



Features include

- **Software Defined Transceiver Core**
- **Advanced Digital Signal Processing (DSP)**
- **Lightweight and compact design**
- **Detachable display for remote extended control operation**
- **Secure Digital Voice options**
- **Fully immersible to 1m**
- **Rapid Docking System (RDS) for vehicle and base configuration (125 Watt)**

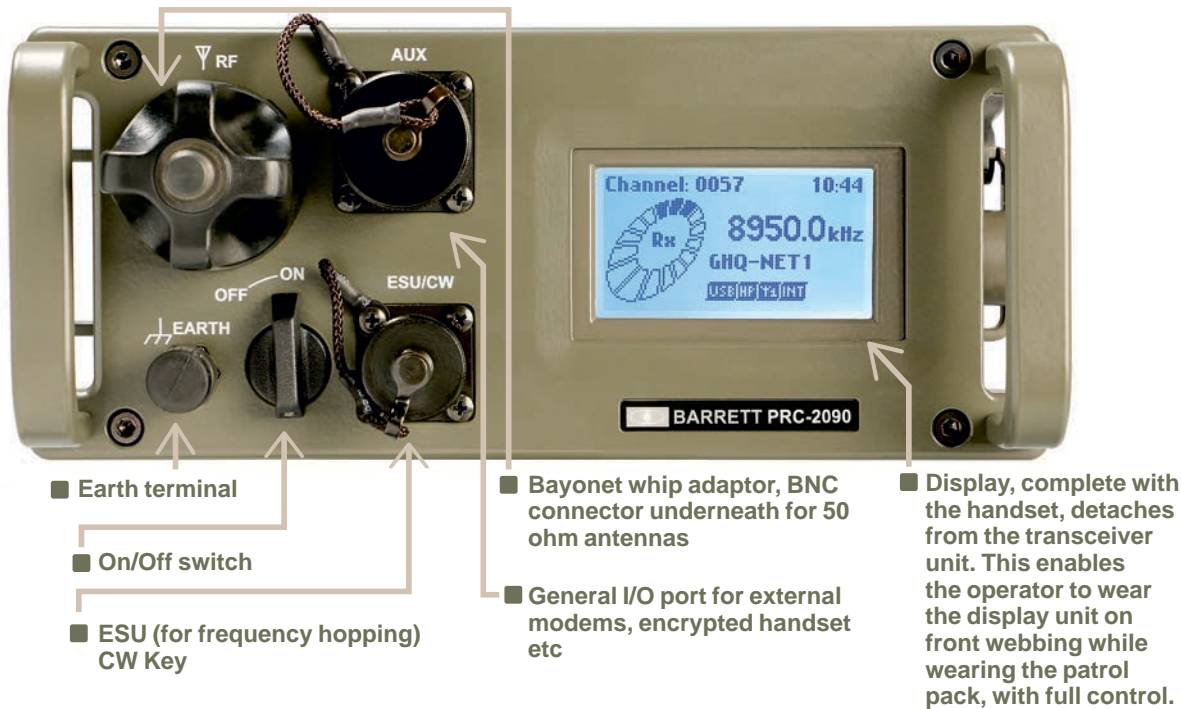
The PRC-2090 is a rugged fully featured tactical HF transceiver solution delivering proven field deployable secure communications with un-paralleled reliability.

Designed for operation in the toughest of environments, the PRC-2090 complies with MIL- STD 810G for shock and vibration, is immersible to a depth of 1 m and can be operated in extremes of temperature from -40°C to $+70^{\circ}\text{C}$.

New Software Defined Core

The new software defined core provides a much improved memory capacity and extends the life cycle and upgradability of the PRC-2090. The software based architecture enables the user to maintain their radio transceiver equipment with the latest transceiver software releases taking advantage of the latest product enhancements and features as they become available.





Lightweight and Compact Design

Using the latest lightweight alloys the PRC-2090 weighs 3.9 kg (5.2 kg with 10 Ah, quick change, Lithium Ion battery cartridge). Its small physical size, one of the smallest on the market makes it comfortable to wear and operate when deployed as a tactical manpack.

