proven performance, the AN/PRC-148 radio gives battlefield leaders confidence that they will be able to establish and maintain communications with all units at the forward edge of the battlefield.

Catalog Overview.

This catalog is designed to provide information of immediate interest to customers. The first section contains the system descriptions. The radios are described first, followed by the systems that enhance their capabilities. Opposite each product description page is the listing of equipment that is provided with that system. For example, the page opposite the AN/PRC-148 JEM contains all the elements that are provided when

ordering the AN/PRC-148 JEM system. The system descriptions shown are typical configurations that can be changed by customer request. Prime mission equipment comes with a standard one-year warranty. Extended warranties are available upon request.

The Software and Accessories section contains a listing and description of ancillaries that customers can purchase to support and supplement the radio's capabilities.

Both sections provide part numbers and, where available, National Stock Numbers (NSNs), to assist in ordering the equipment.

Thales Communications provides Customer Support 24/7/365, as shown in the final section of this catalog.

For our U.S. Government customers, our products are listed on our GSA Schedule (GS-35F-0001L).

All non-U.S. Government sales are subject to U.S. Government export approval. Specifications are subject to change without notice.

Thales Communications is committed to helping warfighters and first responders execute their missions successfully and return home safely.





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NOTE: – All non-U.S. Government sales are subject to U.S. Government export approval. Specifications are subject to change without notice.
– Photographs in this catalog are not to scale.



AN/PRC-148 Product Family

Thales offers an integrated systems approach based on the combat-proven multiband AN/PRC-148 radio to ensure low programmatic and performance risk. All systems are built around the handheld radio and are designed to enhance its capabilities.

Dismounted Systems/Fixed Site



5 Watt Multiband Inter/Intra Team Radio System

20 Watt Man Portable System



20 Watt Base Station (50 Watt Version Available)



20 Watt Tactical Repeater



Vehicular Systems

20 Watt Vehicle Adapter



20 Watt AN/VRC-111 Vehicle Adapter Amplifier



50 Watt AN/VRC-111 Vehicle Adapter Amplifier Dual Channel



50 Watt Vehicle Adapter Amplifier-Single Channel



50 Watt Low Profile Vehicle Adapter



50 Watt AN/VRC-113 Cradle Vehicle Adapter



Airborne Systems, Software and Accessories

Multiband Multichannel Airborne Radio (MMAR)



Lightweight Multiband Airborne Radio (LMAR)



Software and Accessories



Pictured: Remote Control Unit with GPS



5 Watt Multiband Inter/Intra Team Radio



Key Design Features of the AN/PRC-148 (V)3(C)/(V)4(C) JEM JTRS Enhanced Multiband Inter/Intra Team Radio

Commonality	Reliability	Size, Weight, and Power
<ul style="list-style-type: none"> Fully interchangeable with AN/PRC-148 MBITR Fully compatible with existing VA and VAA systems JTRS/SCA compliant supporting technology insertion 	<ul style="list-style-type: none"> >11,400 hours calculated MTBF Based on the battle-proven AN/PRC-148 MBITR Government tested and certified as part of DoD program of record 	<ul style="list-style-type: none"> <34 cubic inches (560 cubic centimeters) including connectors per TIA-603-2001 30.6 ounces (867.5 grams) including battery and broadband antenna 10 hours battery life measured per TIA-603b

Ease of Use

Dedicated 16-Channel Switch

- <1-second waveform/channel switch time
- Separate Channel and On/Off switches to prevent unintentional radio shut-down
- Group mapping to 256 channel presets
- Low profile reduces damage

Dedicated Top Volume/On/Off Knob

- Emergency zeroize switch
- Top position for easy access with radio in holster
- Detent at Off position to prevent unintentional radio shut-down
- Low profile reduces damage

PTT, Squelch Disable and Programmable Buttons

- Recessed to prevent inadvertent action
- Two user-programmable buttons provide immediate access to mission-specific functions

Intuitive, Function-Specific HMI

- Function-based keypad provides quick, direct access to common operations, leading to fewer battle-stress errors
- Recessed keys prevent accidental key presses
- Highly optimized Human Machine Interface (HMI) incorporates customer feedback based on battlefield experience

Immersibility

- Machined aircraft aluminum chassis delivers precise tolerances required for immersibility (2 meter and 20 meter versions available)
- 22 screws and robust O-ring apply even pressure and lifetime sealing



Waveforms/Modes of Operation

Implemented and Planned

- AM/FM
- HAVEQUICK I/II
- SINGARS to MIL-STD-188-241
- SINGARS FH2 to MIL-STD-188-241
- High Throughput Waveform to MIL-STD-188-181B (56 kbps)
- Integrated Waveform to MIL-STD-188-181C, -182B, and -183B (SATCOM IW)
- Retransmission
- Project 25
- ANDVT (LPC-10 or MELP vocoders)
- OTAC
- Future Waveforms

Performance

- Contiguous 30–512 MHz coverage
- Type 1 encrypted
- SECAN approved
- 119 dBm typical FM receive sensitivity providing greater communication range
- RF output power from 0.1 to 5 Watts

Expandability

Side RF and Digital Connector

- Cable-free interface with VA/VAA
- No RF switch required; top antenna connector disabled while in VA/VAA
- Supports 2-second rapid dismount/insertion from/to VA/VAA
- Includes USB interface

Radio Profile


- Clean, protrusion-free profile for embedded integration with VA/VAA
- Allows one-button mechanical engagement with VA/VAA

Ruggedization

- Operating temperature: -31° to +60° C
- Storage temperature: -33° to +71° C
- Humidity: 95% Non-condensing
- Altitude: 30,000 feet
- Shock: EIA-603-2002
- Vibration: EIA-603-2002
- TEMPEST Compliance:
 - NSTISSAM TEMPEST/1-92, Level III
 - NACSEM 5112



A typical AN/PRC-148 (V)4(C) JEM System (Urban)* is comprised of all of the following components:

Description	Part Number	NSN
Receiver-transmitter	4101660-XXX	
Rechargeable lithium-ion battery	1600515-7	6140-01-487-1153
30-90 MHz antenna	1600629-1	5985-01-487-1135
90-512 MHz broadband antenna	1600500-3	5985-01-584-7883
Battery holder assembly	4101240-501	6160-01-487-1151
Carrying case	1600495-1	5895-01-487-1158
Operator manual	84357	
Quick reference guide, laminated	3400905-1	
 Optional Accessories		
Holster, ACU digital camo	1600494-1	5895-01-487-1157
Keyfill adapter on 10-pin Maritime version only	3600190-1	5995-01-487-1149

***Versions:**

- AN/PRC-148(V)3(C), Maritime, immersible in salt water to 20 meters for 2 hours, Part Number PRC6999-ABS-XXX 6-pin (Part Number PRC6999-ABS-CIS) and 10-pin audio connector configurations available
- AN/PRC-148(V)4(C), Urban, immersible in salt water to 2 meters for 30 minutes, Part Number PRC6999-BBS-XXX

JTRS Upgrade Program: Subject to U.S. export approval, AN/PRC-148 MBITR versions (V)1(C) and (V)2(C) may be upgradeable to AN/PRC-148 JEMs. Thales will provide a turn-in credit for an MBITR towards the purchase of a JEM; either a replacement R/T or a complete radio system. Each JEM will have a 5-year warranty and the following software features included: SINCGARS, HAVEQUICK II, and ANDVT. Thales will properly dispose of the CCI equipment in accordance with regulations.



5 Watt Multiband Inter/Intra Team Radio



Key Design Features of the PRC6809 MBITR Multiband Inter/Intra Team Radio

Commonality	Reliability	Size, Weight, and Power
<ul style="list-style-type: none"> Fully compatible with existing VA, VAA, and AN/PRC-148 MBITR systems 	<ul style="list-style-type: none"> >30,000 hours field-measured MTBF Based on the battle-proven AN/PRC-148 MBITR 	<ul style="list-style-type: none"> <34 cubic inches (560 cubic centimeters) including connectors per TIA-603-2001 30.6 ounces (867.5 grams) including battery and broadband antenna 12 hours battery life measured per TIA-603b

Ease of Use

Dedicated 16-Channel Switch

- <1-second waveform/channel switch time
- Separate Channel and On/Off switches to prevent unintentional radio shut-down
- Group mapping to 100 channel presets
- Low profile reduces damage

Dedicated Top Volume/On/Off Knob

- Emergency zeroize switch
- Top position for easy access with radio in holster
- Detent at Off position to prevent unintentional radio shut-down
- Low profile reduces damage

PTT, Squelch Disable and Programmable Buttons

- Recessed to prevent inadvertent action
- Two user-programmable buttons provide immediate access to mission-specific functions

Intuitive, Function-Specific HMI

- Function-based keypad provides quick, direct access to common operations, leading to fewer battle-stress errors
- Recessed keys prevent accidental key presses
- Highly optimized Human Machine Interface (HMI) incorporates user feedback based on battlefield experience

Immersibility

- Machined aircraft aluminum chassis delivers precise tolerances required for immersibility (2 meter and 20 meter versions available)
- 22 screws and robust O-ring apply even pressure and lifetime sealing



Waveforms/Modes of Operation

- AM/FM
- Voice/Data
- Encryption
 - DES 12 kb/s option
 - AES 12 kb/s option
- Retransmission

Performance

- Contiguous 30–512 MHz coverage, non-Type 1
- 118 dBm typical FM receive sensitivity providing greater communication range
- RF output power from 0.1 to 5 Watts

Expandability

Side RF and Digital Connector

- Cable-free interface with VA/VAA
- No RF switch required; top antenna connector disabled while in VA/VAA
- Supports 2-second rapid dismount/insertion from/to VA/VAA

Radio Profile


- Clean, protrusion-free profile for embedded integration with VA/VAA
- Allows one-button mechanical engagement with VA/VAA

Ruggedization

- Operating temperature: -31° to +60° C
- Storage temperature: -33° to +71° C
- Humidity: 95% Non-condensing
- Altitude: 30,000 feet
- Shock: EIA-603-1992
- Vibration: EIA-603-1992



A typical PRC6809 MBITR System (Urban)* is comprised of all of the following components:

