BARRETT

HF Radio Communications

2030 HF SSB transceiver

- **Rugged commercial grade HF transceiver**
- **1.6 MHz to 30 MHz, all mode, 125 W PEP RF power output**
- **30 programmable channels and Selcall fitted as standard**
- **Rapid mobile or base station installation**
- **Intuitive “ease of use” operation**
- **Telcall and voice security options**

The Barrett 2030 HF transceiver is an addition to Barrett’s proven range of HF transceivers for customers that don’t require some of the more advanced features offered by the 2050 transceiver.

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BCB203001/6

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Barrett 2030 HF transceiver front panel

Barrett 2030 HF transceiver rear panel

Digital Signal Processing (DSP)
A single DSP chip provides modulation and demodulation of all on air signalling used in the ALE, Selective Call and syllabic mute processes and provides noise reduction of received signals.

Simple architecture
The transceiver uses only two microprocessors, the main processor uses a soft loaded core while the second processor is used within the control head to operate the display and keypad.

Selective Call
Fitted with both a CCIR 493-4 based, four and six digit system of which the protocol is available for free distribution and an OEM protocol that is fully compatible with other major HF manufacturers' four and six digit systems that utilise encryption.

BITE - Built-in Test Equipment
Tests receiver performance, Selcall, syllabic mute, VCO operation and serial communications port viability.

Programming serial port
For ease of programming in a vehicle, a notebook computer loaded with the 2000 series programming package can load a transceiver's parameters without the need for cables through the remote head IR port.

Second antenna connector
Allows each channel to select one of two antennas - ideal when long and short distance antennas are used.

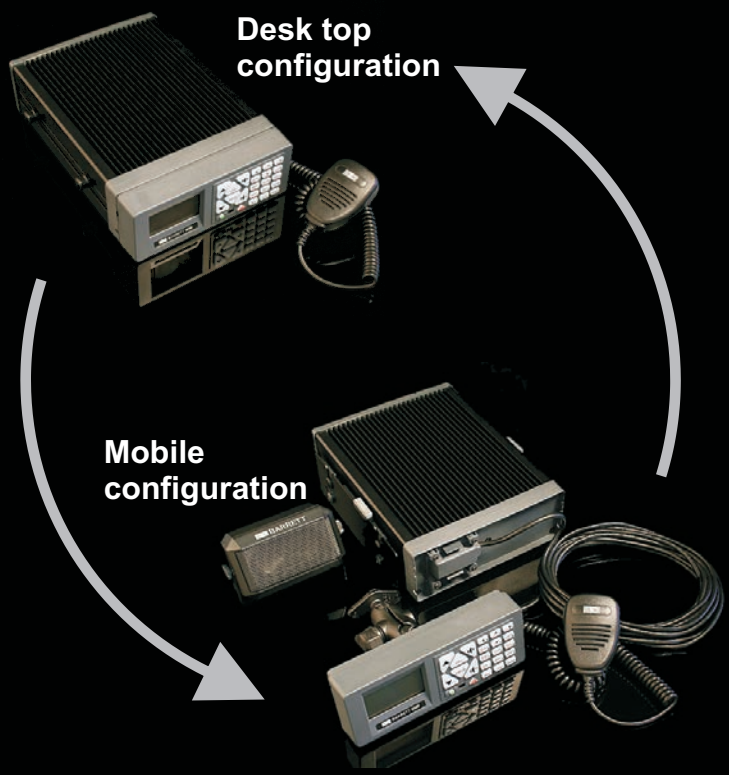
Voice security
AES, DES or FFT voice security modules are available as an option for the 2030 transceiver.

Size and weight
The 2030 in a local control configuration measures only 185(w) x 270(d) x 70(h) and weighs less than 2.6 kg. Housed in a lightweight, extremely strong sealed aluminium chassis, 2030 meets MIL-STD 810G for drop, dust, temperature, shock and vibration.

Direct dial telephone calls
"Telcall" option provides direct dialling access with Barrett Communications' HF Telephone Interconnects and most interconnects from other manufacturers.

"SMS Pagecall"
Allows short text messages to be sent from one 2030 transceiver to another. Barrett 2030 transceivers have alpha-numeric input keys (similar to mobile phones) that allow direct text message input (without the need for an external PC or Palm type input device).

