BARRETT

4050 HF SDR

- **Intuitive and user-friendly touch-screen interface**
- **IP Connectivity (ED-137c compliant)**
- **Wireless and wired operation via iOS, Android & Windows devices**
- **Multi-Language software GUI**
- **Digital Voice and Secure Digital Voice option**
- **2G & 3G Automatic Link Establishment (ALE)**
- **On-board high speed data transmission modem options**
- **Detachable control head**
- **Control Handset option**
- **Up to 150W transmit power**
- **Low current consumption**
- **GPS Push option**
- **Free Scroll Rx (VFO)**

Software-Defined Radio, Redefined.

The Barrett 4050 HF SDR transceiver is the centrepiece of the Barrett range of 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 4050 transceiver provides secure email, data transfer and telephone connectivity within a HF network and outwards to international telephone and internet networks.

The Barrett 4050 transceiver can be controlled from all major mobile and desktop platforms. The Barrett 4050 remote control app supports iOS, Android and Windows devices for wireless voice and radio control.

Barrett 4050 HF SDR with optional control handset

Please note: The Barrett 4050 is available in different model configurations and as such some of the features detailed in this document are optional and also not necessarily available in all configurations. Please view the features and options table in this brochure for full details.

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4050 HF SDR

Flexible Configuration Options

The transceiver mounts easily to the Barrett 4022 power supply for base station operation or the front panel can be removed for installation in a vehicle.

Barrett 4050 HF SDR with 4022 power supply in base station configuration.

Barrett 4050 HF SDR in remote front panel configuration

The fully featured Barrett 4050 control handset provides streamlined radio control particularly in vehicle and marine installations. The handset can be used as the primary control interface, completely replacing the standard 4050 front control panel or as a secondary interface in conjunction with the standard control panel. IP/WiFi connectivity can be achieved with the optional USB Interface (P/N 4090-01-27)

Barrett 4050 with Control Handset

Please download the 4050 Control handset brochure for full details: **www.barrettcomms.com**

Software-Defined Architecture

The Barrett 4050 transceiver's advanced Software-Defined architecture provides complete software control of RF modulation and bandwidths, providing unprecedented flexibility and reliability with ease of upgrade. Custom emissions and filter bandwidths of up to 24 kHz (wideband HF option) can be enabled with a simple swipe of the touchscreen.

High Resolution Touch Screen Control

Access to the most intuitive HF Radio interface on the market is via a super bright high definition 24-bit colour touchscreen providing maximum view ability under all lighting conditions.

The 4050 SDR 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.

Digital 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. 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.

IP Network Connectivity

Built into the 4050 control head, the wireless acesspoint allows mobile cellular handsets, tablets and desktop PCs to connect directly to the transceiver over Wi-Fi using the optional Wi-Fi adaptor. Ethernet connectivity to additional IP configurations is provided for by way of a standard RJ45 ethernet socket on the rear of the 4050ip transceiver.

Frequency Hopping (optional)

The frequency hopping* option requires no central synchronisation station, has no entry or late entry time delay and requires no handshaking. Available hopping rates of 5, 15 & 25 hops per second and can be operated for extended periods in the field without synchronisation. * Subject to export controls

Advanced Calling Features

The Barrett 4050 transceiver is fully interoperable with advanced digital selective calling systems commonly used by many peacekeeping and non-government organisations globally. 2nd generation (2G) 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.

Multi-Language Menu

Change the Barrett 4050 language setting at the touch of a button. Each radio ships with multiple language menus including English, French, Spanish, Arabic, Russian, Turkish and Chinese.

Data Modem Capability

Multiple data waveform options are provided in the Barrett 4050 including MIL-STD-188-110A/B (STANAG 4285, 4415, 4481, 4529, 4539) & CLOVER 2500. Combined with Barrett's latest Digital Transmission software and intuitive user interface, these waveforms provide unparalleled performance with "throughput" rates up to and in excess of 19200 bps.

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. The DSP noise reduction system provides outstanding voice quality by reducing radio frequency interference.

Download the Barrett Commercial Catalogue for details on 4050 HF SDR model packages, options and accessories. www.barrettcomms.com

Features & Options	4050ip HF SDR Transceiver	4050se HF SDR Transceiver
Fully software-defined architecture	Standard	Standard
Intuitive and user-friendly software interface	Standard	Standard
High Resolution Touch Screen Control	Standard	Standard
Up to 150W transmit power	Standard	Standard
Multi-Language software interface	Standard	Standard
Superior receiver performance	Standard	Standard
Low current consumption	Standard	Standard
Digital Selective Calling	Standard	Standard
Channels	1000	200
Contacts	500	300
Enhanced DSP Noise Reduction	Standard	Standard
Backwards compatible with existing radio networks	Standard	Standard
USB connection	Standard	Standard
Integrated GPS Interface	Standard	Standard
Detachable control head	Standard	Standard
Free Scroll Rx (VFO)	Standard	Standard
Free Scroll Tx	Optional°	Optional°
ED-137C VoIP Interoperability Standard	Standard*	Optional*
IP Connectivity	Standard*	Optional*
Control Handset	Optional	Optional
Secure call	Optional	Optional
2G Automatic Link Establishment (ALE)	Optional	Optional
3G Automatic Link Establishment (ALE)	Optional	Not Available
GPS Push	Optional	Optional
Frequency Hopping	Optional	Optional
Data Modem Capability	Optional	Optional
Wireless operation via iOS, Android & Windows devices	Optional*	Optional*
Digital Voice and Secure Digital Voice	Optional	Optional
On-board high speed data transmission waveforms	Optional†	Optional†
AUX dual 600Ω port option	Optional ^	Optional ^
Wide Band 24khz custom filter option	Optional ^	Optional ^