Description	Part Number	NSN
Receiver-transmitter	4101349-502	5820-01-523-5722
Rechargeable lithium-ion battery	1600515-7	6140-01-487-1153
30-90 MHz antenna	1600629-1	5985-01-487-1135
90-512 MHz broadband antenna	1600500-3	5985-01-584-7883
Holster, ACU digital camo	1600494-1	5895-01-487-1157
Carrying case	1600495-1	5895-01-487-1158
Operator manual	84345	
Quick reference guide, laminated	3400738-1	
Operator manual supplement – DES	84370	
Operator manual supplement – AES	84374	
 Optional Accessory		
Keyfill Adapter – Maritime only	3600190-1	5995-01-487-1149

***Versions:**

- PRC6809-ABR-BAS, Maritime, immersible in salt water to 20 meters for 2 hours
- PRC6809-BBR-BAS, Urban, immersible in salt water to 2 meters for 30 minutes



Key Design Features of the 20 Watt Man Portable System (MPS)

Commonality	Reliability	Performance
<ul style="list-style-type: none"> Based on core transceiver, can use the AN/PRC-148 JEM, AN/PRC-148 MBITR, PRC6809 MBITR 	<ul style="list-style-type: none"> ≥8,000 hours MTBF ≤15 minutes MTTR 	<ul style="list-style-type: none"> 20 watts RF output across entire 30–512 MHz frequency range

Ease of Use

- Modular design for simplified field-level maintenance
- Heavy-duty ballistic nylon carrying bag
- Configurations:
 - Backpack
 - Shoulder strap
 - Handle strap

Ruggedization

- Operating temperature: -31° to +60° C
- Storage temperature: -33° to +71° C
- Humidity: 95% non-condensing
- Altitude: 30,000 feet

Waveforms/Modes of Operation

- Per radio installed

Size, Weight, and Power

- Fully configured weight: 15.98 pounds (7.25 kg) (including batteries and antenna)
- Physical parameters of carrying bag: approximately 13 x 10 x 7 inches (33.0 x 25.4 x 17.8 cm)
- Battery life (with 80:10:10 duty cycle):
 - 8 hours with two BA-5590 (non-rechargeable) or BA-5390 (non-rechargeable) batteries
 - 5 hours with one BB-2590 (rechargeable) battery
 - 10 hours with two BB-2590 (rechargeable) batteries

Performance

- 20 Watt transmission power in 30–512 MHz
- Supports 20 Watt transmission with 50% duty cycle @ 60°C ambient temperature
- Typical -117 dBm FM receive sensitivity





A typical 20 Watt Man Portable System (MA7035) is comprised of all of the following components:

Description	Part Number	NSN
20W amplifier	1600610-1	5895-01-571-1634
Battery boxes (2)	1600604-3	
Rechargeable lithium-ion batteries (BB-2590) (2)	85334	6140-01-490-4316
Parallel cable	1600623-2	
Power/control cable	3100771-501	
Battery adapter	4101441-504	6150-01-523-4570
RF Cable assembly, TNC-to-TNC	85343	
30-90 MHz antenna (for 20W operation)	85349	5985-01-499-4494
90-512 MHz broadband antenna (for 20W operation)	85350	5985-01-550-3291
Carrying bag	1600609-1	
Operator manual	84361	



The MA7035 can be used with any radio in the AN/PRC-148 family. The available receiver-transmitters are listed below.

Receiver-transmitter:	AN/PRC-148 JEM (Urban)*	4101660-XXX	
	or AN/PRC-148 MBITR (Urban)*	4101195-501	5820-01-487-0973
	or PRC6809 MBITR (Urban)*	4101349-502	5820-01-523-5722



Not required for MPS operation.

Rechargeable lithium-ion battery for radio	1600515-7	6140-01-487-1153
30-90 MHz antenna (for 5W operation)	1600629-1	5985-01-487-1135
90-512 MHz broadband antenna (for 5W operation)	1600500-3	5985-01-584-7883
Battery charger for two lithium-ion rechargeable batteries	85336	6130-01-511-0352

* Note that Maritime version may also be used.



Key Design Features of the 20 Watt Base Station 50 Watt Base Station (GRC6781A) Also Available

Commonality	Reliability	Performance
<ul style="list-style-type: none"> Based on core transceiver, can use AN/PRC-148 JEM, AN/PRC-148 MBITR, and PRC6809 MBITR Built on the field-proven Vehicle Adapter 	<ul style="list-style-type: none"> ≥4,000 hours MTBF ≤ 30 minutes MTTR 	<ul style="list-style-type: none"> 20 watts RF output across entire 30–512 MHz frequency range

Ease of Use

2-Second Rapid Dismount/Insertion

- Cable-free radio/VA interface
- Single push/pull button to dismount/insert
- Radio operation maintained during insertion and dismount

Remote Operation with Common User Interface

- Removable Control Head Assembly with audio interface
- Remote control shares the same user interface with AN/PRC-148 and PRC6809, eliminates additional training

Ruggedization

- Operating temperature: 0° to +55° C
- Storage temperature: -31° to +60° C
- Humidity: 95% non-condensing
- Altitude: 33,000 feet, per MIL-STD-810E
- Shock per MIL-STD-810E
- Vibration per MIL-STD-810E
- Salt fog per MIL-STD-810E
- Rugged transit case provides environmental protection against driven rain and sand and dust

Waveforms/Modes of Operation

- Per radio installed



Performance

- Typical -115 dBm FM receive sensitivity
- 20 watt transmission power in 30–512 MHz

Size, Weight, and Power



- Wide range of power inputs:
 - 12.5-32 VDC (with Thales cabling);
 - 90–132 VAC @ 47-440 Hz or
 - 180–264 VAC @ 47-440 Hz
- Smart charging of inserted radio
- Physical Parameters (with control head and radio with battery):
 - Height: 8.3 inches (21 cm)
 - Width: 8.4 inches (21.3 cm)
 - Depth: 14.8 inches (37.6 cm)
 - Weight: 28.0 pounds (12.7 kg) (radio, amplifier, power supply), 57.5 pounds (26.1 kg) (equipment in transit case)

Product Specifications

- EMI Compliance: EMI/EMC per MIL-STD-461C
- TEMPEST Compliance:
 - NSTISSAM TEMPEST/1-92, level II
 - NACSEM 5112



A typical 20 Watt Base Station (GRC6781, NSN 5820-01-565-8321) is comprised of all of the following components:

Description	Part Number	NSN
Base Station, Main Assembly	4101802-501	
Cable Assembly, DC power, 12 ft	3500632-501	
Cable Assembly, AC power, 12 ft	3500633-501	
Speaker microphone	1600469-4	5965-01-507-3576
Tactical speaker	1600599-1	5965-01-523-4572
Speaker cable, 10 ft	1600623-4	5995-01-530-7173
Ground wire	3500692-507	
Transit case assembly	4101800-501	
VA/Power Supply Assembly	4101999-501	
Cable tray	4400658-1	
Operator manual	84368	
 Additionally, the Base Station requires a radio (receiver-transmitter and battery) and an antenna mast kit for operation. The mast kits include antenna mast, 50 ft. antenna cable, broadband antenna, and grounding rod.		
Receiver-transmitter: AN/PRC-148 JEM (Urban)*	4101660-XXX	
or AN/PRC-148 MBITR (Urban)*	4101195-501	5820-01-487-0973
or PRC6809 MBITR (Urban)*	4101349-502	5820-01-523-5722
Rechargeable lithium-ion battery for radio	1600515-7	6140-01-487-1153
Single antenna mast kit, 13.5 ft	1100634-502	5985-01-565-8768
Single antenna mast kit, 31.5 ft	1100634-501	5985-01-565-8769
Removable control head cable, optional 10 ft, 35 ft, 50 ft, 100 ft, and 150 ft	3600215-X	
 Not required for Base Station operation; only used with receiver-transmitter when removed from the Base Station.		
30-90 MHz antenna (for dismantled radio operation)	1600629-1	5985-01-487-1135
90-512 MHz broadband antenna (for dismantled radio operation)	1600500-3	5985-01-584-7883

* Note that Maritime version may also be used.



Key Design Features of the 20 Watt Tactical Repeater

Commonality	Reliability	Performance
<ul style="list-style-type: none"> Based on core transceiver, can use AN/PRC-148 JEM, AN/PRC-148 MBITR, and PRC6809 MBITR Built on the field-proven Vehicle Adapter 	<ul style="list-style-type: none"> ≥2,500 hours MTBF ≤45 minutes MTTR 	<ul style="list-style-type: none"> 20 watts RF output across entire 30–512 MHz frequency range (dual antenna model)

Ease of Use

- Local mode simplifies setup
- Removable Control Head allows field programming of each radio
- Bi-directional repeater for net linking

Size, Weight, and Power

- External power:
 - 13–32 VDC;
 - 90–132 VAC; or
 - 180–264 VAC
- Internal power: Two BB-2590 rechargeable batteries

Performance

- Typical -115 dBm FM receive sensitivity
- Retransmits voice and data, clear and secure traffic
- 20 watt transmission power in 30-512 MHz with dual antennas

Ruggedization

- Rugged case for environmental protection and ease of transport

Modularity

- Available 13.5 ft and 31.5 ft mast kits with broadband center fed dipole antennas



Waveforms/Modes of Operation

- Per radios installed





A typical 20 Watt Tactical Repeater (TRC6730) is comprised of all of the following components:

Description	Part Number	NSN
Repeater Main Assembly	4101754-501	
Rechargeable lithium-ion batteries for internal power (BB-2590) (2)	85357	
Cable Assembly, DC power, 12 ft	3500632-501	
Cable Assembly, AC power, 12 ft	3500633-501	
Operator manual	84367	
 The Tactical Repeater can be used with any radio in the AN/PRC-148 family (receiver-transmitter with battery). Two radios and an antenna mast kit are required for operation. The mast kits include antenna masts and 6 ft crosspiece, two 50 ft antenna cables, two broadband antennas, and grounding rod.		
Receiver-transmitter: AN/PRC-148 JEM (Urban) ^{††}	4101660-XXX	
or AN/PRC-148 MBITR (Urban) ^{††}	4101195-501	5820-01-487-0973
or PRC6809 MBITR (Urban) ^{††}	4101349-502	5820-01-523-5722
Rechargeable lithium-ion batteries for radio	1600515-7	6140-01-487-1153
Dual antenna mast kit, 13.5 ft	1100634-503	
Dual antenna mast kit, 31.5 ft	1100634-504	
 Not required for repeater operation; only used with receiver-transmitter when removed from the repeater.		
30-90 MHz antenna (for dismounted radio operation)	1600629-1	5985-01-487-1135
90-512 MHz broadband antenna (for dismounted radio operation)	1600500-3	5985-01-584-7883

* Note that Maritime version may also be used.

