The Barrett PRC-4090 HF SDR Transceiver is the centerpiece of the Barrett range of tactical HF communications equipment. It 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 PRC-4090 transceiver provides secure email, data transfer and telephone connectivity within a HF network and outwards to international telephone and internet networks.

The Barrett PRC-4090 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.

Tactical Software-Defined Radio, Redefined.

- 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
- Up to 150W transmit power
- Low current consumption
- GPS Push option and integrated GPS
- OTAR & OTAZ
- Planned intercom

www.barrettcomms.com
Lightweight and Compact Design
Using the latest lightweight alloys, the PRC-4090 weighs 3.10kg. 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.

Extended operation time
The Barrett 16Ah advanced Li-ion battery provides the PRC-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 PRC-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.

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 PRC-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.

Widely available BB2590 Li-ion batteries can be utilised giving a gross weight of 4.5kg, or 4.1kg when used with a BA5590 non-rechargeable battery pack.
Data Modem Compatibility
Multiple data waveform options are provided in the Barrett PRC-4090 including MIL-STD-188-110A/B (STANAG 4285, 4415, 4481, 4529, 4539), 2500 and 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.

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, text messaging and position. For superior fast link setup, robust packet data and greater penetration on noisy channels, 3rd generation (3G) ALE based on STANAG 4538 is also available.

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.
The Barrett PRC-4090 HF Tactical Manpack Package is ideal for extended portable field operations providing the tactical 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.

The Barrett PRC-4090 HF Tactical Mobile Package provides a convenient rapid docking system and transmitter power amplification to 125 W PEP. With options for either 12 V d.c. or 24 V d.c. power supply and the flexibility of dismounted use of the PRC-4090 transceiver when not in the vehicle (additional accessories may be required), the PRC-4090 HF Tactical Mobile Package can be installed in a wide range of vehicle types with antenna options to suit.

The Barrett PRC-4090 HF Tactical Base Package, like the PRC-4090 mobile package includes the system docking station. The PRC-4022 AC Power Supply provides 24V d.c. which increases the RF output of the PRC-4090 transceiver to 150 W PEP. The HF tactical base package can be installed in a number of temporary base and fixed command configurations powered by a variety of a.c. and d.c. power sources. A range of antenna options are available to suit different installation configurations.
**PRC-4090 HF SDR Transceiver - General Specifications**

**Tx Frequency Range**  
1.5 MHz - 30 MHz (reduced performance below 1.6MHz)

**Rx Frequency Range**  
250KHz – 30MHz

**Channel Capacity**  
1000

**Frequency Stability**  
±0.1 ppm (±0.5 ppm un-synchronised)

**Frequency Resolution**  
1 Hz tunable receiver

**Operating Modes**  
- J3E (USB, LSB) - H2B (AM) - J2A (CW) - CF (Custom Filter) - ISB (Data) Option

**Filter Bandwidths**  
Fully software-defined standard and custom filter range from 300Hz to 3300Hz (6kHz ISB Option)

**Operating Temperature**  
-30°C to +70°C, relative humidity 95%, non condensing

**Frequency Hopping (optional)**  
5 or 25 hops per second

**Digital Voice (optional)**  
Auto baud rates 600/700, 1200, 2400 (MELP/TWELP)

**Encryption standards (optional)**  
AES 256 & DES 56

**Supply Voltage**  
+12V d.c. to +28V d.c. operation

**Selcall System**  
Based on CCIR 493-4, 4 and 6 digit systems

**ALE Standards (optional)**  
2G & 3G ALE (MIL STD 188-141B & STANAG 4538)

**Current Consumption**  
250mA (Rx)

**Sensitivity**  
-125dBm (0.126 µV) for 10dB SINAD (reduced sensitivity between 250kHz and 500kHz)

**RF Output Power**  
10W / 30W PEP (with 16.4V d.c. battery supply) & 150W PEP (with SDS & 24V Supply)

**Duty Cycle**  
100% data with fan option

**Weight**  
- PRC-4090 transceiver body (only) 3.15kg
- PRC-4090 transceiver body with 16Ah Li-ion battery pack (4090-03-05) 5.65kg
- PRC-4090 transceiver body with BB2590 Li-ion battery pack 4.50kg
- PRC-4090 transceiver body with BA5590 (non rechargeable) battery pack 4.1kg

**Battery**  
Barrett 16Ah Li-ion battery pack with inbuilt charger (2.50kg)

**Standards**  
Designed to meet or exceed:
- FCC – Part 87
- FCC – Part 90
- IC (Industry Canada)
- CE
- EMC and vibration Standard IEC 945
- Designed to meet MIL-STD 810G for immersion, temperature, humidity, altitude, shock, vibration
- NTIA
- JTC

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