



## Software-Defined Radio, Redefined.

The Barrett 4090 HF Manpack SDR Transceiver combines Software-Defined Radio technology with the intuitive "ease of use" that has become synonymous with the Barrett name. When teamed with other Barrett HF products, the versatile Barrett 4090 Manpack transceiver provides secure email, data transfer and telephone connectivity within a HF network and outwards to international telephone and internet networks.

Barrett 4090 HF Manpack SDR Transceiver can be controlled from all major mobile and desktop platforms including iOS, Android and Windows devices for wireless voice and radio control via the 4000 series HF remote control app.

- **Advanced, software-defined radio architecture**
- **Intuitive and user-friendly touch-screen control**
- **IP connectivity (WiFi/Internet)**
- **Remote operation via iOS, Android & Windows devices**
- **USB transceiver programming and key fill**
- **Multi-Language software interface**
- **Digital Voice and Secure Digital Voice options**
- **2G & 3G Automatic Link Establishment (ALE) options**
- **On-board high speed data options**
- **Low current consumption**
- **GPS Push option and integrated GPS**



## Lightweight and Compact Design

Using the latest lightweight alloys, the 4090 weighs 3.15kg. Its small physical size, one of the smallest on the market, makes it comfortable to wear and operate when deployed as a tactical manpack. The manpack is 5.65kg with Barrett 16 Ah, quick change Li-ion battery.



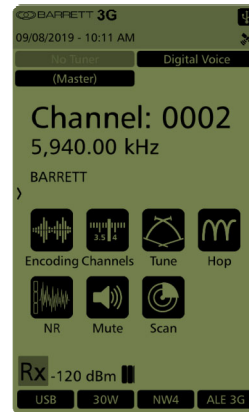
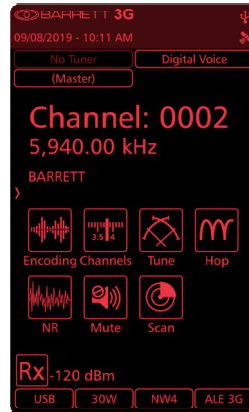
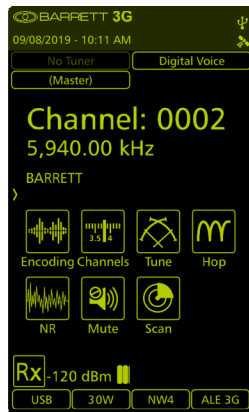
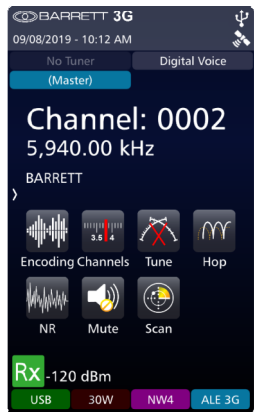
Widely available BB2590 Li-ion batteries can be utilised giving a gross weight of 4.3kg, or 3.95kg when used with a BA5590 non-rechargeable battery pack.



## Extended operation time

The Barrett 16Ah advanced Li-ion battery provides the 4090 transceiver up to 64 hours Rx (only) operation, and up to 21 hours Rx/Tx is possible in a 90/10 duty cycle.

The battery includes inbuilt charge management allowing for charging in operation or separately from any available 24V d.c. source, including solar panels and hand crank generators.

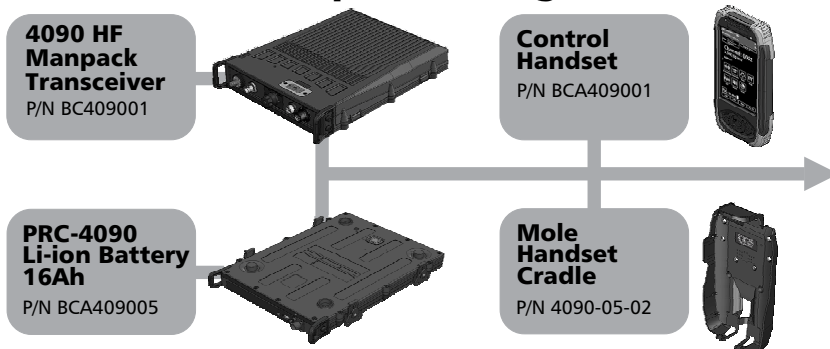


## Display

The display is a super bright, high definition 24-bit colour touchscreen which provides optimal viewing ability in all lighting conditions. It provides access to the most advanced and intuitive HF radio interface on the market.