[†] Only the PRC6809 MBITR can be used for unattended Tactical Repeater operation.



Key Design Features of the 20 Watt Vehicle Adapter (VA)

Commonality	Ease of Use	Performance
<ul style="list-style-type: none"> Accepts all AN/PRC-148 and PRC6809 models 	<ul style="list-style-type: none"> 2-second radio dismount/insertion Cable-free radio/VA interface Non-obstructive low profile 	<ul style="list-style-type: none"> Typical -115 dBm FM receive sensitivity Excellent co-site performance

Ease of Use

2-Second Rapid Dismount/Insertion

- Cable-free radio/VA interface
- Single push/pull button to dismount/insert
- Radio operation maintained during insertion and dismount

Remote Operation with Common User Interface

- Removable Control Head Assembly with audio interface
- Full communication and control capability from inside (front and back) or outside of the vehicle
- Remote control shares the same user interface with AN/PRC-148 and PRC6809, eliminates additional training

Ruggedization

- Operating temperature: -31° to +60° C
- Storage temperature: -33° to +71° C
- Humidity: 95% non-condensing
- Altitude: 30,000 feet, per MIL-STD-810E
- Shock per MIL-STD-810E
- Blowing rain per MIL-STD-810E
- Vibration per MIL-STD-810E
- Sand and dust per MIL-STD-810E
- Salt fog per MIL-STD-810E

Modular Installation

- Stand-alone installations
- Mechanical interfaces: MT-6352, MT-6352A – optional

Waveforms/Modes of Operation

- Per radio installed

Size, Weight, and Power

- Physical Parameters (with control head and radio with battery):
 - Height: 4.1 inches (10.4 cm)
 - Width: 7.0 inches (17.8 cm)
 - Depth: 13.4 inches (34.0 cm)
 - Weight: 13.0 pounds (5.9 kg)
- DC input power 12 to 32V, 240 Watts

Performance

- 20 Watt transmission power in 30–512 MHz
- RF output power either 5 Watts or 20 Watts
- Typical -115 dBm FM receive sensitivity
- Smart charging of inserted radio battery

Product Specifications

- EMI Compliance: EMI/EMC per MIL-STD-461C
- TEMPEST Compliance:
 - NSTISSAM TEMPEST/1-92, level II
 - NACSEM 5112





A typical 20 Watt Vehicle Adapter is available in two configurations: MA6943 and MA6943-SYS.

Description	Part Number	NSN
The basic VA (MA6943, NSN 5895-01-507-3991) is comprised of all of the following components:		
Vehicle Adapter, Including Removable Control Head (RCH)	4101524-501	5975-01-506-7585
Installation kit	1100608-501	5340-01-530-7169
RCH cable, 10 ft	3600215-1	5995-01-530-7166
DC input cable, 12 ft	3500566-501	6150-01-530-7296
The VA system (MA6943-SYS, NSN 5895-01-573-2006) is comprised of all of the following components:		
Vehicle Adapter, Including RCH	4101524-501	5975-01-506-7585
Shock mount tray	4600109-1	5975-01-524-0033
Installation kit	1100608-501	5340-01-530-7169
Tactical speaker	1600599-1	5965-01-523-4572
Speaker cable, 10 ft	1600623-4	5995-01-530-7173
RCH cable, 10 ft	3600215-1	5995-01-530-7166
DC input cable, 12 ft	3500566-501	6150-01-530-7296
30-512 MHz Broadband Vehicle Antenna	85184	5985-01-514-2271
Antenna cable, 26 ft, with N to BNC adapter	85401-001	
The MA6943 can be used with any radio in the AN/PRC-148 family. The available receiver-transmitters and associated battery are listed below.		
Receiver-transmitter: AN/PRC-148 JEM (Urban)*	4101660-XXX	
or AN/PRC-148 MBITR (Urban)*	4101195-501	5820-01-487-0973
or PRC6809 MBITR (Urban)*	4101349-502	5820-01-523-5722
Rechargeable lithium-ion battery for radio	1600515-7	6140-01-487-1153
Not required for VA operation; only used with receiver-transmitter when removed from the VA.		
30-90 MHz antenna (for 5W operation)	1600629-1	5985-01-487-1135
90-512 MHz broadband antenna (for 5W operation)	1600500-3	5985-01-584-7883
136-174 MHz antenna (for 5W operation)	SS-1600293-1	5985-01-368-8971

* Note that Maritime version may also be used.



Key Design Features of the 20 Watt AN/VRC-111 Vehicle Adapter Amplifier (VAA)

Commonality	Ease of Use	Performance
<ul style="list-style-type: none"> Accepts all AN/PRC-148 and PRC6809 models 	<ul style="list-style-type: none"> 2-second radio dismount/insertion Cable-free radio/VAA interface Non-obstructive low profile 	<ul style="list-style-type: none"> Typical -115 dBm FM receive sensitivity Excellent co-site performance

Ease of Use

2-Second Rapid Dismount/Insertion

- Cable-free radio/VAA interface
- Single push/pull button to dismount/insert
- Radio operation maintained during insertion and dismount

Non-obstructive Low Profile

- Radios embedded inside VA for lowest height profile and cable-free interface
- No obstruction of warfighter's view of battlefield

Remote Operation with Common User Interface

- Removable Control Head Assembly with audio interface
- Full communication and control capability from inside (front and back) or outside of the vehicle
- Remote control shares the same user interface with AN/PRC-148 and PRC6809, eliminates additional training

Ruggedization and Security

- Operating temperature: -31° to +60° C
- Shock/Vibration per MIL-STD-810F
- Ballistic shock per MIL-S-901 (Exceeds MIL-STD-810F)
- Blowing rain per MIL-STD-810F

Flexible Security Mechanism

- Single lock supports independently selectable multiple locking options
- Locking of VAA to MT-6352 mounting base
- Locking of radio to VA

Size, Weight, and Power

- Physical Parameters (with control head and radio with battery):
 - Height: 8.1 inches (20.6 cm)
 - Width: 15.3 inches (38.86 cm)
 - Depth: 14.9 inches (37.9 cm)
 - Weight: 38 pounds with radios (17.2 kg)
- DC input power 12 to 32V, 240 Watts per channel

Performance

- 20 Watt transmission power in 30-512 MHz
- RF output power either 5 Watts or 20 Watts per channel
- Typical -115 dBm FM receive sensitivity
- 50% duty cycle @ 60° C ambient temperature



Modular Installation

- Fits within the dimension of SINCARS AN/VRC-92 mounting tray
- Installs into SINCARS MT-6352

Waveforms/Modes of Operation

- Per radios installed

Product Specifications

- EMI Compliance: EMI/EMC per MIL-STD-461C
- TEMPEST Compliance:
 - NSTISSAM TEMPEST/1-92, level II
 - NACSEM 5112



A typical 20 Watt AN/VRC-111 VAA (MA7036, NSN 5820-01-536-0983) is comprised of all of the following components:

Description	Part Number	NSN
VA Unit Assembly (2 required)	4101524-501	5975-01-506-7585
VAA Tray Assembly	4101858-503	5820-01-544-5996
Operator manual, VA/VAA	84359	
Operator manual, radio: AN/PRC-148 JEM*	84357	
or AN/PRC-148 MBITR*	84329	
or PRC6809 MBITR*	84345	
Quick reference guide, VA	3400685-1	
Quick reference guide, VAA	3401095-1	
Quick reference guide, radio: AN/PRC-148 JEM	3400905-1	
or AN/PRC-148 MBITR	3400577-1	



The MA7036 can be used with any radio in the AN/PRC-148 family (receiver-transmitter with battery). Two radios, two antennas, and two antenna cables are required for operation. The available receiver-transmitters and associated components are listed below.

Receiver-transmitter (2 required): AN/PRC-148 JEM (Urban)*	4101660-XXX	
or AN/PRC-148 MBITR (Urban)*	4101195-501	5820-01-487-0973
or PRC6809 MBITR (Urban)*	4101349-502	5820-01-523-5722
Rechargeable lithium-ion batteries for radio (2 required)	1600515-7	6140-01-487-1153
30-512 MHz Broadband Vehicle Antenna (2 required)	85184	5985-01-514-2271
Antenna cable, 26 ft, with N to BNC adapter (2 required)	85401-001	



Not required for VAA operation; only used with receiver-transmitter when removed from the VAA.

30-90 MHz antenna (for dismantled radio operation)	1600629-1	5985-01-487-1135
90-512 MHz broadband antenna (for dismantled radio operation)	1600500-3	5985-01-584-7883

* Note that Maritime version may also be used.



Key Design Features of the 50 Watt AN/VRC-111 VAA—Dual Channel

Commonality	Ease of Use	Performance
<ul style="list-style-type: none"> Accepts all AN/PRC-148 and PRC6809 models 	<ul style="list-style-type: none"> 2-second radio dismount/insertion Cable-free radio/VAA interface Non-obstructive low profile 	<ul style="list-style-type: none"> Typical -118 dBm FM receive sensitivity Superior co-site performance

Ease of Use

2-Second Rapid Dismount/Insertion

- Cable-free radio/VAA interface
- Single push/pull button to dismount/insert
- Radio operation maintained during insertion and dismount

Non-obstructive Low Profile

- Radios embedded inside VA for lowest height profile and cable-free interface
- No obstruction of warfighter's view of battlefield

Remote Operation with Common User Interface

- Removable Control Head Assembly with audio interface
- Full communication and control capability from inside (front and back) or outside of the vehicle
- Remote control shares the same user interface with AN/PRC-148 and PRC6809, eliminates additional training

Ruggedization and Security

- Operating temperature: -31° to +60° C
- Shock/Vibration per MIL-STD-810F
- Ballistic shock per MIL-S-901 (Exceeds MIL-STD-810F)
- Blowing rain per MIL-STD-810F

Flexible Security Mechanism

- Single lock supports independently selectable multiple locking options
- Locking of VAA to MT-6352 mounting base
- Locking of radio to VA

Product Specifications

- EMI Compliance: EMI/EMC per MIL-STD-461C
- TEMPEST Compliance:
 - NSTISSAM TEMPEST/1-92, level II
 - NACSEM 5112