Advanced calling features

The PRC-2090 transceiver is fully interoperable with a number of advanced digital selective calling systems commonly used by many peacekeeping, non-government and tactical organisations. The PRC-2090 tactical transceiver provides for multi-standard four and six digit Selective Call features including, telephone interconnect, SMS text, GPS tracking, status calling, point to point and/or multipoint Secure Call and remote transceiver disable capabilities.

Automatic Link Establishment (ALE) (optional)

The PRC-2090 is available with full MIL-STD-188-141B 2G ALE (JITC certified) and FED-STD 1045 ALE. When selected, the Barrett PRC-2090 offers full interoperability with all other military and commercial equipment complying with this standard plus enhanced telephone interconnectivity.

Tactical Field Data Terminal (FDT) option provides the PRC-2090 with the very latest 3GALE STANAG 4538 with advanced capabilities for voice, messaging, GPS tracking and radio status for simple and reliable communication.

Detachable display

The display, complete with a fully featured advanced tactical handset removes from the transceiver unit. This enables the operator to wear the display unit on their front webbing and have full operational access to the manpack without dismounting the manpack transceiver unit itself.

For tactical base and mobile applications, the optional extended control interface allows the transceiver unit to be located at a convenient position away from the operator. This is ideal for command post operations or vehicle mounting where space is limited.

Enhanced DSP noise reduction

The new Digital Signal Processor (DSP) provides clear intelligible voice communications on analogue circuits through the digital removal of background noise and interference.

The standard DSP noise reduction system provides outstanding voice quality by reducing radio frequency interference (RFI), and the effects of electrical interference by enhancing audio signals to provide easier listening.

Digital Voice

Barrett digital voice options provide the highest level of digital quality clear speech between similarly equipped transceiver equipment regardless of the prevailing HF conditions.

Secure Communications (optional)

The PRC-2090 can be fitted with a variety of scrambling and digital encryption options for voice and data security.

Options include Barrett's unique Secure Call feature, an innovative narrow band voice scrambler providing secure Selcall initiated point to point or point to multipoint communications on both open or pre-encrypted voice channels, regardless of the base level network encryption employed enabling secure point to point or multipoint communication within a secure network.

Secure voice and data operation is further assured with a variety of internal and external encryption options for both voice and data communications, from 128 bit keyed FTT voice scramblers to DES 56 and export controlled AES 256 digital encryption standards, all interoperable with Barrett's patented frequency hopping providing instant access with no late entry synchronisation delay.

Additionally, the PRC-2090's front panel connectors provide an interface for external OEM voice crypto devices enabling operators to maintain interoperability between multi-vendor sourced security solutions.

Advanced frequency hopping (optional)

The unique, easy to use frequency hopping option (subject to export controls) requires no central synchronisation station, has no entry or late entry time delay and requires no handshaking. Hopping rates of 5 or 25 hops per second, using a 10 digit hopping encryption key, and with a user selectable hopping bandwidth to suit a variety of antenna types. The system provides excellent protection against electronic warfare (EW) attacks and can be operated for extended periods in theatre without synchronisation.

Integrated GPS interface

Barrett's GPS interface supports connection into any NMEA0183 external GPS receiver antenna for tracking applications. This interface provides emergency call features and position information on all deployed equivalently equipped HF assets.

Internal data modems - Clover 2500 or STANAG 5066 stack (optional)

The PRC-2090 can be fitted with either the field proven Clover 2500 or STANAG 5066 internal data modems supporting high speed secure data and email transmission, with effective data rates in excess of 14,400 bps.

Clover data modems are supplied with our advanced email and file transfer solution, which has been designed for HF operation. With full ALE control, voice call and typed text GUI proving short text messaging functions and on air live chat. Military standard data modem solutions are provided with Barrett's RC50 STANAG 5066 based communications suite providing for full ALE based automatic secure mail delivery. All data modems are available as internal or external fit according to deployment requirements.

Intuitive operation

Barrett's well known intuitive operator interface ensures the PRC-2090 is very simple to operate. Principal key functions are performed using a large six key cluster on the advanced tactical handset. The operator is guided by a large 128 x 64 LCD graphics display with adjustable backlighting ensuring the maintenance of night vision or high levels of luminescence in poor visibility. Network station addresses and telephone numbers are stored in easily accessible address and phone books and as little as two key strokes will initiate a call.