The 4090 software has four separate theme modes for use in different ambient light conditions. The screen can also be turned into landscape format via the user interface, if required.

## 4090 HF SDR Manpack Package - P/N BC409002



The Barrett 4090 HF Manpack Package is ideal for extended portable field operations providing the user with effective, secure and comprehensive communications with remotely sited command locations. The HF Tactical Manpack Package includes all necessary antennas, smart battery and backpack carrying system.



\*Main components only shown. Some items not shown for clarity.



## Control Handset

The fully featured tactical control handset is remotely connected to the transceiver unit. This enables the operator to wear the display unit on their person and have full operational control of the manpack without needlessly dismounting the manpack transceiver unit itself. It can also be used in conjunction with H250 handsets.

The 4090 manpack ships with a handset cradle including Molle attachment for use on webbing or any Molle compatible equipment. The handset can be docked in the cradle in reverse for tactical operation.



## 2G & 3G ALE (optional)

Backwards compatible 2nd generation (2G) Automatic Link Establishment (ALE), based on MIL-STD-188-141B (JITC certified) and FED-STD-1045, is available as an option for automatic point-to-point and/or multipoint calling, including telephone interconnect, AMD text messaging and GPS position. For superior fast link setup (FLSU), robust packet data and greater penetration on noisy channels, 3rd generation (3G) ALE based on STANAG 4538 is also available.

## Digital Voice and Secure Digital Voice (optional)

Digital Voice (DV) can improve the reliability of communications over noisy channels where reception of analogue voice can be very poor. Voice can be improved markedly to the point where barely usable frequencies can be made clear. Secure Digital Voice (SDV) allows users to encrypt their communications over HF radio providing a secure HF network. Barrett offer two SDV encryption standards. A non-export controlled DES 56 vocoder with rates of 700, 1200 and 2400bps or an export controlled AES 256 vocoder with rates of 600, 1200 and 2400bps. Both deliver cutting edge voice communication performance and security at all times.

## Advanced Frequency Hopping (optional)

Available hopping rates of 5 or 25 hops per second, the use of an 8 digit hopping encryption key, with a user selectable hopping bandwidth to suit a variety of antenna types means that the system provides excellent protection against electronic warfare (EW) attacks and can be operated for extended periods in the field without synchronisation.

## IP Network Connectivity

Built into the 4090 System Docking Station, the Ethernet accesspoint allows the HF network to connect directly to PCs. This allows the HF network to integrate with Barrett's tracking and data options.

## Integrated GPS

Barrett's integrated GPS is built into the handset. The integrated GPS enhances emergency call features and position information on all deployed equivalently equipped HF assets. Combined with Barrett's GPS Push tracking solution, Barrett can provide unrivaled asset tracking performance over HF radio.

## Data Modem Compatibility

Multiple data waveform options are provided in the Barrett 4090 including MIL-STD-188-110A/B (STANAG 4285, 4415, 4481, 4529, 4539), 3G Packet Data (STANAG 4538), CLOVER 2500 and CLOVER 3000. Combined with Barrett's latest data transmission software and intuitive user interface, these waveforms provide unparalleled performance with "throughput" rates up to and in excess of 19,200 bps.

## Advanced Calling Features

The Barrett 4090 transceiver provides 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.

## Enhanced DSP Noise Reduction

The digital signal processor (DSP) provides clear intelligible voice communications on analogue circuits through the digital removal of background noise and interference.

## Automatic antenna tuner

Whips and un-tuned wire antennas are accommodated with the inbuilt, fully automatic antenna tuner. Various lightweight broadband and tunable tactical antennas are available.

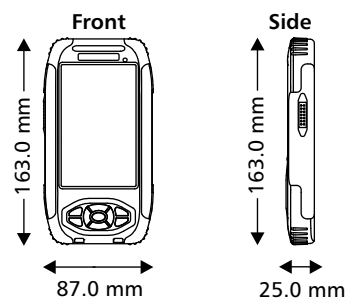
## 4090 HF SDR Manpack Transceiver - General Specifications