Waveforms/Modes of Operation

- Per radios installed

Size, Weight, and Power

- Physical Parameters of radio unit:
 - Height: 8.1 inches (20.6 cm)
 - Width: 15.3 inches (38.9 cm)
 - Depth: 14.9 inches (37.9 cm)
 - Weight: 38 pounds with radios (17.2 kg)
- Physical Parameters of amplifier:
 - Height: 8.5 inches (21.6 cm)
 - Width: 5.8 inches (14.5 cm)
 - Depth: 12.0 inches (30.5 cm)
 - Weight: 22 pounds, including shock mount (10 kg)
- DC input power 20 to 32V, 280 Watts per channel



Performance

- 20 Watt or 50 Watt transmission power in 30-90 MHz
- 5 Watt or 20 Watt transmission power in 90-512 MHz
- Typical FM receive sensitivity:
 - 118 dBm (30-88 MHz)
 - 121 dBm (88-512 MHz)
 - 115 dBm (minimum)
- Continuous 50 Watt transmission for indefinite time @ 60° C ambient temperature

Modular Installation

- External dual-power amplifier can be mounted remotely, supporting a variety of installation configurations
- Dual amplifier can be split into two single-channel modules and mounted next to VA for single-channel configuration (see MA7134-SCA for more information)
- Installs into SINGARS MT-6352 and MT-6353



A typical 50 Watt AN/VRC-111 VAA Dual Channel Version (MA7134-NR) is comprised of all of the following components:

Description	Part Number	NSN
VA Exciter Unit Assembly (2 required)	4101849-501	
VAA Tray	4101858-504	
Modular RF Power Amp, Dual	1600674-4	
Power Cable, Mounting Tray to Power Amplifier, 13 in (40 ft and 44 ft also available)	1600675-1	
RF Cable "A", 18 in (36 in and 44 in also available)	1600659-1	
RF Cable "B", 13 in (36 in and 44 in also available)	1600659-2	
Control Cable "A", 24 in (42 in and 44 in also available)	1600660-1	
Control Cable "B", 18 in (42 in and 44 in also available)	1600660-2	
Operator manual, 50W VAA	84381	
Quick reference guide	3401378-1	



The MA7134 can be used with any radio in the AN/PRC-148 family (receiver-transmitter with battery). Two radios, two antennas, two antenna cables, and two RCH cables are required for operation. The available receiver-transmitters and associated components are listed below.

Receiver-transmitter (2 required): AN/PRC-148 JEM (Urban)*	4101660-XXX	
or AN/PRC-148 MBITR (Urban)*	4101195-501	5820-01-487-0973
or PRC6809 MBITR (Urban)*	4101349-502	5820-01-523-5722
Rechargeable lithium-ion batteries for radio (2 required)	1600515-7	6140-01-487-1153
Cable, removable control head interface (2 required)	3600215-1	5995-01-530-7166
30-512 MHz Broadband Vehicle Antenna (2 required)	85184	5985-01-514-2271
Antenna cable, 26 ft, with N to BNC adapter (2 required)	85401-001	



Not required for VAA operation; only used with receiver-transmitter when removed from the VAA.

30-90 MHz antenna (for dismounted radio operation)	1600629-1	5985-01-487-1135
90-512 MHz broadband antenna (for dismounted radio operation)	1600500-3	5985-01-584-7883

* Note that Maritime version may also be used.



Key Design Features of the 50 Watt VAA— Single Channel

Commonality	Ease of Use	Performance
<ul style="list-style-type: none"> Accepts all AN/PRC-148 and PRC6809 models 	<ul style="list-style-type: none"> 2-second radio dismount/insertion Cable-free radio/VAA interface Non-obstructive low profile 	<ul style="list-style-type: none"> Typical -118 dBm FM receive sensitivity Superior co-site performance

Ease of Use

2-Second Rapid Dismount/Insertion

- Cable-free radio/VAA interface
- Single push/pull button to dismount/insert
- Radio operation maintained during insertion and dismount

Non-obstructive Low Profile

- Radio embedded inside VA for lowest height profile and cable-free interface
- No obstruction of warfighter's view of battlefield

Remote Operation with Common User Interface

- Removable Control Head Assembly with audio interface
- Full communication and control capability from inside (front and back) or outside of the vehicle
- Remote control shares the same user interface with AN/PRC-148 and PRC6809, eliminates additional training

Ruggedization and Security

- Operating temperature: -31° to +60° C
- Shock/Vibration per MIL-STD-810F
- Ballistic shock per MIL-S-901 (Exceeds MIL-STD-810F)
- Blowing rain per MIL-STD-810F

Flexible Security Mechanism

- Single lock supports independently selectable multiple locking options
- Locking of VAA to MT-6352 mounting base
- Locking of radio to VA

Product Specifications

- EMI Compliance: EMI/EMC per MIL-STD-461C
- TEMPEST Compliance:
 - NSTISSAM TEMPEST/1-92, level II
 - NACSEM 5112

Waveforms/Modes of Operation

- Per radio installed

Size, Weight, and Power

- Physical Parameters of radio unit:
 - Height: 8.1 inches (20.6 cm)
 - Width: 15.3 inches (38.86 cm)
 - Depth: 14.9 inches (37.9 cm)
 - Weight: 33 pounds with radios (15 kg)
- DC input power 20 to 32V, 280 Watts



Performance

- 20 Watt or 50 Watt transmission power in 30-90 MHz
- 5 Watt or 20 Watt transmission power in 90-512 MHz
- Typical FM receive sensitivity:
 - 118 dBm (30-88 MHz)
 - 121 dBm (88-512 MHz)
 - 115 dBm (minimum)
- Continuous 50 Watt transmission for indefinite time @ 60° C ambient temperature

Modular Installation

- External power amplifier can be mounted remotely, supporting a variety of installation configurations
- Installs into SINCGARS MT-6352



A typical 50 Watt AN/VRC-111 VAA Single Channel Version (MA7134-SCA) is comprised of all of the following components:

Description	Part Number	NSN
VA Exciter Unit Assembly	4101849-501	
VAA Tray	4101858-504	
Modular RF Power Amp, Single	1600674-1	
Power Cable, Mounting Tray to Power Amplifier, 7.5 in (40 in also available)	1600661-1	
RF Cable "A", 18 in (36 in and 44 in also available)	1600659-1	
Control Cable "A", 24 in (42 in and 44 in also available)	1600660-1	
Operator manual, 50W VAA	84381	
Quick reference guide	3401378-1	



The MA7134 can be used with any radio in the AN/PRC-148 family (receiver-transmitter with battery). An antenna, antenna cable, and RCH cable are required for operation. The available receiver-transmitters and associated components are listed below.

Receiver-transmitter: AN/PRC-148 JEM (Urban)*	4101660-XXX	
or AN/PRC-148 MBITR (Urban)*	4101195-501	5820-01-487-0973
or PRC6809 MBITR (Urban)*	4101349-502	5820-01-523-5722
Rechargeable lithium-ion batteries for radio	1600515-7	6140-01-487-1153
Cable, removable control head interface	3600215-1	5995-01-530-7166
30-512 MHz Broadband Vehicle Antenna	85184	5985-01-514-2271
Antenna cable, 26 ft, with N to BNC adapter	85401-001	



Not required for VAA operation; only used with receiver-transmitter when removed from the VAA.

30-90 MHz antenna (for dismounted radio operation)	1600629-1	5985-01-487-1135
90-512 MHz broadband antenna (for dismounted radio operation)	1600500-3	5985-01-584-7883

* Note that Maritime version may also be used.



Key Design Features of the 50 Watt Low Profile Vehicle Adapter (LPVA)

Commonality	Ease of Use	Performance
<ul style="list-style-type: none"> Accepts all AN/PRC-148 and PRC6809 models 	<ul style="list-style-type: none"> 2-second radio dismount/insertion Cable-free radio/LPVA interface Lowest profile 50 Watt vehicle adapter for space constrained installation 	<ul style="list-style-type: none"> Typical -116 dBm FM receive sensitivity Programmable co-site filtering

Ease of Use

2-Second Rapid Dismount/Insertion

- Cable-free radio/LPVA interface
- Single push/pull button to dismount/insert
- Radio operation maintained during insertion and dismount

Remote Operation with Common User Interface

- Removable Control Head Assembly with audio interface
- Full communication and control capability from inside (front and back) or outside of the vehicle
- Remote control shares the same user interface with AN/PRC-148 and PRC6809, eliminates additional training

Ruggedization

- Operating temperature: -30° to +60° C
- Storage temperature: -33° to +71° C
- Humidity: 95% non-condensing, per MIL-STD-810F
- Altitude: 30,000 feet, per MIL-STD-810F
- Shock per MIL-STD-810F
- Blowing rain per MIL-STD-810F
- Vibration per MIL-STD-810F
- Sand and dust per MIL-STD-810F
- Salt fog per MIL-STD-810F

Modular Installation

- Stand-alone installations
- Mechanical interfaces: MT-6352, MT-6352A – optional

Waveforms/Modes of Operation

- Per radio installed



Size, Weight, and Power

- Physical Parameters (without radio):
 - Height: 4.1 inches (10.4 cm)
 - Width: 7.5 inches (19.1 cm)
 - Depth: 13.4 inches (34.0 cm)
 - Weight: 10 pounds (4.5 kg)
- DC input power 20 to 32V, 240 Watts maximum

Performance




- Typical -116 dBm FM receive sensitivity
- Smart charging of inserted radio battery
- RF output power:
 - 50 Watts from 30-90 MHz
 - 20 Watts from 90-512 MHz

Product Specifications

- EMI Compliance: EMI/EMC per MIL-STD-461E
- TEMPEST Compliance:
 - NSTISSAM TEMPEST/1-92, level II
 - NACSEM 5112



A typical 50 Watt Low Profile Vehicle Adapter (MA7135A) is comprised of all of the following components:

Description	Part Number	NSN
LPVA Unit Assembly	4102214-502	
Installation kit	1100679-XXX	
Power cable, 12 ft	1600750-2	
Operator manual	84407	
Quick reference guide	3401498	
 The LPVA can be used with any radio in the AN/PRC-148 family (receiver-transmitter with battery). A radio battery, vehicle mount antenna, antenna cable, and adapter are required for operation.		
Receiver-transmitter: AN/PRC-148 JEM (Urban)*	4101660-XXX	
or AN/PRC-148 MBITR (Urban)*	4101195-501	5820-01-487-0973
or PRC6809 MBITR (Urban)*	4101349-502	5820-01-523-5722
Rechargeable lithium-ion battery for radio	1600515-7	6140-01-487-1153
30-512 MHz Broadband Vehicle Antenna	85184	5985-01-514-2271
Antenna cable, 26 ft	85401-001	
Coaxial adapter, Type N Male to BNC Female	82167	5935-01-074-6496
 Alternative mounting arrangement: LPVA part number MA7135 is supplied with a Tray Assembly, part number 4600160-501, that allows the LPVA to be fitted onto a standard MT-6352 SINCGARS Mounting Base as well as the applicable power cable, coaxial adapter, and antenna.		
 Not required for LPVA operation; only used with receiver-transmitter when removed from the LPVA.		
30-90 MHz antenna (for 5W operation)	1600629-1	5985-01-487-1135
90-512 MHz broadband antenna (for 5W operation)	1600500-3	5985-01-584-7883
136-174 MHz antenna (for 5W operation)	SS-1600293-1	5985-01-368-8971

* Note that Maritime version may also be used.

