



Vehicle Adapter

For the AN/PRC-148 Multiband Inter/Intra Team Radios



- Contiguous 30-512 MHz Coverage
- 20 W RF Output (50 W version also available)
- Integrated Tunable Harmonic Filters
- Integrated Tunable Co-site Filters
- Environmentally Rugged
- Removable Control Head for Full Function Remote Operations
- Cable-free Radio Dismount Capability in Less Than 2 Seconds
- Supports the Following Waveforms/Modes Dependent Upon Radio Installed (Implemented and Planned)
 - AM/FM
 - HAVEQUICK I/II
 - MIL-STD-188-241-1/-2 (SINGARS)
 - MIL-STD-188-181B (56 kbps)
 - MIL-STD-188-181C, -182B, -183B (SATCOM IW)
 - ANDVT (LPC-10, MELP Vocoders)
 - Project 25
 - Over The Air Cloning (OTAC)
 - Retransmission

Supports and Maintains All Functionality of All Configurations of the AN/PRC-148 Radio, Including MBITR and JTRS Enhanced MBITR (JEM)



Vehicle Adapter

For the AN/PRC-148 Multiband Inter/Intra Team Radios

MA6943



The compact, rugged Vehicle Adapter (VA) for the combat-proven AN/PRC-148 family of radios provides 20 Watts of RF power amplification across the full 30-512 MHz frequency band. The VA opens up a broad range of secure and anti-jamming voice and data applications for the most advanced handheld radio in operation. Weighing 12 pounds with the radio installed, the VA can be easily integrated into air, land, and sea-based platforms. The VA chassis provides interfaces for power sources, antennas, intercoms, and data devices. The internal battery charger recharges the Lithium-Ion battery of the radio, allowing a user to dismount the radio from the VA fully charged and immediately operational. The VA enables cable-free radio dismounting within two seconds. The Removable Control Head with LCD display provides remote control of all radio functions and includes a microphone and a connector for an audio accessory. A tunable 30-512 MHz co-site filter system, integrated within the chassis, reduces interference between co-located units. This greatly enhances the performance of two co-located VAs serving as either independent radios or as a repeater for forwarding the signals of compatible radios. The VA is also available in a 50 Watt version. **Rapid, seamless transition from mounted to dismounted operations without losing communications.**

TECHNICAL SPECIFICATIONS

Supports the capabilities of the installed radio

Frequency Range

- 30-512 MHz contiguous
- 5 and 6.25 kHz step size

Transmit Output Power

- 5 and 20 Watts FM
- 20 Watts PEP AM
- 5 and 20 Watts PSK

Input Supply

- 12-32 VDC
- 20 A @ 12 VDC (max)

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)

Finish

- Matte black, non-reflective

Reliability

(without radio installed)

- MTBF: \geq 6,800 hours
- MTTR: \leq 15 minutes

COMSEC

Dependent on type of radio installed

Transmitter Characteristics

- Spurious Output
 - Harmonics: $>$ 45 dBc
 - Other spurious: $>$ 56 dBc
- FM hum and noise degraded \leq 1dB
- AM hum and noise degraded \leq 6 dB

Co-site Characteristics

- 6 foot minimum antenna spacing at 15% frequency separation

Receive Sensitivity (Digital/Analog)

Dependent on type of radio installed

- Typical -115 dBm FM receive sensitivity

Battery Charger

- Auto charge-level detection for Thales Lithium-ion battery
- Charges fully discharged battery
- Battery fuel gauge displayed

EMI Compliance

- EMI/EMC: MIL-STD-461C

TEMPEST Compliance

- NSTISSAM TEMPEST/1-92, level II
- NACSEM 5112

Environmental Specifications

- Temperature
 - Operating: -31° to $+60^{\circ}$ C
 - Storage: -33° to $+71^{\circ}$ C
- Humidity: 95% Non-condensing
- Shock: MIL-STD-810E
- Rain: MIL-STD-810E
- Vibration: MIL-STD-810E
- Sand and Dust: MIL-STD-810E
- Salt Fog: MIL-STD-810E
- Altitude: 30,000 feet, MIL-STD-810E

Removable Control Head (RCH)

- Full radio control and status
- Removable
- Backlit display and keypad
- Integrated microphone
- Integrated audio jack (mic, speaker, push-to-talk)
- Push-to-talk switch
- Squelch enable/disable
- Up/Down volume control



Cables and Connectors

- Cables
 - 12 foot DC input power
 - 10 foot RCH cable standard, other lengths available (35 foot and 50 foot)
 - VA to VA retransmission (optional)
 - VA to radio retransmission (optional)
 - RS-232 data interface (optional)
 - ViaSat VDC-600 data interface (optional)
 - PLGR GPS interface (optional)
- Connectors
 - RCH
 - U283 audio
 - Intercom/speaker
 - U283 data
 - Antenna (Type N female)
 - DC power input
 - Multifunctional

Accessories

- Specialized audio accessories
- Intercom adapter cables
- Speaker
- Antennas (vehicle mount, magnetic mount)
- 30-512 MHz vehicle antenna
- 30-512 MHz Base Station antenna

MA6943 Vehicle Adapter Unit Includes

- Removable Control Head
- 10 foot length cable connecting RCH to main VA
- 12 foot length DC input cable with flying leads
- Quick Reference Guide
- Installation Kit
- VA Manual

MA6943-SYS Vehicle Adapter System Includes

- Complete VA Unit as listed above
- 20 foot length RF antenna cable-50 ohm double shielded coax
- Tactical External speaker 8" x 5.7" x 3.6"
 - 5 Watts continuous input
 - Speaker impedance 6 +/- 2 ohms
 - Audio distortion less than 10%
 - Controls: Audio on off (kill switch), Volume rotary knob
 - Mounting bracket
- 10 foot length speaker cable; also available in 6 foot version as a special order
- Shock mounting tray
- 30-512 MHz vehicle antenna with mounting kit
 - BNC connector
 - Standard NATO 4 hole mounting pattern
 - 50 W capability (VA is 20 Watts)
 - 7.9 pounds
 - 39.6 inches tall
 - Gain 30-88 MHz -14 dBi to -6 dBi
 - Gain 118-174 MHz -4 dBi avg
 - Gain 225-512 MHz 0 dBi avg

Complete AN/PRC-148 System Elements:

- Dismounted/Fixed Site:
 - 5 Watt Multiband Inter/Intra Team Radios (AN/PRC-148 JEM, AN/PRC-148 MBITR, and PRC6809 MBITR)
 - 20 Watt Man Portable System
 - 20 Watt and 50 Watt Base Stations
 - 20 Watt Tactical Repeater
- Vehicular:
 - 20 Watt and 50 Watt Vehicle Adapters
 - 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



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