Configuration flexibility
The 2030 transceiver is packaged as a desktop (local control) transceiver and with the addition of the simple and inexpensive mobile pack the 2030 is quickly reconfigured to a mobile (trunk mount) transceiver. This feature simplifies the logistics of stocking the right transceiver for the right application. The modular design of the 2000 series of products as a whole enables a basic 2030 transceiver to adapt quickly and easily between base station and mobile configurations.



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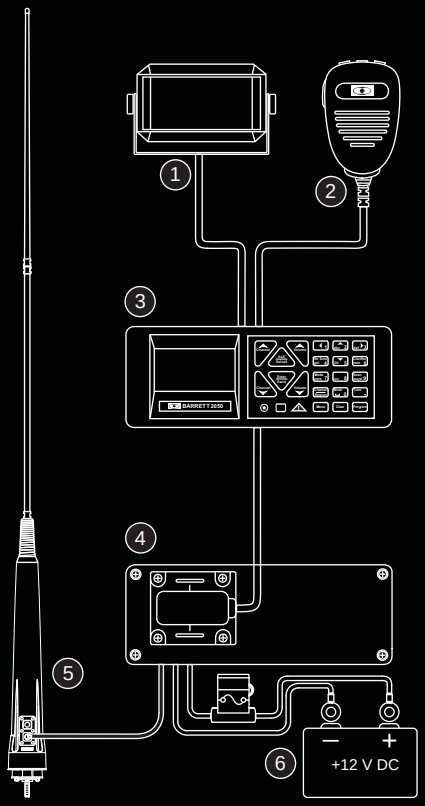
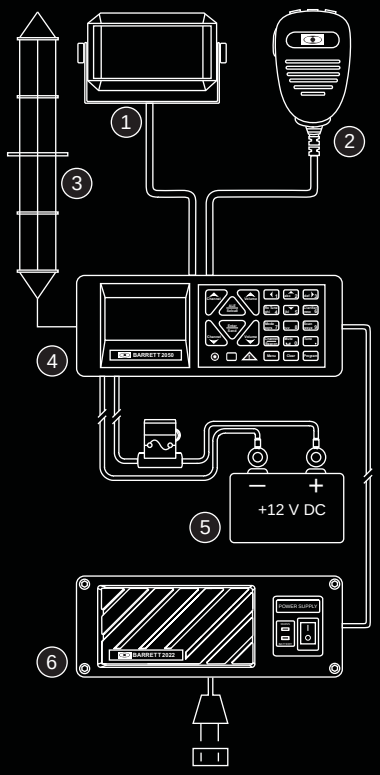
Typical 2030 HF transceiver mobile configuration example



1. Loudspeaker
2. Hand microphone
3. Remote head detached from 2030 HF transceiver RF module
4. 2030 HF transceiver RF module
   P/N BC203000
5. Optional 2019 automatic tuning mobile HF antenna
   P/N BC201900
6. 12 V DC power source

Typical 2030 HF transceiver base station configuration example



1. Loudspeaker
2. Hand microphone
3. 912 multi-wire broadband dipole base station antenna
   P/N BC91200
4. 2030 HF transceiver RF module with remote head engaged
   P/N BC203000
5. 12 V DC power source

   OR

6. 2022 Base station mains power supply
   P/N BC202200

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General specifications

Standards	Exceeds/complies with Australian/ New Zealand standard AS/NZS 4770:2000 and AS/NZS 4582:1999 Exceeds/complies with EMC and vibration standard IEC 945 Complies with MIL-STD 810G for drop, dust, temperature, shock and vibration
Transmit frequency range	1.6 MHz to 30 MHz (continuous)
Receive frequency range	250 kHz to 30 MHz (continuous)*
Channel capacity	Up to 30 programmable channels (simplex or semi-duplex)
Frequency resolution	10 Hz program mode 1 Hz tunable receiver
Frequency stability	±10 Hz or better than 0.3 ppm over temperature range -30°C to +70°C
Operating modes	J3E (USB, LSB) - H3E (AM) - J2A (CW) - J2 (AFSK) Optional J2B (AFSK) with narrow filter
Operating temperature	-30°C to +70°C humidity 95% relative, non-condensing
Supply voltage	13.8 V DC +20% / -10% (negative ground) polarity protected. Over voltage protected. 100 to 260 VAC or 11 to 16 V DC with power supply
Current consumption	470 mA standby (muted, back lighting off)
Selcall system	Based on CCIR 493-4, four and six digit systems. Protocol available for free distribution. Fully compatible with other major HF manufacturers' four and six digit systems including encrypted systems
Switching speed	Less than 15 mS Tx to Rx, Rx to Tx