Automatic antenna tuner

Whips and un-tuned wire antennas are simply deployed using the inbuilt, fully automatic antenna tuner. For temporary fixed station operations various lightweight broadband and tunable tactical antennas are available.

Extended operation time

The low current consumption of the PRC-2090 transceiver enables it to operate in excess of 20 hours on one battery cartridge (assumes 90/10 RX/TX duty cycle). Spare quick change battery cartridges are small and lightweight and include an inbuilt charge management circuit allowing the cartridges to be charged whilst fitted and in operation or separately from any available DC source, including solar, hand crank or wind generator.

Rapid Docking System (RDS) vehicle and base docking solution - 125 W PEP

The Barrett PRC-2090 RDS's unique design enables the PRC-2090 transceiver to be cassette loaded into the docking station for convenient base and mobile operation. Preconfigured to accept a wide range of AC and DC voltages, antenna systems and ancillary equipment, the transceiver automatically increases transmitter power to 125 W PEP and makes the appropriate base or mobile antenna selection automatically.

PRC-2090 HF Tactical Manpack Package P/N 2090-01-10

The Barrett PRC-2090 HF Tactical Manpack Package is ideal for extended portable field operations providing the tactical user with effective, secure and comprehensive communications with remote sited command locations. The HF Tactical Manpack Package includes all necessary antennas, smart battery and backpack carrying system.

The standard package comprises:-

- PRC-2090 HF Tactical transceiver
- Counterpoise earth kit - single wire
- Advanced tactical handset
- Long wire throw out antenna
- Battery pack – 16.8 V 10 Ah Lithium Ion
- AC/DC charger
- Collapsible whip 3 metres with gooseneck
- Framed backpack for manpack



PRC-2091 HF Tactical Mobile Package P/N 2091-00-10

The Barrett PRC-2091 HF Tactical Mobile Package upgrades the PRC-2090 by providing a convenient rapid docking system and transmitter power amplification to 125 W PEP. With options for either 12 VDC or 24 VDC power supply and the flexibility of dismantled use of the PRC-2090 transceiver when not in the vehicle (additional accessories may be required), the PRC-2091 HF Tactical Mobile Package can be installed in a wide range of vehicle types with antenna options to suit.

The standard package comprises:-

- PRC-2090 HF Tactical transceiver
- Rugged external mount speaker
- Advanced tactical handset
- Mass matched vibration mounting platform
- Vehicle docking station
- Tactical Installation Kit



PRC-2092 HF Tactical Base Package P/N 2092-00-10

The Barrett PRC-2092 HF Tactical Base Package, like the PRC-2091 mobile package includes the rapid docking system and power amplification to 125 W PEP as well as the flexibility of dismantled communications when the PRC-2090 is removed from the docking station (additional accessories may be required). The HF tactical base package can be installed in a number of temporary base and fixed command configurations powered by a variety of AC and DC power sources. A range of antenna options are available to suit different installation configurations.

The standard package comprises:-

- PRC-2090 HF Tactical transceiver
- Rugged external mount speaker
- Advanced tactical handset
- AC Power supply
- Vehicle docking station
- Tactical Installation Kit



General specifications

Frequency range	1.6 MHz to 30 MHz Tx, 250 kHz to 30 MHz Rx*
Channel capacity	Up to 500 programmable channels
Operating modes	J3E (USB, LSB) - H2B (AM) - J2A (CW) - J2B (AFSK)
Frequency stability	±0.5 ppm (±0.3 ppm optional)
Sensitivity	-120 dBm (0.224 µV) for 10 dB SINAD - J3E Mode pre-amp on
Frequency hopping	5 or 25 hops per second
RF connections	Whip or long wire using internal automatic antenna tuner or 50 ohms connector
RF output power	30 W PEP, 10 W PEP (125 W PEP) when in vehicle or base docking station (voice duty cycle only)
Operating temperature	-30°C to +70°C humidity 95% relative, non condensing
Programming	RS-232
Weight	2090 transceiver with 10 Ah Lithium Ion battery cartridge 5.22 kg
Standards	Meets AS/NZS4770:2000, CE, MIL-STD 810G Immersion, shock, vibration, dust and spray

**(reduced sensitivity 250 kHz to 500 kHz)*
Specifications are typical. Equipment descriptions and specifications are subject to change without notice or obligation.