* IP connectivity via USB only † Using non 3G waveforms ° Restricted in some countries ^ Available Quarter 3 - 2-2022

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4050 HF SDR

4050 HF Transceiver - General Specifications

TX Frequency Range	1.5 MHz - 30 MHz (reduced performance below 1.6MHz)
RX Frequency Range	250KHz – 30MHz
Channel Capacity	1000, Barrett 4050ip - 200, Barrett 4050se
Frequency Stability	± 0.5 PPM -30°C to +70°C (±0.1 PPM available optionally)
Frequency Resolution	10 Hz program mode;1 Hz tunable receiver
Operating Modes	J3E (USB, LSB) - H3E (AM) - J2A (CW) - CF (Custom Filter) - ISB (data option)
Filter Bandwidths	Fully Software-Defined standard and custom filter range from 300Hz to 3000Hz and beyond.
Operating Temp	-30° to +70°, relative humidity 95%, non condensing
Frequency Hopping	5 or 25 hops per second
Supply Voltage	+11V DC to +28V DC operation
Selcall System	Based on CCIR 493-4, 4 and 6 digit systems
ALE Standards	2G & 3G ALE
Current Consumption	350mA standby (muted)
Sensitivity	-125dBm (0.126 μV) for 10dB SINAD (reduced sensitivity between 250kHz and 500kHz)
RF Output Power	150W PEP with 13.8V DC supply (Australia 100W PEP)
Duty Cycle	100% data with fan option

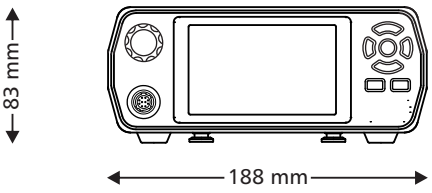
Specifications are typical. Equipment descriptions and specifications are subject to change without notice or obligation.

Specifications can be changed to meet country specific requirements and those of local radio communications authorities. As such the specifications shown here may not reflect those of products distributed in some countries.

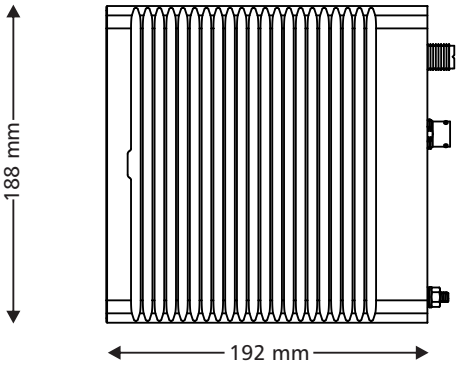
The frequency range of the 4050 HF SDR Transceiver can independently locked for both the transmit and the receive function, as a feature of the 4000 series HF programming software.

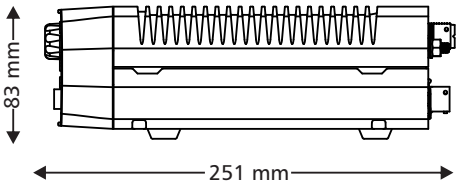
Dimensions and Weights

4050 front panel Weight 0.35 kg

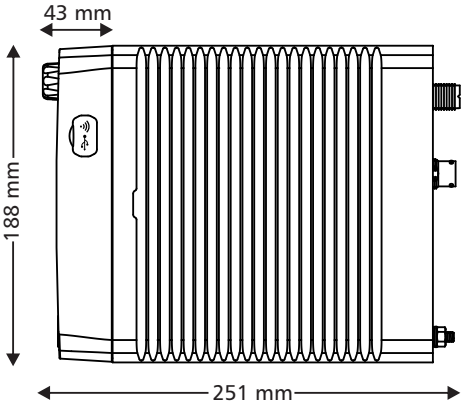


4050 remote control configuration
(Mobile configuration) Weight 2.2 kg

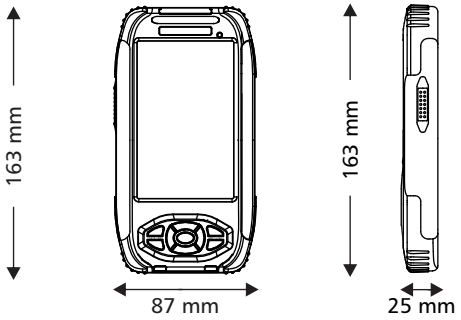




4050 Base station configuration Weight 2.55 kg



4050 control handset Weight 0.28 kg



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ISO 9001 BUREAU VERITAS Certification

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