To use the LPVA on vehicles that only have a 12V power system, Thales offers a dc-to-dc converter, Part Number 1600765-1.



Key Design Features of the 50 Watt AN/VRC-113 Cradle Vehicle Adapter (CVA)

Commonality	Ease of Use	Performance
<ul style="list-style-type: none"> Accepts all AN/PRC-148 and PRC6809 models 	<ul style="list-style-type: none"> 2-second radio dismount/insertion Cable-free radio/CVA interface Low profile 50 Watt vehicle adapter for space constrained installation 	<ul style="list-style-type: none"> Typical -116 dBm FM receive sensitivity Programmable cosite filtering

Ease of Use

2-Second Rapid Dismount/Insertion

- Cable-free interface to radio
- Single mechanism to dismount/insert
- Radio operation maintained during insertion and dismount

Full function radio operations from front panel

Ruggedization

- Operating temperature: -30° to +60° C
- Storage temperature: -33° to +70° C
- Humidity: MIL-STD-810F
- Altitude: 30,000 feet, per MIL-STD-810F
- Shock per MIL-STD-810F
- Blowing rain per MIL-STD-810F
- Vibration per MIL-STD-810F
- Sand and dust per MIL-STD-810F
- Salt fog per MIL-STD-810F

Modular Installation

- Stand-alone vehicle installations
- Separate cradle allows for separation from Power Amplifier



Waveforms/Modes of Operation

- Per radio installed

Size, Weight, and Power

Physical Parameters

- Power Amplifier:
 - Height: 3.9 inches (9.9 cm)
 - Width: 7.5 inches (19.1 cm)
 - Depth: 12.8 inches (32.5 cm)
 - Weight: 8 pounds (3.6 kg)
- Cradle (no radio):
 - Height: 7.5 inches (19.1 cm)
 - Width: 5.2 inches (13.2 cm)
 - Depth: 2.6 inches (6.6 cm)
 - Weight (with cables): 3 pounds (1.4 kg)

- DC input power 20 to 32V, 240 Watts maximum

Performance

- Typical -116 dBm FM receive sensitivity
- Smart charging of inserted radio battery
- 50 Watt transmission power in 30-90 MHz
- 20 Watt transmission power in 90-512 MHz

Product Specifications

- EMI Compliance: EMI/EMC per MIL-STD-461E
- TEMPEST Compliance:
 - NSTISSAM TEMPEST/1-92, level II
 - NACSEM 5112





A typical 50 Watt AN/VRC-113 Cradle Vehicle Adapter (MA7138-BAS) is comprised of all of the following components:

Description	Part Number	NSN
CVA Unit Assembly	4102340-501	5996-01-584-8748
Cradle assembly	4102350-501	
Installation kit, includes cables between CVA and cradle	1100678-501	
Power Cable, 12 ft	1600750-2	
30-512 MHz broadband vehicle antenna	85184	
Operator manual	84410	
Quick reference guide	3401492	



The CVA, available in several configurations, can be used with any radio in the AN/PRC-148 family (receiver-transmitter with battery). An antenna and antenna cable are required for operation.

Receiver-transmitter: AN/PRC-148 JEM (Urban)*	4101660-XXX	
or AN/PRC-148 MBITR (Urban)*	4101195-501	5820-01-487-0973
or PRC6809 MBITR (Urban)*	4101349-502	5820-01-523-5722
Rechargeable lithium-ion battery for radio	1600515-7	6140-01-487-1153
Antenna (see Vehicular/Base Station antennas in Software and Accessories section)		
Antenna cable, 26 ft	85401-001	



Not required for CVA operation; only used with receiver-transmitter when removed from the CVA.

30-90 MHz antenna (for 5W operation)	1600629-1	5985-01-487-1135
90-512 MHz broadband antenna (for 5W operation)	1600500-3	5985-01-584-7883

* Note that Maritime version may also be used.

To use the CVA on vehicles that only have a 12V power system, Thales offers a dc-to-dc converter, Part Number 1600765-1.



Key Design Features of the Multiband Airborne Radios

Repackaged AN/PRC-148 JEM and PRC6809 MBITR radios for airborne applications, e.g., unattended aircraft systems, aerostats, and small aircraft payloads

- MIL-STD-810F environments
- Input power conditioning 28 VDC per MIL-STD-704
- Supports external amplifiers
- Compatible with tactical ground radios
- VHF/UHF frequency coverage of 30-512 MHz continuous
- Transmit output power selectable to 5 Watts
- Receive sensitivity: -119 dBm typical

MMAR–Multichannel Multiband Airborne Radio (ARC6999)

Based upon the AN/PRC-148 JEM

- Supports tactical secure voice and data waveforms
- Dual radios operate independently or in retransmit modes
- Ethernet/IP interfaces with supported VOIP/ROIP
- Internal auto tuning co-site filters
- Embedded reprogrammable INFOSEC
- Remote command and control over IP interfaces
- Physical Parameters
 - Height: 5.59 inches (14.2 cm)
 - Width: 5 inches (12.7 cm)
 - Depth: 9.4 inches (23.9 cm)

LMAR–Lightweight Multiband Airborne Radio (ARC6809)

Based upon the PRC6809

- AM / FM / ATC / HAVEQUICK
- Remote command and control over serial interface
- Physical Parameters
 - Height: 5.2 inches (13.1 cm)
 - Width: 6.2 inches (15.8 cm)
 - Depth: 4.1 inches (10.4 cm)



MMAR



LMAR



SOFTWARE AND ACCESSORIES



MA6941N, PC Configuration Tool Kit for Type 1, AN/PRC-148 JEM, for programming operating parameters into a [V]3[C] and [V]4[C] JEM; special radio side connector with USB connector, supplied with a USB cable (Part Number 1100592-501) to connect the radio to a personal computer (PC) running Windows 2000, Windows XP, or Vista. Program supplied on CD-ROM.

MA6941F, PC Programmer for Type 1, AN/PRC-148 MBITR, for programming operating parameters into the [V]1[C] and [V]2[C] radio; RS-232 serial cable (Part Number 3500393-501) provided to connect the encrypted version of the radio to a personal computer [PC] running Windows 98, Windows NT, Windows 2000, or Windows XP. Program supplied on CD-ROM.

MA6941L, PC Programmer for PRC6809 MBITR, for programming operating parameters into a PRC6809 radio with DES encryption; RS-232 serial cable (Part Number 3500393-501) provided to connect the radio to a personal computer [PC] running Windows 98, Windows NT, Windows 2000, or Windows XP. Program supplied on CD-ROM.

MA6941Q, PC Programmer Advanced Encryption, for programming operating parameters into the [V]3[C] and [V]4[C] JEM with AES encryption; cable provided to connect the radio to a personal computer (PC) running Windows 2000 or Windows XP. Program supplied on CD-ROM.

In addition to AM/FM capabilities, the following features are standard on the AN/PRC-148 JEM (V)3(C) and (V)4(C) radios:

1700858-2, SINGARS Frequency Hopping Electronic Counter-Counter Measures [ECCM] Waveform, Single Channel Ground and Airborne Radio System (SINGARS), in accordance with MIL-STD-188-241-1/-2; frequency range of 30 to 90 MHz.

1700858-3, HAVEQUICK III Frequency Hopping ECCM Waveform, in accordance with MIL-STD-188-220; frequency range of 225 to 400 MHz.

1700858-4, ANDVT Waveform, encrypted Advanced Narrowband Digital Voice Terminal, 5 kHz bandwidth, maximum 2400 baud rate, LPC-10 vocoder is default, Mixed Excitation Linear Predictive (MELP) vocoder available as an option.

The following features are available as options for the AN/PRC-148 JEM (V)3(C) and (V)4(C) radios:

1700858-1, Retransmission, allows two AN/PRC-148 radios to be configured to provide a bi-directional retransmission capability, thus providing range extension in difficult urban or terrestrial situations. Operation requires two radios to be connected together using the Expedient Retransmission Kit (Part Number 1100540-501), or the separate Retransmission Cable. In all instances where Retransmission is desired (e.g., handheld-to-handheld, through Vehicle Adapters or the Tactical Repeater), the handheld radios will require this software. Retransmission is not compatible with the HAVEQUICK frequency hopping mode.

1700858-5, High Throughput Waveform (HTW), provides increased data throughput capabilities of up to 56 kbps through a 25 kHz channel in accordance with the non-proprietary MIL-STD-188-181B. This allows an increase of up to 3.5 times the over-the-air data speed relative to the standard AN/PRC-148 data rate of 16 kbps. This option provides significantly improved performance for the digitized battlefield.

1700858-7, Project 25, AES, provides Project 25 Common Air Interface functionality in the JEM that allows interoperability with public safety sectors, e.g., police, firefighters, etc.

1700858-8, SINCGARS Frequency Hopping 2, provides enhanced SINCGARS mode for continued fielded interoperability with fielded SINCGARS systems.

1700858-9, Mixed Excitation Linear Predictive (MELP), provides an enhanced vocoder at 2400 bps for improved voice quality with ANDVT.

1700858-10/11, Integrated Waveform (IW), the DAMA successor waveform for multi-channel satellite communication. Waveform in accordance with MIL-STD-188-181C (5 kHz and 25 kHz UHF SATCOM), MIL-STD-188-182B (5 kHz and 25 kHz demand assigned UHF SATCOM), and MIL-STD-188-183B (5 kHz and 25 kHz multiple access UHF SATCOM).

1700858-12, Over-the-Air-Cloning (OTAC), provides a wireless capability for programming/configuring multiple radios at once without the need for a cabled connection, reducing mission planning time.

