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 touch-screen control interface that offers unparalleled radio management and flexibility 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 iOS, Android and Windows including devices for wireless voice and radio control via the PRC-4090 series HF remote control app.

### PRC-4090 HF SDR Transceiver - General Specifications

- **Frequency Range:** 1.6MHz – 30MHz
- **RX Frequency Range:** 250KHz – 30MHz
- **Channel Capacity:** 1000
- **Frequency Stability:** ±1 ppm (±5 ppm un-synchronised)
- **Frequency Resolution:** 1 Hz tunable receiver
- **Operating Modes:** ISB (USB, LSB), ISB (AM), J2A (CW) - CF (Custom Filter) - ISB (Delta Option)
- **Filter Bandwidths:** Fully software-defined standard and custom filter range from 300Hz to 3300Hz (6KHz ISB Option)
- **Operating Temperature:** -5°C to +70°C, relative humidity 95%, non-condensing
- **Frequency Hopping:** 5 or 15 hops per second
- **Digital Voice:** Auto baud rates 600/700, 1200, 2400 (MELP/TWELP)
- **Encryption Standards:** AES 256 & DES 56
- **Supply Voltage:** 2 d.c. (±1 V to ±28V operation)
- **Sensitivity:** -121dBm (0.20 µV) for 10dB SINAD
- **RF Output Power:** 10W / 30W PEP (with SDS & 24V Supply) / 2W (with 1 V battery supply)
- **Duty Cycle:** 100% data with fan option
- **Weight:**
  - PRC-4090 transceiver body (only) 2.95kg
  - PRC-4090 transceiver body with advanced 16Ah Li-ion battery pack (4090-03-05) 5.00kg
  - PRC-4090 transceiver body with BB2590 Li-ion battery pack 4.30kg
  - PRC-4090 transceiver body with BA5590 (non rechargeable) battery pack 3.95kg
- **Battery:** Barrett High performance 16Ah Li-ion battery pack with inbuilt charger (2.05kg)
- **Standards:**
  - Designed to meet or exceed:
    - FCC – Part 87#
    - FCC – Part 90# (Industry Canada)
    - CE#
    - EMC and vibration Standard IEC 945#
    - IL immersion
    - Designed to meet M-STD 810G for temperature, humidity, altitude, shock, vibration
    - NTA
    - ATM#
- **(reduced sensitivity 250 kHz to 500 kHz) # Approval pending - Specifications are typical. Equipment descriptions and specifications are subject to change without notice or obligation.

### PRC-4090 HF SDR Transceiver - Technical Specifications

- **Operating Temperature:** CC-30° to +70° , 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:** 2 d.c. (±1 V to ±28V operation)
- **Sensitivity:** -121dBm (0.20 µV) for 10dB SINAD
- **RF Output Power:** 10W / 30W PEP (with SDS & 24V Supply) / 2W (with 1 V battery supply)
- **Duty Cycle:** 100% data with fan option
- **Weight:**
  - PRC-4090 transceiver body (only) 2.95kg
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    - IL immersion
    - Designed to meet M-STD 810G for temperature, humidity, altitude, shock, vibration
    - NTA
    - ATM#
Lightweight and Compact Design

The Barrett 4090 Tactical Manpack Package is lightweight and compact, weighing 2.5 kg. 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's 5.6 kg weight with Barrett advanced 14 W, quick-change Li-ion batteries.

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. The 4090 Tactical Manpack Package's high-quality, variable frequencies can be made clear. Secure Digital Voice (SDV) allows users to encrypt their communications over HF radio, using Barrett's 2G & 3G ALE (optional) for secure and comprehensive communications with remotely sited command locations. The HF Tactical Manpack Package includes all necessary antennas, smart battery and backpack carrying systems.

Extended Operation Time

The Barrett 4090 Advanced Li-ion battery provides the PRC-4090 transceiver up to 22 hours of Rx operation or 10 hours Tx operation in a 24-hour duty cycle. The battery includes Li-ion charge management allowing for charging in operation or separately from any available 24V d.c. source, including solar panels and hand crank generators.

IP Network Connectivity

IP Network Connectivity is provided by the PRC-4090 System Docking Station, the Ethernet adapter allows the HF network to connect directly to a PC. This allows the HF network to integrate with Barrett tracking and data options.

Data Modem Compatibility

Multiple data waveform options are provided in the Barrett PRC-4090 including STANAG 4415 (CLOVER 2500), STANAG 4538 (3G Packet Data), STANAG 4481, STANAG 4529, STANAG 4415 (2G Packet Data) and CLOVER 2500 and CLOVER 3500. The Barrett PRC-4090 can be used with Barrett's fully featured control handset which can accommodate a variety of data waveform software and intuitive user interfaces. These waveforms provide voice communications, data and fax communications in a variety of “throughput” rates up to and in excess of 19 200 bps.

Advanced Calling Features

The Barrett PRC-4090 transceiver provides four and six digit selective call features, including telephone interconnect, SMS, call block, VIP call block, selective call and multiple 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 built-in, fully automatic antenna tuner. Various lightweight broadband and tactical antennas are available.