Summary of features

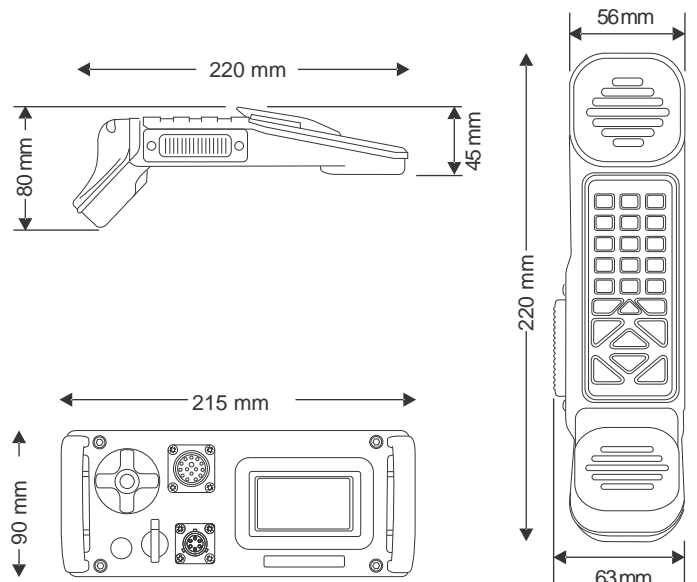
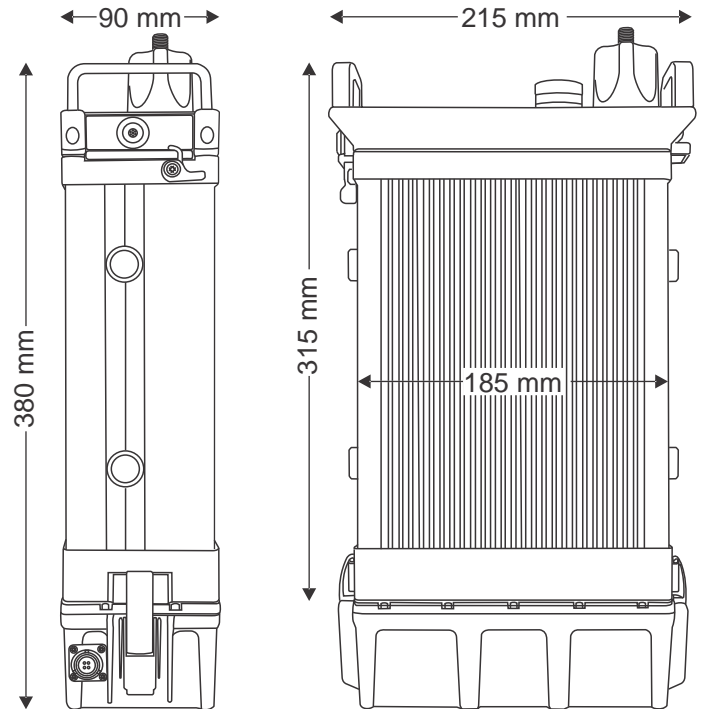
- Software Defined Core
- Lightweight and Compact Design
- Advanced calling features
- Detachable display
- Enhanced DSP noise reduction
- Automatic Link Establishment (ALE) MIL STD 188-141B
- Internal High Speed Data modems options
- Lightweight (5.2 kg with 10AH battery)
- MIL-STD-for shock, vibration and immersion
- Internal fully automatic antenna tuner
- Intuitive and user-friendly interface
- Fully immersible to 1m
- 3 year warranty (Standard)

PRC-2090 available options

- Vehicle and base Rapid Docking System (RDS) -125 W PEP
- Frequency Hopping (Subject to Export licence)
- Digital Voice & Data Encryption 56 bit DES & 256 bit AES (Subject to Export licence)
- Secure Call - ALE MIL-STD 188-141B
- Internal/external high speed data modems
- 3 kHz bandwidth filter (high speed data)
- Tactical solar power supply
- Hand crank generator
- Tactical headphones
- Tactical CW key
- Tactical broadband dipole
- Tactical wire dipole Antenna
- GPS receiver
- PC programming kit