The following features are available as options for the AN/PRC-148 MBITR (V)1(C) and (V)2(C) Type 1 radios:

1700339-1, Retransmission, requires two radios to be connected together, used with the Expedient Retransmission Kit (Part Number 1100540-501), or the separate Retransmission Cable, Tactical Repeater, or the VAAs. Retransmission is not available in the HAVEQUICK frequency hopping mode. Retransmission is standard with the PRC6809 radio.

1700339-2, SINCGARS Frequency Hopping Electronic Counter-Counter Measures (ECCM), Single Channel Ground and Airborne Radio System, frequency range of 30 to 88 MHz.

1700339-3, HAVEQUICK II Frequency Hopping Electronic Counter-Counter Measures (ECCM), frequency range of 225 to 400 MHz.

1700339-4, ANDVT, encrypted Advanced Narrow-band Digital Voice Terminal, 5 kHz bandwidth, maximum 2400 baud rate.

1700339-5, Type 3 Analog Data Encryption Standard (DES), option available on AN/PRC-148 MBITR and PRC6809 radios; provides encrypted interoperability with other handheld radios that have analog DES, such as Motorola Saber and XTS.

1700339-8, SINCGARS Frequency Hopping 2, new SINCGARS frequency hopping methodology in accordance with MIL-STD-188-241.

1700339-10, MELP (Mixed Excitation Linear Predictive), 2400 bps vocoder, in accordance with STANAG 4591/MIL-STD-13005. Used in ANDVT radio operating mode, better audio quality than LPC-10 vocoder.

The following features are available as options for the PRC6809 radios:

1700339-5, Type 3 Analog Data Encryption Standard (DES), option available on AN/PRC-148 MBITR and PRC6809 radios; provides encrypted interoperability with other handheld radios that have analog DES, such as Motorola Saber and XTS.

1700339-7, 256-bit Advanced Encryption Standard (AES), option available on PRC6809 radios; provides higher level of software-based encryption for interoperability with other PRC6809 radios.



1600515-7, Lithium-Ion Rechargeable Battery, 4.8Ahr capacity provides the JEM with a minimum of 10-hour duration with radio duty cycle of 10% transmit at 5W, 10% receive, and 80% stand-by per TIA-603. With the same duty cycle, provides the MBITR with a minimum of 12-hour duration.

1600686-2, Lithium-ion Rechargeable Battery, 5.8Ahr capacity provides the JEM with a minimum of 12-hour duration with radio duty cycle of 10% transmit at 5W, 10% receive, and 80% stand-by per TIA-603. With the same duty cycle, provides the MBITR with a minimum of 15-hour duration.

There is an intelligent, “smart” micro-controller interface between battery and charger. Charge time takes into account battery cell and ambient temperatures. Each of the chargers listed below can charge both the 4.8Ah and 5.8Ah batteries.

1600654-1, Single-Bay, AC Only, Battery Charger, five green LEDs indicate battery state-of-charge with each LED representing 20% of full charge. A single multi-colored LED indicates overall charger status. With a depleted battery, the typical charge time is less than 3 hours. *[This charger replaces Part Number 1600581-1]*

1600701-2, Basic Single-Bay, AC Battery Charger, a single multi-colored LED indicates battery state of charge. With a depleted battery, the typical charge time is less than 5 hours.

1600701-5, Basic Single-Bay, AC/DC Battery Charger, a single multi-colored LED indicates battery state of charge. With a depleted battery, the typical charge time is less than 5 hours.

1600652-1, 6-Bay, AC or DC, Battery Charger, five green LEDs on each bay indicate battery state of charge with each LED representing 20% of full charge. A single multi-color LED indicates overall charger status. With 6 depleted batteries, the typical charge time is less than 3 hours. *[This charger replaces Part Number 1600580-1]*

1600653-1, 6-Bay, AC Only, Battery Charger, five green LEDs on each bay indicate battery state of charge with each LED representing 20% of full charge. A single multi-color LED indicates overall charger status. With 6 depleted batteries, the typical charge time is less than 3 hours. *[This charger replaces Part Number 1600580-2]*

1600700-2, Basic 6-bay, AC or DC, Battery Charger, each charger bay has a multi-colored LED indicating battery state-of-charge. With a depleted battery, the typical charge time is less than 5 hours.

1600700-3, Basic 6-bay Combo, AC Battery Charger, each charger bay has a multi-colored LED indicating battery state-of-charge. Capable of simultaneously charging 3 AN/PRC-148 batteries and 3 AN/PRC-154 batteries in less than 5 hours.



MA6751, 2-Bay, DC Only, Rugged Charger, supports two rechargeable batteries, with or without radios. Integral power cable, 6 ft long with 15A inline fuse with bare wires for connection to 10 to 32 VDC power, 100W maximum. A spare 15A fuse is provided in a separate fuse holder. Each charger slot has a multi-colored LED to provide charge status. Retention mechanism is designed to allow for easy installation/removal (jerk-and-run) of the radio or battery. Mounting brackets provided for flush mounting to vertical bulkhead or any flat surface.



4101240-501, Battery Cell Holder, for 12x non-rechargeable DL2/3A cells, NSN 6135-01-351-1131. The unit provides the JEM with a minimum of 8-hour duration with duty cycle of 10% transmit at 5W, 10% receive, and 80% stand-by. With the same duty cycle, provides the MBITR with a minimum of 10-hour duration.



4101310-501, SPAI (Special Power Adapter Interface), used to interface to an external 12 to 32 VDC power source. The adapter attaches to the AN/PRC-148 and the lithium-ion rechargeable battery. The regular battery is disconnected from the radio and connected to the bottom of the SPAI; the top of the SPAI is connected to the radio. The SPAI provides power to the radio and simultaneously recharges the lithium-ion rechargeable battery.



3500460-501, SPAI DC Input Cable, 6 ft long cable with connector for the SPAI and bare wires with 15A in-line fuse, accepts 12 to 32 VDC input voltage.



3500470-504, SPAI DC Input Cable, 6 ft long cable with connector for the SPAI on one end and a vehicle cigarette lighter plug on the other end. 10A fuse inside the cigarette lighter plug.



1100533-501, SPAI Cable Kit, 1ft long cable to connect to SPAI with an in-line connector for 3 ft long interchangeable cables for BA-XX90 battery; cigar lighter or red and black alligator clips to connect 12 to 32V DC input voltage to the SPAI.



4101441-501, Battery Adapter, powers the radio from an external DC power source, provides reverse polarity protection, as well as over-voltage and over-current protection for the radio; includes a 4 ft long cable with bare wires. 8.5-16.5 VDC input. 30W maximum power with the radio transmitting at 5W.

4101441-502, Battery Adapter, powers the radio from an external DC power source, provides reverse polarity protection, as well as over-voltage and over-current protection for the radio; includes a 3 ft long cable with interfaces to BA/BB90 batteries. 8.5-16.5 VDC input. 30W maximum power with the radio transmitting at 5W.



4101441-504, Battery Adapter, powers the radio from an external DC power source, provides reverse polarity protection, as well as over-voltage and over-current protection for the radio; 3 ft long cable with interfaces to the battery box (Part Number 1600604). 8.5-16.5 VDC input. 30W maximum power with the radio transmitting at 5W.



Handheld Radio:

1600500-1, Handheld, 13-inch Broadband Whip Antenna; TNC connector; 8W maximum; 20 m immersible general purpose handheld antenna providing solid performance for all waveforms from 90-512 MHz.

1600500-3, Handheld, 13-inch Broadband Whip Antenna; TNC connector; 8W maximum; 2 m immersible general purpose handheld antenna providing solid performance for all waveforms from 90-512 MHz.

1600629-1, Handheld, 48-inch Blade Antenna; TNC connector; 8W maximum; 20 m immersible SINCGARS handheld antenna providing optimal performance from 30-90 MHz.

1600638-1, Handheld, 10-inch Whip Antenna; TNC connector; 8W maximum; 20 m immersible UHF handheld antenna providing optimal performance from 225-450 MHz.

1600638-2, Handheld, 10-inch Whip Antenna; TNC connector; 8W maximum; 2 m immersible UHF handheld antenna providing optimal performance from 225-450 MHz.

1600707-1, Handheld, 20-inch Dual-band Blade Antenna; TNC connector, 8W maximum, 20 m immersible handheld antenna providing optimal performance from 30-90 MHz and 225-512 MHz.



SS-1600293-1, Handheld, 13.25-inch Whip Antenna; TNC connector; 8W maximum, 2 m immersible VHF handheld antenna providing optimal performance from 136-174 MHz.

SS-1600294-1, Handheld, 6.5-inch Whip Antenna; TNC connector; 8W maximum; 2 m immersible UHF handheld antenna providing optimal performance from 400-512 MHz.

Handheld SATCOM:

85288, Handheld/Manpack, Directional Coat Pocket SATCOM Antenna, Trivec Avant AV2055-3; 3.1 lbs; BNC female connector; 200W maximum; 240-318 MHz frequency band; Compact directional SATCOM handheld/manpack antenna providing ultra high gain (+10.5 dBi). (NSN 5985-01-463-6558).

85419-001, Directional Coat Pocket SATCOM Antenna, Trivec Avant AV2125-2; 1.5 lbs; BNC female connector; 100W maximum; 240-318 MHz frequency band; ultra-compact directional SATCOM handheld/manpack antenna with magnetic mount and director; +7 dBi.





Man-Portable:

85350, Man-Portable, 14.5-inch Nightstick Antenna; BNC male connector; 35W maximum; general purpose manpack antenna providing solid performance for waveforms from 90-512 MHz; short range performance 30-88 MHz.

85349, Man-Portable, 48-inch Blade Antenna; BNC Male connector; 24W maximum; SINCGARS manpack antenna providing optimal performance from 30-88 MHz.

Vehicular/Base Station/Tactical Repeater:

85184*, Vehicular, 100-inch Whip Antenna, Shakespeare SFB3512/VRC; N female connector; 100W maximum; general purpose vehicular antenna providing solid performance for waveforms from 30-512 MHz.

85320*, Vehicular, 40-inch Broadband Whip Antenna, Chelton GD1813P4, Black; BNC female connector; 50W maximum; general purpose vehicular antenna providing solid performance for waveforms from 30-512 MHz.

85347, Vehicular, 40-inch Broadband Whip Antenna, Chelton GD1813, Green; BNC female connector; 50W maximum; general purpose vehicular antenna providing solid performance for waveforms from 30-512 MHz.

85348, Vehicular, 40-inch Broadband Whip Antenna, Chelton GD1813P66, Tan; BNC female connector; 50W maximum; general purpose vehicular antenna providing solid performance for waveforms from 30-512 MHz.

