

### Features include

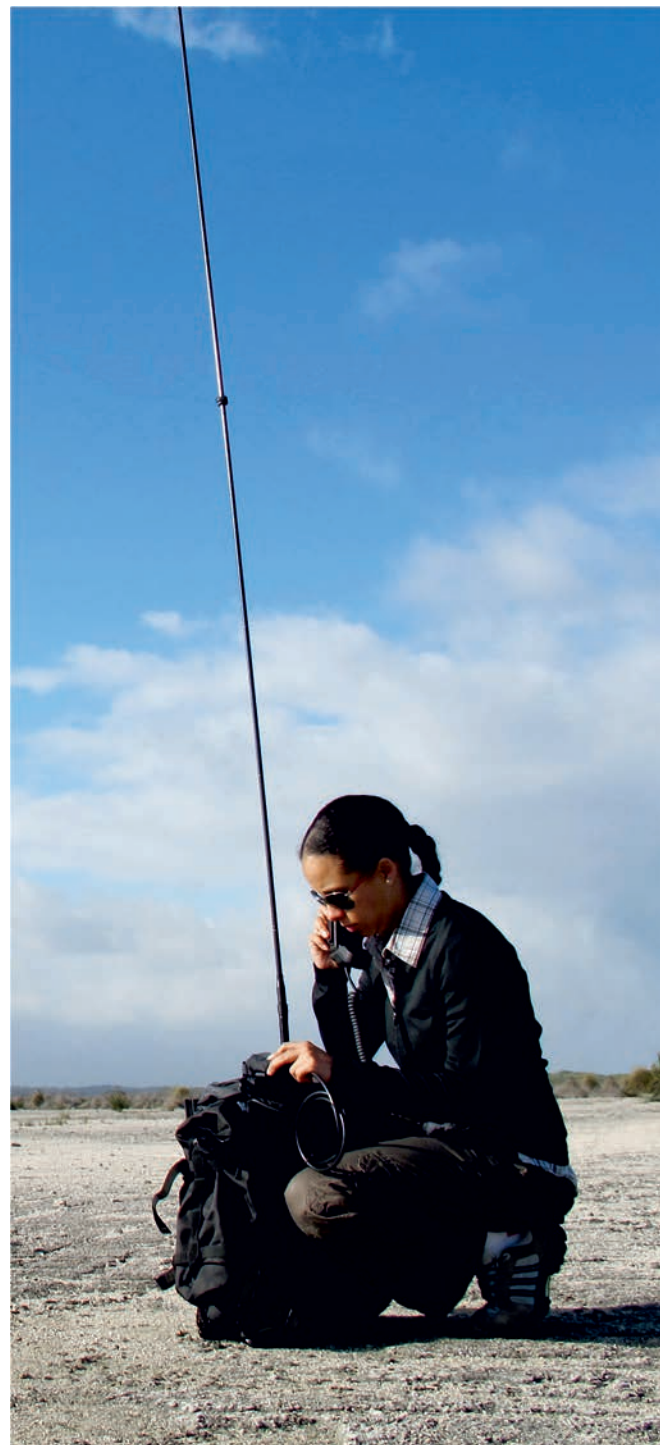
- Software Defined Transceiver Core
- Advanced Digital Signal Processing (DSP)
- Lightweight and compact design
- Detachable display for remote extended control operation
- Secure Digital Voice options
- Fully immersible to 1m

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

Designed for operation in the toughest of environments, the 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  $-40^{\circ}\text{C}$  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 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.





- Earth terminal
- On/Off switch
- ESU /CW Key
- Bayonet whip adaptor, BNC connector underneath for 50 ohm antennas
- General I/O port for external modems, encrypted handset etc
- Display, complete with the handset, detaches from the transceiver unit. This enables the operator to wear the display unit on front webbing while wearing the patrol pack with full control



**Lightweight and Compact Design**

Using the latest lightweight alloys the 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.

**Advanced calling features**

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

**Detachable display**

The display, complete with a fully featured advanced handset remotes 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.

**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 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.

**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.

**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 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.

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

The 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 2020 advanced "designed for HF operation" email and file transfer solution with full ALE control, voice call and typed text GUI proving short text messaging functions and "On Air" live chat. MIL STD 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.

## Automatic Link Establishment (ALE) (optional)

The 2090 is available with full MIL-STD-188-141B 2G ALE (JITC certified) and FED-STD 1045 ALE. When selected, the Barrett 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 2090 with the very latest 3G ALE STANAG 4538 with advanced capabilities for voice, messaging, GPS tracking and radio status for simple and reliable communication.

## Intuitive operation

Barrett's well known intuitive operator interface ensures the 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.