Multicam patrol pack

- The full pack provides for the PRC-2090 and various accessories including wire antennas and spare battery packs
- Made from 1000 denier nylon
- A pouch is provided to hold the PRC-2090's removable display and handset
- The side packs can be detached to make the pack more compact
- Note:- Solar panel bag shown on front of pack is optional and ships with the optional rapid deploy solar panel P/N 2090-03-08



BCB2090/29

Head Office:
Barrett Communications Pty Ltd
47 Discovery Drive, Bibra Lake,
WA, 6163 AUSTRALIA
Tel: +61 8 9434 1700
Fax: +61 8 9418 6757
Email: information@barrettcommunications.com.au





Features include

- Compact lightweight modular design
- Configurations include:-
 - 5 W Hand Portable
 - 25 W Manpack
 - 50 W Mobile
 - 50 W Base Station
 - 50 W Re-broadcast system
- DSP voice and data signal processing
- Selective and group calling
- Compatible with other 30 – 88 MHz communications equipment

Available options include

- Encryption and frequency hopping security
- Messaging and encrypted data transfer

The PRC-2080+ low band VHF transceiver is designed for multi-role tactical military and security applications. It is an extremely compact and lightweight unit which is simple to operate in demanding mission critical conditions. The PRC-2080+ is part of the family of Barrett transceivers that are field proven in over 150 countries, on every continent and in all environments.





Advanced tactical handset for operation and field programming with U-229 style connector



The PRC-2080+ Tactical VHF radio system is a military grade portable communication transceiver specifically designed for tactical applications. It is designed to meet complete immersion, vibration, drop to MIL-STD 810G.

Communication modes

The PRC-2080+ Tactical VHF radio system has multiple levels of encryption and frequency hopping security available. Analogue voice and digital unencrypted data are fitted as standard. The following levels of encryption are available:-

- Analogue Voice - Fixed Frequency (AFF)
- Digital Unencrypted Data - Fixed Frequency
- Digital Encrypted Voice - Fixed Frequency (DEFF)
- Digital Encrypted Voice - Frequency Hopping (DEFH)**
- Digital Encrypted Voice - Free Channel Search (DEFCS)
- Digital Encrypted Data - Fixed Frequency
- Digital Encrypted Data - Frequency Hopping**

** Requires an Australian Department of Defence Export licence.

Simple to use

For basic operation of the PRC-2080+, only the front panel controls are required. Field programming, advanced menu options, selective calling and group calling features are accessible via the PRC-2080+'s supplied advanced handset. The PRC-2080+ is an ideal replacement to the PRC-77 and its variants, which are now obsolete and susceptible to interception and jamming.

Rugged design

Users will appreciate the PRC-2080+ transceiver's solid construction, simplicity and accessibility. Maintenance is quick and simple with only three internal modules which can be exchanged without any special tools. All inter-module connectors are gold plated and there are no wiring looms or complex back plane assemblies.

In designing the PRC-2080+, emphasis has been placed on ensuring low cost of ownership over a long service life. The transceiver's software defined architecture ensures compatibility with legacy, current communication systems.

Modular construction

The PRC-2080+'s main circuitry is contained in three modules – the radio frequency (RF), digital signal processor (DSP) and power amplifier (PA) modules. A very high level of integration is used to minimise component count and to increase reliability. The embedded software is controlled by the DSP module, which uses a low current, high speed DSP core engine. Speech coding and all frequency hopping and encryption functions are processed by the DSP under the control of a host microprocessor. The RF module contains a high dynamic range front end with DDS (Direct Digital Synthesiser) system which achieves fast frequency switching times whilst maintaining low current consumption.

The PRC-2080+'s RF design takes into account the hostile electromagnetic environment and achieves excellent ECM resistance and co-siting performance. The PRC-2080+'s RF, DSP and software design make it one of the most cost effective, secure, high performance VHF transceivers available in the tactical military market today.