85468-001, Vehicular, RAMI-7909G, 82-inch Whip Antenna; BNC or N female connector; 100W maximum; general purpose vehicular antenna providing solid performance for waveforms from 30-512 MHz.

85464-001, Vehicular, Radiall R380.990.010, 58-inch Whip Antenna; BNC or N female connector; 50W maximum, general purpose vehicular antenna providing solid performance for waveforms from 30-512 MHz, especially strong UHF gain; 4 inch diameter cylinder.

85373, Vehicular/Base Station, 11-foot Whip Antenna, Valcom VMB-3512; N connector (optional BNC); 100W maximum; general purpose vehicular antenna providing solid performance for waveforms from 30-512 MHz.

1600658, Base Station, Mast:

1600658-1: 33-foot Mast, for Single Antenna

1600658-2: 13-foot Mast, for Single Antenna

1600658-3: 13-foot Mast, for Dual Antenna

1600658-4: 33-foot Mast, for Dual Antenna

*A broadband vehicle mount antenna must be installed and bonded to a metal surface to provide a ground plane for the antenna.



1100634-501, Base Station, 33-foot Single Antenna Kit; includes 85373* antenna, 1600658-1 mast, SS-1600366-1 ground spike, and 3500711-501 50 ft. antenna cable.

1100634-502, Base Station, 13-foot. Single Antenna Kit; includes 85373* antenna, 1600658-2 mast, SS-1600366-1 ground spike, and 3500711-501 50 ft. antenna cable.

1100634-503, Tactical Repeater, 13-foot Dual Antenna Kit; includes two 85373* antennas, 1600658-3 mast with 6 ft. crosspiece, SS-1600366-1 ground spike, and two 3500711-501 50 ft. antenna cables.

1100634-504, Tactical Repeater, 33-foot Dual Antenna Kit; includes two 85373* antennas, 1600658-4 mast with 6 ft. crosspiece, SS-1600366-1 ground spike, and two 3500711-501 50 ft. antenna cables.



Tactical Repeater Antenna Configuration

Vehicular SATCOM:

85315, Vehicular SATCOM and Line-of-Sight (LOS), X-Wing Dual Simultaneous Channels Antenna, Trivec Avant AV2090-4, Black; N female/TNC female connector; 200W maximum; 225-400 MHz (LOS) and 240-400 MHz (SATCOM) frequency bands; vehicular antenna supports two simultaneous radios, one SATCOM and the other LOS, or one radio with a switch, gain +8 dBic.



85339, Vehicular Line-of-Sight (LOS)/SATCOM OTM Antenna, Trivec Avant AV2086-1, Black; N female connector; 200W maximum; 225-400 MHz (LOS) and 240-320 MHz (SATCOM) frequency bands.

85374, Vehicular Line-of-Sight (LOS)/SATCOM OTM Antenna, Trivec Avant AV2086-2 Magnetic Mount, Black; N female connector; 200W maximum; 225-400 MHz (LOS) and 240-320 MHz (SATCOM) frequency bands.

85422-001, Vehicular SATCOM Batwing Antenna, Trivec Avant AV2075-9, Black; 200W maximum; 225-400 MHz, gain +11 dBic.



*The Base Station and Tactical Repeater antennas, mounted on a mast, are center-fed and do not need a ground plane.



Cases and Holsters

1600494-1, Holster, provides protection for the radio, with an adjustable flap that provides flexibility to operate the radio while in transit. Nylon. ACU digital camouflage.

1600494-3, Holster, provides protection for the radio, with an adjustable flap that provides flexibility to operate the radio while in transit. Nylon. Tan.

1600494-4, Holster, provides protection for the radio, with an adjustable flap that provides flexibility to operate the radio while in transit. Nylon. Black.

1600699-1, Holster, provides protection for the Remote Control Unit with GPS, with an adjustable flap that provides flexibility to operate the unit while in transit. Nylon. ACU digital camouflage.

1600699-2, Holster, provides protection for the Remote Control Unit with GPS, with an adjustable flap that provides flexibility to operate the unit while in transit. Nylon. Black.

1600699-3, Holster, provides protection for the Remote Control Unit with GPS, with an adjustable flap that provides flexibility to operate the unit while in transit. Nylon. Tan.

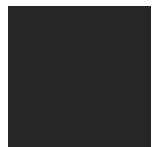
1600495-1, Accessory Bag/Carrying Case, tough nylon black material bag with positive closures to prevent loss of components. Includes two belt loop type straps and military clips and has compartments for two spare batteries, audio accessory, and unused antenna, as well as a compartment for the radio with its battery.



Tan



ACU digital camouflage



Black





Audio Accessories for the 2 Meter Submersible Urban Configuration Radios

1600469-4, Urban Speaker Microphone, fits in the palm of the hand or attaches to web gear with spring clip on its back, has its own Press-To-Talk (PTT) switch and volume control. At the bottom of the case there is a plastic cover that pulls back to reveal a 2.5 mm diameter socket for the Earphone.



1100542-501, Earphone Kit for Speaker Microphone, plugs into the ear, 2.5 mm diameter plug connects to the Speaker Microphone and "mutes" its speaker.

11000641-501, Commercial Lightweight Urban Headset Kit, lightweight headset with a rigid headband, adjustable boom microphone, and speaker. A large, in-line Press-To-Talk (PTT) switch with clothing clip is provided. The Helmet Clip, Part Number 85267, and the Head Strap, Part Number 85268, with Velcro fastening, are provided as alternates to the removable rigid headband.



Helmet Clip

Head Strap



1600551-2, Commercial Lightweight Urban Headset, lightweight headset with a rigid headband, adjustable boom microphone, and speaker. A large, in-line Press-To-Talk (PTT) switch with clothing clip is provided.

1600567-1, Tactical Urban Headset, single-muff earpiece headset with adjustable boom microphone, head strap, and in-line Press-To-Talk (PTT) switch. The cable has a U-94A/U jack disconnect at the PTT switch.

85317, Headset Down-Lead Assembly, replacement lower cable assembly of the Tactical Urban Headset, PN 1600567-1. Cable is 3 ft. long with 6-pin connector to the radio and U-94A/U jack with ring Press-To-Talk (PTT) switch. Used to connect compatible third-party audio accessories to the radio.



1600584-1, Urban Covert Headset, two-wire configuration; one cable has the combined microphone and ring Press-To-Talk [PTT] switch, the other cable is connected to a transducer which attaches to a transparent coiled plastic tube with soft earpiece. The transducer also provides an inductive coupling to the Wireless Earpiece. Includes a clip for attachment to clothing.

1600584-2, Wireless Earpiece, “in-the-ear” option for inductive coupling to the Covert Headset, Part Number 1600584-1, used as an alternate to the soft earpiece with its coiled plastic tube.



1600585-1, Urban Ear/Microphone Headset, two-wire configuration; one cable with a ring Press-To-Talk [PTT] switch; the other cable connects to a flexible ear hanger; a bone-conduction microphone is included in the earpiece.

1100597-501, Urban Combat Headset, two-wire configuration; one cable has a speaker on a flexible arm with a boom microphone on another flexible arm; the other cable has a ring Press-To-Talk (PTT) switch. Headset comes complete with helmet clip, head strap, and rubber noise protector that shrouds the ear.

1600771-1, Peltor Comtac™ ACH, is a compact Advanced Communications Headset (ACH) offering hearing protection and designed for comfort under a helmet. “Talk-Through” mics powered by AAA batteries maintain situational awareness by amplifying weak sounds (with volume control) while offering hearing protection by limiting/suppressing loud impulse noises. The headset down-lead terminates with a U/174 Plug for quick-disconnect from the Push-To-Talk (PTT) Adapter. The boom mic can be mounted on either side of the headset by the user to accommodate left and right handed operators. Comes in a preassembled kit with camo bag, gel ear cushions, batteries, and PTT.

1600771-1, Peltor Comtac™ ACH Single Comm Kit, Coyote Tan

1600771-2, Peltor Comtac™ ACH Dual Comm Kit, Coyote Tan

1600771-3, Peltor Comtac™ ACH Single Comm Kit, Olive Drab Green

1600771-4, Peltor Comtac™ ACH Dual Comm Kit, Olive Drab Green





All maritime audio accessories have the sealed 10-pin connector to connect to the radio.

1600503-5, Tactical Maritime Headset, water-resistant, single-muff earpiece headset, with boom microphone, head strap, and in-line Press-To-Talk [PTT] switch.



1600584-3, Maritime Covert Headset, two-wire configuration; one cable has the ring Press-To-Talk [PTT] switch; the other cable is connected to a transducer which includes the microphone and which attaches to a transparent coiled plastic tube with soft earpiece. The transducer also provides an inductive coupling to the Wireless Earpiece. Includes a clip for attachment to clothing. To be placed in a suitable waterproof bag when diving to 20 m.

1600584-4, Maritime Covert Headset, two-wire configuration; one cable has the ring Press-To-Talk [PTT] switch; the other cable is connected to a transducer which includes the microphone and which attaches to a transparent coiled plastic tube with soft earpiece. The transducer includes a clip for attachment to clothing. To be placed in a suitable waterproof bag when diving to 20 m.



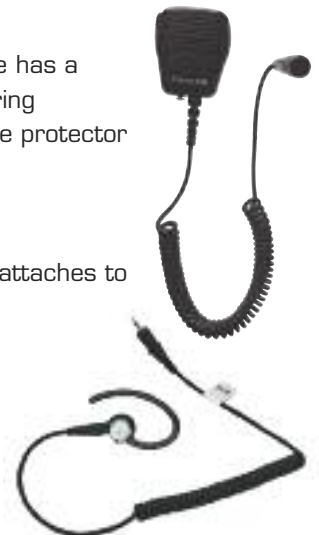
1600584-2, Wireless Earpiece, “in-the-ear” option for inductive coupling to the Covert Headset, Part Number 1600584-3 and -4, used as an alternate to the soft earpiece with its coiled plastic tube. To be placed in a suitable waterproof bag when diving to 20 m.

1600585-2, Maritime Ear/Microphone Headset, two-wire configuration; one cable with a ring Press-To-Talk [PTT] switch; the other cable connects to a flexible ear hanger; a bone-conduction microphone is included in the earpiece. To be placed in a suitable waterproof bag when diving to 20 m.

1100598-501, Maritime Combat Headset, two-wire configuration; one cable has a speaker on a flexible arm with a boom microphone on another flexible arm; the other cable has a ring Press-To-Talk (PTT) switch. Headset comes complete with helmet clip, head strap, and rubber noise protector that shrouds the ear.