<b>Tx Frequency Range</b>	1.5 MHz - 30 MHz (reduced performance below 1.6MHz)
<b>Rx Frequency Range</b>	250KHz – 30MHz
<b>Channel Capacity</b>	1000
<b>Frequency Stability</b>	±0.1 ppm (±0.5 ppm un synchronised)
<b>Frequency Resolution</b>	1 Hz tunable receiver
<b>Operating Modes</b>	J3E (USB, LSB) - H2B (AM) - J2A (CW) - CF (Custom Filter) - ISB (Data) Option
<b>Filter Bandwidths</b>	Fully software-defined standard and custom filter range from 300Hz to 3000Hz (6KHz ISB Option)
<b>Operating Temperature</b>	-30° to +70°, relative humidity 95%, non condensing
<b>Frequency Hopping (optional)</b>	5 or 25 hops per second (optional)
<b>Digital Voice (optional)</b>	Auto baud rates 600/700, 1200, 2400 (MELP/TWELP)
<b>Encryption standards (optional)</b>	AES256 & DES56
<b>Supply Voltage</b>	+12V d.c.
<b>Selcall System</b>	Based on CCIR 493-4, 4 and 6 digit systems
<b>ALE Standards (optional)</b>	2G & 3G ALE (MIL STD 188-141B & STANAG 4538)
<b>Current Consumption</b>	250mA (Rx)
<b>Sensitivity</b>	-125dBm (0.126 $\mu$ V) for 10dB SINAD (reduced sensitivity between 250kHz and 500kHz)
<b>RF Output Power</b>	10W / 30W PEP (with 16.4V d.c. battery supply)
<b>Duty Cycle</b>	100% data with fan option
<b>Weight</b>	<ul style="list-style-type: none"> <li>- 4090 transceiver body (only) 3.15kg</li> <li>- 4090 transceiver body with 16Ah Li-Ion battery pack (4090-03-05) 4.50kg</li> <li>- 4090 transceiver body with BB2590 Li-Ion battery pack 4.50kg</li> <li>- 4090 transceiver body with BA5590 (non rechargeable) battery pack 4.10kg</li> </ul>
<b>Battery</b>	Barrett 16Ah Li-Ion battery pack with inbuilt charger (2.05kg)

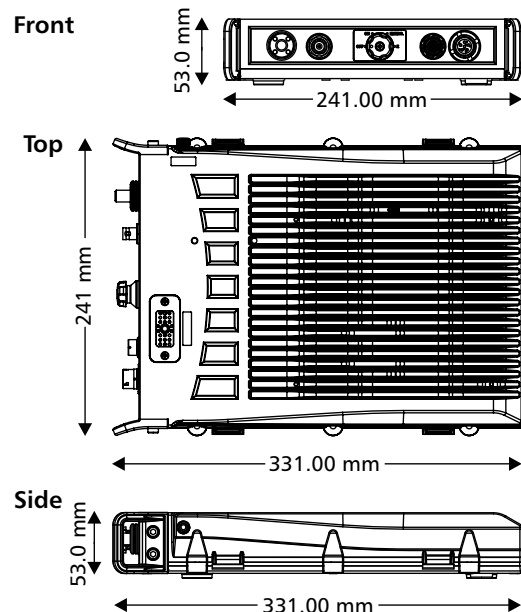
\*(reduced sensitivity 250 kHz to 500 kHz)

Specifications are typical. Equipment descriptions and specifications are subject to change without notice or obligation.

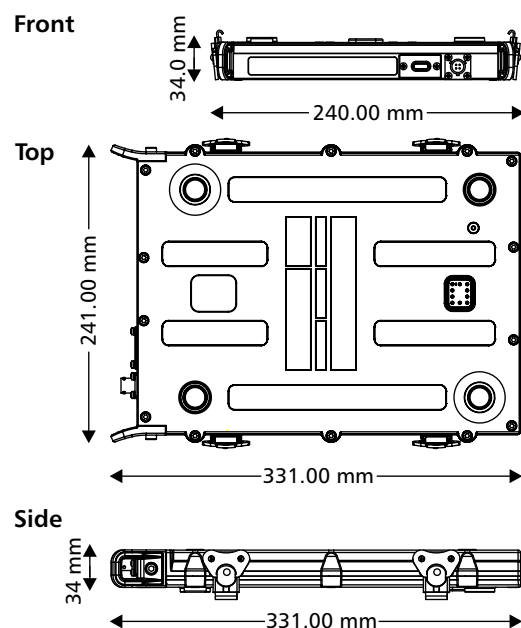
### Control Handset P/N BCA409001



### 4090 HF SDR Transceiver P/N BC409001



### 4090 Li-Ion Battery 16Ah P/N BCA409005



#### 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: [info@barrettcommunications.com.au](mailto:info@barrettcommunications.com.au)

BCB409001/4

ISO 9001

BUREAU VERITAS  
Certification