PRC-2080+ 5 W VHF Tactical handheld package - P/N 2085-00-10

In stand-alone configuration, the PRC-2080+ is ideal for squad level communication requirements. Using either the supplied advanced handset or optional tactical headset, the PRC-2080+ transceiver can communicate reliably up to 8 km in open space (subject to terrain and topography), using the standard tape whip antenna. An optional multicam canvas backpack or webbing pouch is available. (see back page)

The standard package comprises:-

- PRC-2080+ VHF transceiver
- Advanced tactical handset
- Tape whip antenna with gooseneck
- Rechargeable 6.5 Ah Li-Ion battery
- AC/DC battery charger



PRC-2081+ 25 W VHF Manpack package

P/N 2086-00-10

The PRC-2081+ 25 Watt Manpack upgrades the PRC-2080+ transceiver with increased power and communication range. The PRC-2081+ is a military grade manpack communication set specifically designed for tactical applications and designed to withstand complete immersion, vibration, drop and temperature extremes to MIL-STD 810G.

The standard package comprises:-

- PRC-2080+ VHF transceiver
- VHF 25 W manpack dock
- 10 Ah, 16.8 V Li-Ion battery pack
- AC/DC charger
- AC/DC battery charger
- Collapsible section whip
- Tape whip antenna
- Advanced tactical handset
- Framed backpack



PRC-2082+ 50 W VHF Mobile packag

P/N 2087-00-10

The PRC-2082+ Mobile package provides a convenient docking station for the PRC-2080+ transceiver as well as the flexibility for dismounted use when not in the vehicle (additional accessories are required to use the PRC-2080+ as a Hand Portable). The 50 W VHF amplifier provides range extension and increased link reliability when connected to the external vehicle whip antenna system. The PRC-2082+ can be installed in a range of vehicles including jeeps, patrol boats, APC's, and tanks. The PRC-2082+ is ready for connection to combat net radio systems incorporating intercom harnesses. The overall size of the system makes it one of the smallest VHF platforms available making it particularly suited to vehicles where space is limited.

The standard package comprises:-

- PRC-2080+ VHF transceiver
- Vehicle docking station
- 50 W VHF amplifier
- Advanced tactical handset
- Tactical Installation Kit
- Rugged external amplified speaker



PRC-2084+ 50 W VHF Base package

P/N 2089-00-10

The Barrett PRC-2084+ VHF Base Package, provides a convenient docking station with power amplification to 50 W, as well as the flexibility of dismounted communications when removed from the docking station (additional accessories are required to use the PRC-2080+ as a Hand Portable).

The VHF Base Package can be installed in a number of temporary base and fixed command configurations and operated from a variety of AC and DC power sources.

The standard package comprises:-

- PRC-2080+ VHF transceiver
- Vehicle docking station
- 50 W VHF amplifier
- Advanced tactical handset
- AC power supply module
- Tactical Installation Kit
- Rugged external amplified speaker



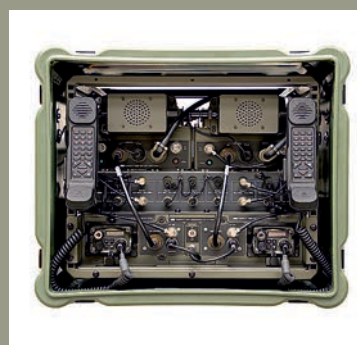
PRC-2083+ 50 W VHF Re-broadcast System - P/N 2088-00-10

The Barrett PRC-2083+ Re-broadcast system is typically used to link two low band VHF networks providing extended range to overcome communication difficulties due to distance or terrain. The two networks can use different security options (frequency hopping and encryption) providing a field deployable interoperability solution.

The re-broadcast system utilizes two PRC-2084+ 50 Watt systems and incorporates a nine band co-location filter assembly and AC/DC power supply with battery backup facilities all housed in a MIL-SPEC ruggedised transportable case allowing for easy deployment in any field environment.