## Accessories

### Broadband dipole antenna

Rapid deployment broadband dipole operates from 2 MHz to 30 MHz without adjustment - 40 W PEP max. Can be deployed as full length broadband dipole or in compact form. (option)



### Portable mast kit

Portable mast kit for broadband and dipoles - rapid deployment. (option)



### Collapsible whip 3 metres

Includes gooseneck for manpack transceiver - colour black.



### GPS receiver / antenna module

Enable the GPS receiver antenna to be placed up to 4 metres from the 2090. (option)



### Clover 2000 internal modem

Operates with Barrett 2020 HF data system software providing full email facilities and connection to the internet email system. (option)



### Headphones - lightweight

Folding headphones with 5 pin connector. (option)



### Solar panel

Solar power supply pack - for charging and operating the 2090 manpack. (option)



### CW key - lightweight

Brass CW key with leg strap and 6 pin connector. (option)



### Counterpoise earth kit - multi-wire

Increase the efficiency of the 2090 Operating with whip antenna below 3 MHz in dry soil or desert areas. (option)



### Counterpoise earth kit - single-wire

Increase the efficiency of the 2090 Operating with whip antenna below 3 MHz.



### Rapid deployment hand crank generator

For charging and operating the 2090 manpack transceiver. (option)



### Battery pack 10 Ah

16.8 V 10 Ah Lithium Ion





**General specifications**

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

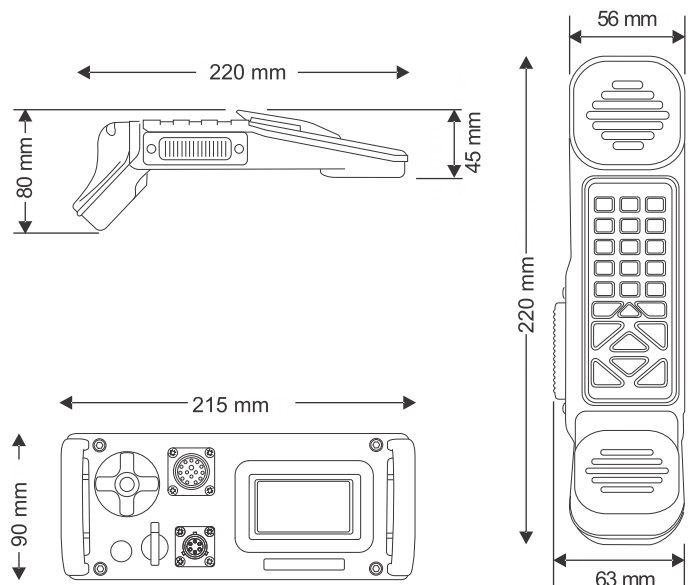
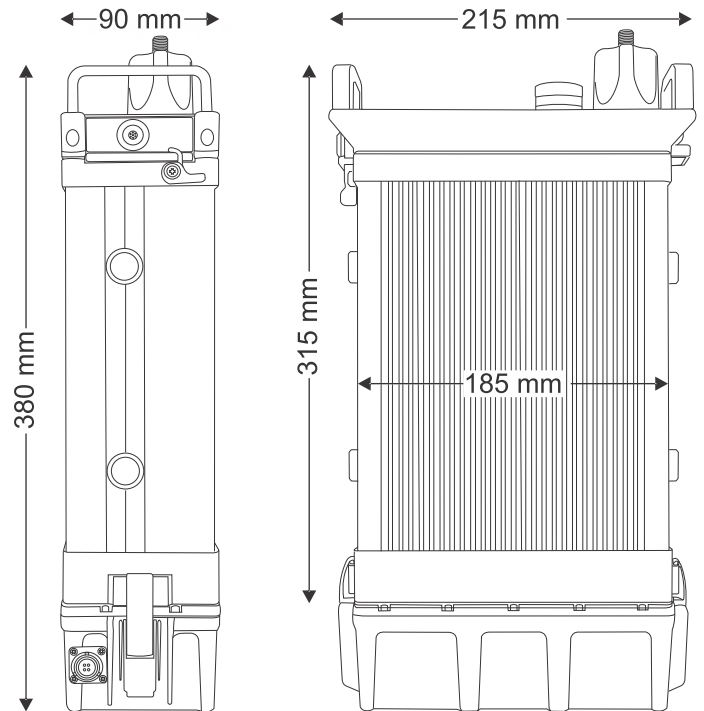
- Software Defined Core
- Lightweight and Compact Design
- Advanced calling features
- Detachable display
- Enhanced DSP noise reduction
- Automatic Link Establishment (ALE) MIL STD 188-141B (Optional)
- Internal High Speed Data modems (Optional)
- Lightweight (5.2 kg with 10AH battery)
- MIL-STD-for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

**2090 HF Manpack available options**

- 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

**Patrol pack (Black)**

- The full pack provides for the 2090 and various accessories including wire antennas and spare battery packs
- Made from 1000 denier nylon
- A pouch is provided to hold the 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



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