



AN/PRC-148 JEM

JTRS Enhanced Multiband Inter/Intra Team Radio



- Contiguous 30-512 MHz Coverage
- 256 Programmable Presets
- Smallest and Lightest Multiband Handheld Available
- Programmable Encryption Engine (AIM)
- Waveforms/Modes (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
 - Project 25
 - Over The Air Cloning (OTAC)
 - Retransmission
- Part of a Complete Communications System for Mounted and Dismounted Operation (See page 3 for details)

Additional Functionality for the AN/PRC-148 JEM with Simple Software Downloads



AN/PRC-148 JEM

JTRS Enhanced Multiband Inter/Intra Team Radio



The AN/PRC-148 JEM is an evolution of the combat-proven AN/PRC-148 MBITR, the smallest, lightest, and most widely-fielded tactical handheld radio covering the 30-512 MHz frequency range. Selected for all-services procurement as a JTRS-approved production radio, the AN/PRC-148 JEM is delivering the best of JTRS. Its Software Communications Architecture-compliant platform hosts all of today's key waveforms. Developed by Thales Communications under a formal U.S. Government program of record, the AN/PRC-148 JEM completed formal government qualification and rigorous government testing and evaluation in operational field conditions. The AN/PRC-148 JEM's programmable cryptography supports the requirements of the National Security Agency's (NSA) crypto modernization program and is certified by NSA to protect the confidentiality of voice and data up through the Top Secret level. Programmable INFOSEC enables interoperability with a full range of legacy systems and allows for non-Type 1 or exportable INFOSEC implementations. With the AN/PRC-148 MBITR as its baseline, the AN/PRC-148 JEM's features—like the human machine interface—minimize training requirements, enable rapid fielding, and provide the reliability that warfighters have trusted for many years (greater than 200,000 AN/PRC-148s have been fielded).

Tomorrow's radio...Today.

TECHNICAL SPECIFICATIONS

Frequency Range

- 30-512 MHz Contiguous
- 5 kHz and 6.25 kHz Step Size

Frequency Stability

- 1 ppm

Audio Capabilities

- Internal speaker/microphone
- > 85 dB SPL acoustic output power

Transmit Output Power

- User selectable
- 0.1, 0.5, 1.0, 3.0 Watts (waveform dependent)

Transmit Characteristics

- Radiated spurious output: < -13 dBm
- Audio distortion: < 10%
- Adjacent channel power ratio: > 45 dBc

Receive Sensitivity (Digital/Analog)

- FM: -119 dBm 12 dB SINAD (typical)
- AM: 0.6 μ V 10 dB SINAD (typical)

Adjacent Channel Rejection

- > 45 dB at \pm 25 kHz

Spurious and Image Rejection

- > 58 dB

Receive Audio Distortion

- < 10% at rated audio power

Reliability

- MTBF: > 11,400 hours calculated
- MTTR: < 8 minutes

Waveforms/Modes of Operation

(Implemented and Planned)

Dependent on configuration of radio

- AM/FM
 - Non-secure voice
 - Non-secure narrowband voice (FM) (12.5 kHz)
 - 12 and 16 kbps secure voice
 - 12 and 16 kbps secure synchronous data
 - Secure asynchronous data to 4800 bps
- HAVEQUICK I and II
 - Secure and non-secure single channel voice
 - Secure and non-secure frequency hopping voice
- MIL-STD-188-241-1/-2 (SINGARS - Standard/FH2 EOM)
 - Secure and non-secure single channel voice
 - Secure and non-secure frequency hopping voice
 - Secure single channel and frequency hopping data (600, 1200, 1200N, 2400, 2400N, 4800, 4800N, 9600N, 16000, RS-232, packet data)
- MIL-STD-188-181B
 - 56 kbps secure data
- MIL-STD-188-181C, -182B, -183B
 - SATCOM Integrated Waveform (IW)
- ANDVT
 - Secure narrowband voice (LPC-10, MELP)
 - Secure 2400 bps synchronous data
- Project 25
- Retransmission
 - AM/FM
 - ANDVT
 - SINGARS
- Over-The-Air-Cloning (OTAC)

Emergency Beacons and GPS

- AM Swept Tone Beacon
- GPS Interface to PLGR, DAGR, commercial GPS devices, and Thales Remote Control Unit with GPS
 - Situational Awareness display (MGRS coordinates) of up to 10 users when connected to a GPS receiver