The standard package comprises:-

- PRC-2080+ VHF transceiver x 2
- Vehicle docking station x 2
- 50 W VHF amplifier x 2
- Advanced tactical handset x 2
- AC power supply
- Bandpass filter panel
- Transportation casing
- Tactical Installation Kit
- Rugged external amplified speaker x 2



PRC-2080+ General specifications

Frequency range	30.2 MHz to 87.775 MHz
Channel resolution	25 kHz
Channels	10
Squelch	150 Hz tone squelch
Display	Backlit LCD graphics display
Programming	PC programming software, Fill Gun, Cloning cable, Tactical handset
BITE	Advanced module diagnostics & error reporting
Output power	5 W / 500 mW / 50 mW nominal (selectable)
Modulation	FM (F3E) Digital

Mechanical & environmental

PRC-2080+ 5 W VHF Hand Portable package – P/N 2085-00-10

Battery	14.4 V 6.5 Ah Li-Ion
Antennas	Tape whip with balun gooseneck 6 section whip with balun gooseneck
Dimensions in mm	110W x 55D x 247H including battery
Weight	1.3 kg with battery pack
Temperature	Operating -30°C to +60°C
Construction	Aluminium body and polycarbonate battery casing
MIL-STD 810G	Drop, shock, vibration & immersion

PRC-2081+ 25 W VHF Manpack package – P/N 2086-00-10 (General specs as per PRC-2080+ unless noted below)

Battery	16.8 V 10 Ah Li-Ion
Antennas	Tape whip with gooseneck or 6 section collapsible whip
Output power	25 W
Dimensions in mm	315W x 205D x 510H
Weight	7.7 kg with backpack frame and battery pack
Temperature	Operating -30°C to +60°C

PRC-2082+ 50 W VHF Mobile package – P/N 2087-00-10 (General specs as per PRC-2080+ unless noted below)

Supply voltage	11 to 28 V DC
Output power	50 W
Dimensions in mm	230W x 250D x 295H
Weight	11.6 kg excluding antenna

PRC-2084+ 50 W VHF Base package – P/N 2089-00-10 (General specs as per PRC-2080+ unless noted below)

Power Supply	100 to 240 V AC
Output power	50 W
Dimensions in mm	230W x 445D x 335H
Weight	18 kg excluding antenna

PRC-2083+ 50 W VHF Re-broadcast System – P/N 2088-00-10 (General specs as per PRC-2084+ unless noted below)

Power Supply	100 to 240 V AC
Dimensions in mm	685W x 715D x 550H
Weight	47 kg excluding antennas

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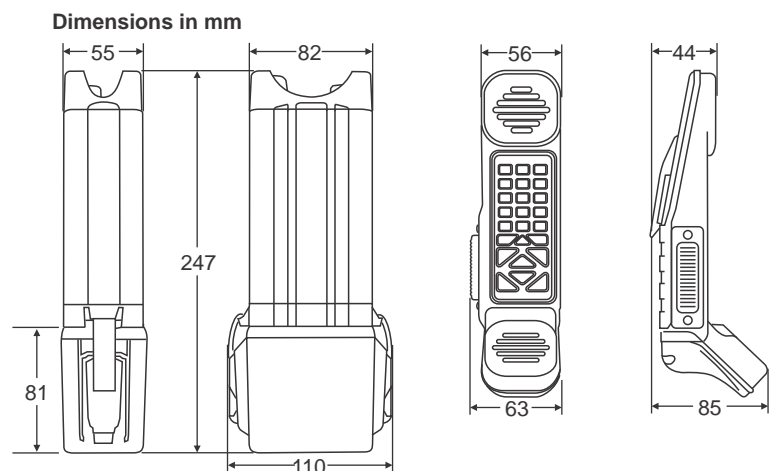
Webbing pouch - Multicam (optional)

- Designed to be worn on webbing using the MOLLE system for attachment.
- Made from 1000 denier nylon.
- Also available in Olive Green.



Canvas backpack - Multicam (optional)

- Lightweight backpack design is suited to back mounting of the transceiver using either a short or long antenna.
- Made from 1000 denier nylon.
- Also available in Olive Green.



BCB2080/21

Head Office:
Barrett Communications Pty Ltd
47 Discovery Drive, Bibra Lake,
WA, 6163 AUSTRALIA
Tel: +61 8 9434 1700
Fax: +61 8 9418 6757
Email: information@barrettcommunications.com.au