Receiver specifications

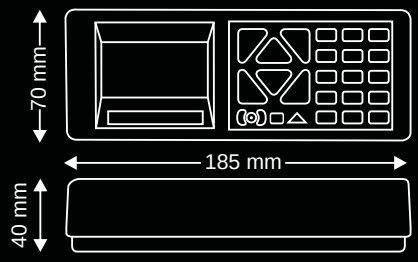
Sensitivity	-120 dBm (0.224 uV) for 10 dB SINAD - J3E Mode pre-amp on -110 dBm (0.708 uV) for 20 dB SINAD - J3E Mode pre-amp off
Selectivity J3E	-1 kHz and +4 kHz better than 50 dB -2 kHz and +5 kHz better than 55 dB -5 kHz and +8 kHz better than 60 dB
Selectivity J2B (optional)	-500 Hz and +500 Hz better than 60 dB - the level of an unwanted signal above the level of a wanted signal that will reduce the SINAD of the wanted signal from 20 dB SINAD to 14 dB SINAD
Blocking	-20 kHz and +20 kHz better than 71 dB - the level of an unwanted signal above the level of a wanted signal that will reduce the SINAD of the wanted signal by 6 dB or cause an output level change of 3 dB
Intermodulation	Better than 89 dBµV - the level of two unwanted signals, that are within 30 kHz of the wanted signal, above the level of a wanted signal that reduces the SINAD of the wanted signal to 20 dB
Spurious response ratio	Better than 70 dB
Reciprocal mixing	Better than 105 dBµV
In-band IMD	Better than 34 dB
Audio output	4 W into 4 ohm at less than 2% distortion
Audio response	Less than 6 dB variation from 350 Hz to 2700 Hz
Input protection	Better than 30 V RMS from a 50 ohm source

Transmitter specifications

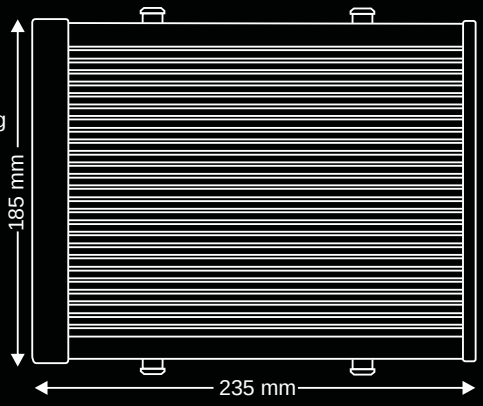
RF output power	125 W PEP voice ±1.5 dB or 30 W PEP voice ±1.5 dB or 10 W PEP voice ±1.5 dB
Duty cycle	100% two tone input signal with fan option
Intermodulation products	Better than -31 dB below PEP (25 dB below two tone peak)
Audio frequency response	Less than 6 dB variation 350 Hz to 2750 Hz
Current consumption	Voice average less than 9 Amps typical Two tone less than 12 Amps typical

* reduced sensitivity 250 kHz to 500 kHz

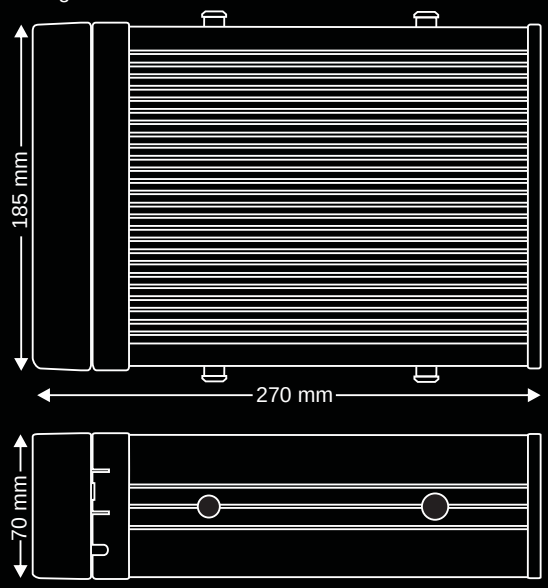
2030 remote control head (trunk mount configuration) Weight 0.22 kg



2030 remote configuration (trunk mount) main unit Weight 2.36 kg



2030 local control configuration Weight 2.58 kg



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