TEMPEST and EMI/EMC Compliance

- NSTISSAM TEMPEST/1-92, Level III
- NACSEM 5112
- MIL-STD-461E

Interoperability

Includes:

- AN/PRC-77, AN/PRC-113, AN/PRC-117A-G, AN/PRC -119, AN/PRC -127, AN/PRC -139, AN/PRC-152, AN/PRC-153, AN/PSC-5C/D, AN/VRC-12 Series, ARC-164, ARC-231
- LST-5B/C, MX300 Series, Saber Series, XTS 3000, XTS 5000, APX Series, Unity Series, Liberty
- AN/PYG-10, AN/CYZ-10, KYK-13, KYX-15 and KOI-18 devices for COMSEC/TRANSEC key load



Programmable Channels

- 256 memory preset channels
- 16 menu selectable groups
- Clear/Encrypted mode selection on a channel-by-channel basis
- User programmable from
 - Front panel menu
 - PC toolkit
 - Radio-to-Radio cloning
 - Remote Control Unit with GPS
- Scan Mode — Up to 16 channels

Controls

- On/Off/Volume/Whisper/Zeroize knob
- 16-Position channel select knob
- Large recessed tactile push-to-talk switch
- Squelch override push-button
- Backlit 7-button keypad (NVG compatible)
- Two user programmable function keys
- Compatible with MOPOP IV protective gear

Indicators

- 32 x 80 pixel backlit LCD
 - NVG compatible
 - Daylight readable
- Intuitive menu driven user interface
 - Channel name/frequency (preset)
 - Group name
 - Clear/Secure mode
 - Transmit/Receive mode
 - Key location
 - Battery capacity
 - Transmit power

Connectors

- 50 Ohm TNC female (antenna)
- 6-pin (U-283/U) and 10-pin top connector (20 meter)
- 6-pin (U-283/U) top connector (2 meter)
- 22-pin side connector for remote control and system expansion (RS-232 and USB)
- Side RF connector for cable-free system expansion

COMSEC

- US NSA Type 1
- VINSON and FED-STD-1023
- KY57, KY58, KG84, KYV5
- ANDVT
- Receive OTAR compatible
- Rechargeable hold-up battery (HUB)

TRANSEC

- KGV11, KGV10

Physical Parameters (with battery)

- Length: 8.44 inches (21.44 cm)
- Width: 2.63 inches (6.68 cm)
- Depth: 1.52 inches (3.86 cm)
- Volume: 33.74 cubic inches (552.8 cubic cm)
- Weight: 30.6 ounces (867.5 gm)

Finish

- NBC compatible
- Matte black, non-reflective

Environmental Specifications

- Temperature
 - Operating: -31° to +60° C
 - Storage: -33° to +71° C
- Humidity: 95% Non-condensing
- Shock: EIA-603-2002
- Vibration: EIA-603-2002
- Altitude: 30,000 feet
- Immersion:
 - 20 meter version
 - 2 meter version

Batteries

- Rechargeable Lithium-Ion
 - 4800 mAh: >10 hours life at 5 Watts*
 - Optional: 5800 mAh: >12 hours life at 5 Watts*
- Non-rechargeable battery cell holder
 - Commercial Lithium cells
 - 8 hour life at 5 Watts*

*Standard duty cycle (8:1:1)

Antenna Set

- 30-88 MHz
- 90-512 MHz
- Additional band specific antennas available

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
- Mounted Soldier Cordless Communications System
- Accessories (partial list):
 - Remote Control Unit with GPS
 - Radio Holsters and System Carrying Bags
 - AC Powered Single-slot Battery Charger
 - AC/DC Powered 6-slot Battery Charger
 - AC Powered 6-slot Battery Charger
 - DC Powered 2-slot Tactical Charger
 - Non-rechargeable Battery Cell Holder
 - Specialized Audio Accessories
 - Programming, Cloning, Data, GPS, PDC, and Retransmission Cables
 - Special Power Adapter Interface and Cables
 - Power Amplifiers

➤ SECAN Approved

➤ Non-U.S. Government sales may be subject to U.S. Government approval.

➤ Specifications are subject to change without notice.



AN/PRC-148 JEM

JTRS Enhanced Multiband Inter/Intra Team Radio



Thales Communications, Inc.

22605 Gateway Center Drive | Clarksburg, MD 20871
Toll-Free: 1.800.258.4420 | Phone: 240.864.7000 | Fax: 240.864.7920
E-mail: Solutions@thalescomminc.com | Website: www.thalescomminc.com



2101.051911.V11