4600049-501, Maritime Speaker Microphone, fits in palm of the hand or attaches to web gear, has its own Press-To-Talk (PTT) switch, with earphone jack and seal. To be placed in a suitable waterproof bag when diving to 20 m.

1100542-501, Earphone Kit for Speaker Microphone, plugs into the ear, 2.5 mm diameter plug connects to the Speaker Microphone and “mutes” its speaker. Place in a suitable waterproof bag when diving to 20 m.





Cables, Adapters, Spares Kits, and Vehicle Adapter Accessories

1100592-501, PC Configuration Tool Kit Cable, a 6 ft long USB cable that attaches to a special side connector connecting the JEM to a USB PC port. This arrangement can only be used for the PC Configuration Tool Kit.



1600713-11, USB High Speed Serial Data Cable, a 3 1/2 ft cable with high RFI and EMI suppression on the JEM sidemate adapter terminating in a standard type A USB connector. This cable also offers ruggedized mechanical and environmental performance, which makes it suitable for in-theatre use. Used on JEM only. Can be used in substitution of 1100592-501.



3500610-501, Cloning Cable, a 4 ft long cable connecting two radios together via their side connectors to transfer mode and frequency settings from one radio to another. Used for both MBITR and JEM. Replaces Part Number 3500395-501.



3500647-501, Data Mode Cable, a 4 ft long cable connecting the radio side connector to a 25-pin D-connector for an RS-232 serial data interface. Includes a small rotary switch to select between voice operation or a serial data interface. Used for both MBITR and JEM. Replaces Part Number 3500396-501.



3500623-501, GPS Cable, a 3 ft long cable connecting the radio side connector to a 15-pin D-connector to a PLGR or DAGR to transmit user-entered, five-digit combat identification number and GPS-based grid coordinates of position. Used with both MBITR and JEM. Replaces Part Number 3500465-501.



3500622-501, PDC Cable for ViaSat VDC400/VDC600, a 6 ft long cable connecting the radio side connector to a multi-way PC Card connector for the ViaSat PC Card. Used for both MBITR and JEM. Replaces Part Number 3500466-501.





1100540-501, Expedient Retransmit Kit,

for retransmission with two radios. The kit comprises a 10 ft cable to connect the two radios together via their side connectors and four co-axial low-pass and high-pass VHF and UHF filters at different frequencies. These connect to the antenna connectors of the receive and transmit radios with two coaxial cables supplied in the kit.



3500611-501, Retransmission Cable, a 10 ft long cable to connect two radios together via their side connectors. Used for both MBITR and JEM. Replaces Part Number 3500485-501.

3500611-504, Retransmission Cable, a 50 ft long cable to connect two radios via their side connectors in a communications repeater configuration. Used for both MBITR and JEM.

3500562-501, Adapter Cable, Data, a 3 ft long cable connecting the radio side connector to a GC328 6-pin plug for SINGARS clock synchronization for packet data transmissions. Includes a small slide switch to select between voice operation or the serial data interface. Used for both MBITR and JEM.

3500648-501, PC Programmer Cable, a 3 ft long cable connecting the radio side connector to a 9-pin D-connector for an RS-232 serial connection to a PC running the PC Programmer; this cable is supplied as part of MA6941F, MA6941L, and MA6941Q. Used for MBITR only. Replaces Part Number 3500393-501

3500756-502, Remote Control Unit (RCU) with GPS Cable with Data Access, RCU cable with a mid-cable DB-25 connector for RS-232 serial data access; the 3500758-501 cable provides the mating DB-25 connector with the other end terminating in a ViaSat VDC400/600 PC Card connector.

3500758-501, PDC Remote Control Unit (RCU) with GPS Cable, a 6 ft cable providing DB-25 to ViaSat VDC400/600 PC Card connector; for use with 3500756-502 RCU Cable with Data Access.

3600190-1, Keyfill Adapter, 10-pin to 6-pin adapter for the 20 m Maritime radio. This allows the radio to be keyfilled with a standard 6-pin connector keyfill device, such as the CYZ-10, KYK-13, and SKL. We do not recommend the operational use of the adapter for regular 6-pin connector audio accessories; the radio is vulnerable to damage if the 10-pin connector on the radio is snapped off.

3500458-501, KVL Keyfill Cable, a 2 ft long cable connecting the radio side connector to the KVL 3000 Crypto Key Loader. Used with PRC6809 MBITR and Type 1 MBITR if analog Type 3 DES is enabled.



3500755-501, KVL Keyfill Cable, 3 ft long cable connecting the radio's 6-pin top connector to the Motorola Keyfill Adapter Part Number TKN8531B of the KVL 3000 + Crypto Key Loader.

3500460-501, SPAI DC Input Cable, a 6 ft long cable with connector for the SPAI and bare wires with 15A in-line fuse, accepts 12 to 32 VDC input voltage.



3500470-504, SPAI DC Input Cable, a 6 ft long cable with connector for the SPAI on one end and a vehicle cigarette lighter plug on the other end, 10A fuse inside the cigarette lighter plug.



3600215, Vehicle Adapter Removable Control Head (RCH) Cable, the RCH cable is available in five lengths and provides a remote control interface for controlling a vehicle adapter system.

- 3600215-1: 10 ft**
- 3600215-2: 35 ft**
- 3600215-3: 50 ft**
- 3600215-4: 100 ft**
- 3600215-5: 150 ft**



1600599-1, Tactical Speaker, ruggedized speaker, 4.7 in x 4.7 in x 3.5 in, used to hear communications when using the Vehicle Adapter (VA). The microphone is included in the RCH. The speaker is driven from the 5 Watt audio amplifier in the VA; however, the speaker has its own audio level control and an on/off switch. The speaker is supplied with an adjustable mounting bracket.



1600623, Tactical Speaker Cable, cable to connect from Vehicle Adapter rear connector to the Tactical Speaker.

- 1600623-3: 6 ft**
- 1600623-4: 10 ft**



82165, TNC Male to BNC Female Adapter, used to connect the radio to a directional satellite communication antenna that is supplied with a BNC coaxial cable, for example, Part Number 85288, the Trivec Avant AV2055-3.

82167, Type N Male to BNC Female Adapter, allows use of BNC coaxial cables to connect to RF output connector on the rear of the Vehicle Adapter.

1100590-501, Ready Spares Kit, designed to support five radios, either the Urban or Maritime configuration. All parts can be replaced without opening the radio. An instruction sheet is included with the Kit.

1100588-501, Low Profile Volume Knob Kit, comprises 50x Low Profile volume knobs with set screws, thread locking compound, and hex wrench. This is a replacement knob option for the original, longer radio volume knobs.

1100606-501, Intermediate Spares Kit, designed to support 50 radios for one year, either the Urban or Maritime configuration. All of these parts can be replaced without opening the radio. An instruction sheet is included with the Kit.



*AN/PRC-148
with RCU*



Holster



RCU with Cradle and Belt Clips

MA6795, Remote Control Unit (RCU) with GPS, includes the RCU (Part Number 4101890-501) and associated accessories, as indicated. The RCU is an active extension of the front panel controls of the radio. It is powered by the radio and connects to the radio side connector via a 4 ft cable with a breakaway connector (Part Number 3500733-501, provided). With a radio worn on the back, the RCU is used in conjunction with an audio accessory, such as a Speaker Microphone or a headset, for the audio and PTT functions. The RCU is suitable for mounting high on the body for optimum GPS reception. The volume and channel rotary controls, as well as the menu structure on the RCU display, replicate the front panel of the radio. The antenna for the GPS sensor is built-in; the GPS uses the Coarse Acquisition (CA) mode, not the Precision Y-code (P/Y) mode. Once the radio's Situational Awareness (SA) mode has been selected, the unit displays the GPS position in standard UTM/Military Grid Reference System (MGRS) coordinates, as well as the Combat Identification Designator/Number (CID). Up to ten of the latest CIDs with position can be stored and displayed. The System is supplied with a plastic cradle with large and small utility clips for various retention arrangements, including MOLLE. A tough nylon pouch/holster in universal camouflage is also supplied. Black and tan holsters are available as options.



**CUSTOMER
SUPPORT**



Our Customer Support Department assists our customers through four key service areas:

- **Technical Support:** Help Desk services, technical website content
- **Product Support:** Product repairs, upgrades, and Return Material Authorization (RMA) monitoring
- **After Market Support:** Critical inventory provisioning and web sales assistance
- **Field Support:** Maintenance and technical services at forward depots and customer sites

Reach our Customer Support Department 24/7 by phone at our Call Support Center and online at our website.

By Phone:

Within the U.S.: 1-800-914-0303

International Dialing: +1-240-864-7643

Using the options below, incoming calls are routed to the appropriate Customer Service Specialist to ensure all inquiries are addressed as quickly as possible:

Option 1: Technical assistance and general inquiries

Option 2: Repairs, RMAs, and other product support matters

Option 3: Sales for spares and ancillary items, request quotes, make purchases, and website Shopping Cart assistance

Online:

Website: www.thalescomminc.com

Select “Customer Sign-in” under the “Customer Support” banner to access our **Technical Resources** and to:

- Request and check status of RMAs
- Look up warranty status
- Look up shipping status
- Access online purchasing and quotes

A link is available for first-time visitors to create a user account.

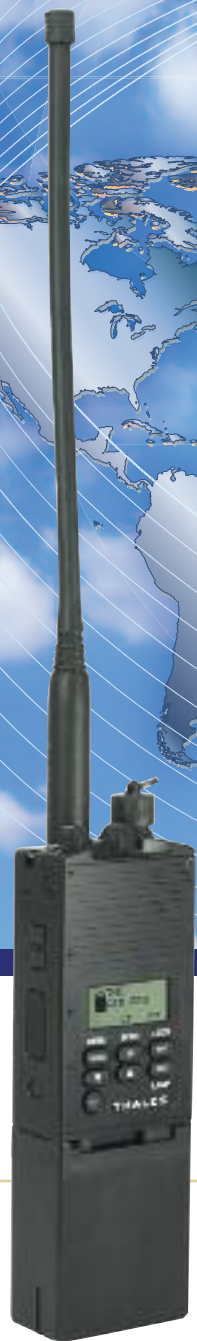
In-Theater:

Thales Communications also has in-theater maintenance and repair depots supporting troops in Kuwait, Iraq, and Afghanistan. For more information, check online for latest points of contact.

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