

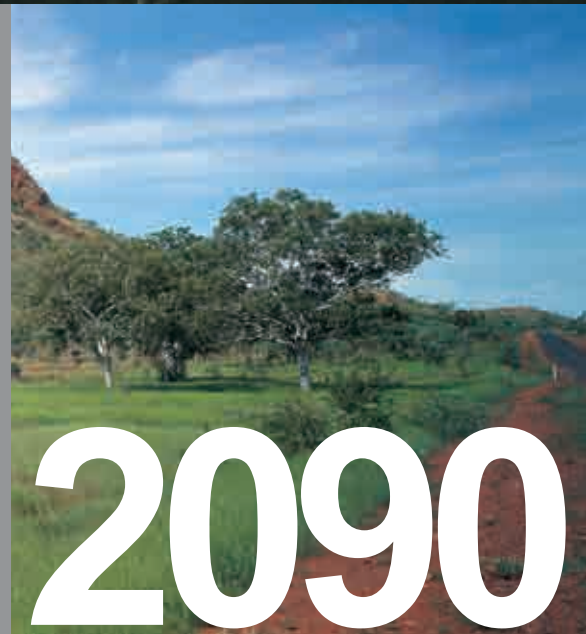
# 2090 HF manpack transceiver



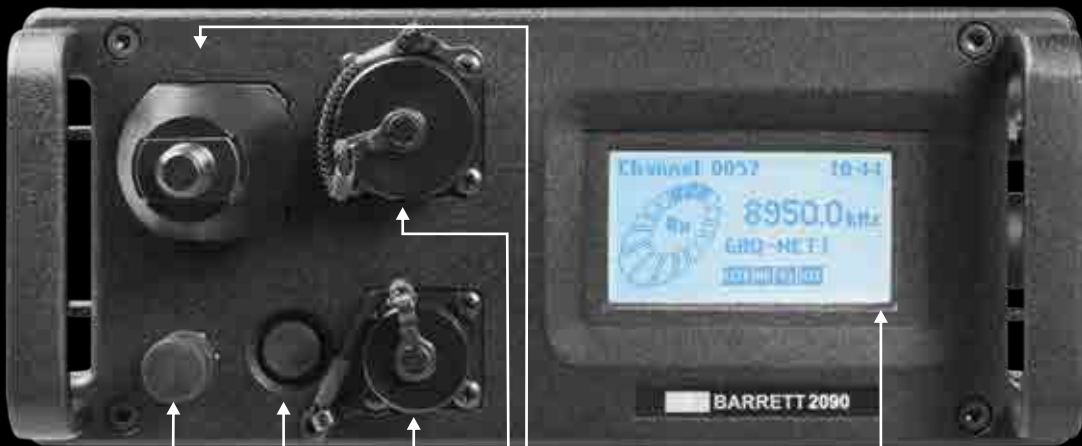
- 500 channels 1.6 MHz to 30 MHz
- Modes USB/LSB/CW/AM/AFSK
- Power output 10 to 30 W PEP
- Rugged custom handset with full keypad
- 5.2 kg with 10 Ah battery
- Fully immersible
- MIL-STD 810G

The 2090 is a rugged and exceptionally specified HF manpack with all the features available from the traditional manpack suppliers at a more realistic price.

The 2090 manpack is equipped with a fully automatic antenna tuner allowing the deployment of a full range of whip and static antennas. Configuring the 2090 is simple using an intuitive Windows based programming system through the auxiliary socket.



## HF Radio Communications



Earth terminal

On/Off switch

GPS/CW Key

Bayonet whip adaptor, BNC connector underneath for 50 ohm antennas

General I/O port for external modems, encrypted handset etc

Display, complete with the handset, detaches from the transceiver unit. This enables the operator to have full operational access to the manpack



### Features

- Full HF coverage 1.6 MHz to 30 MHz
- All modes J3E (USB, LSB), H3E (AM) J2A (CW) J2B (AFSK)
- Automatic Link Establishment (ALE) 2G MIL-STD 188-141B (FED STD 1045) - (Optional to standard configuration)

### Lightweight

Using the latest lightweight alloys the 2090 weighs 5.2 kg including its 10 Ah, quick change, Lithium Ion battery cartridge. The 2090's small physical size makes it comfortable to operate and wear when deployed in its optional backpack.

### Outstanding voice quality

The standard DSP noise reduction system reduces external channel noise, the effects of interference and enhances audio signals to provide easier listening. The level of noise reduction can be easily selected to suit prevailing conditions. (Optional to standard configuration)

### SMS messaging system

64 character SMS messages, encrypted for security, are directly entered via the 2090 handset keys and can be sent to individual or multiple stations. (Optional to standard configuration)

### Internal data modems

Internal modem PCB's available supporting Clover 2000 or STANAG 5066 or PACTOR III. (Optional to standard configuration)

### Secure Call

Secure Call is an innovative, narrow band voice crypter that is very simple to use, has no handshaking or sync delays, and provides operators secure point to point, or point to multipoint communications. (Optional to standard configuration)

### Voice encryption DES 56 - option

Enables the 2090 to operate in DES 56 (Data Encryption Standard) mode with fall back analogue FFT scrambler for use on extremely bad HF channels. (Optional to standard configuration)

### Voice scrambler FFT

Enables the 2090 to operate in FFT based voice scramble mode. (Optional to standard configuration)

### Extended operation time

The very low current consumption of the 2090 manpack enables it to operate for over 20 hours on one battery cartridge. The battery contains the charge management system and can be charged when connected to the transceiver or separately with any available source, including solar, hand crank or wind generator. Dry cell emergency packs are available (on special order) to extend mission time, negating the need to carry charging equipment.

### Automatic antenna tuner

Whips and untuned wire antennas are simply deployed using the inbuilt, fully automatic antenna tuner. For overnight or temporary fixed operations various lightweight broadband and tunable antennas are available.

### Detachable display - fully featured handset

The display, complete with the handset, detaches from the transceiver unit. This enables the operator to have full operational access to the manpack without removing the backpack. For temporary base stations an optional 15 metre interface cable allows the transceiver unit to be located at a convenient position away from the operator.



# 2090 HF manpack transceiver

## User friendly operation

Barrett's well known intuitive operator interface ensures that using the 2090 manpack is very simple. Principal key functions are performed using a large six key cluster mounted on the custom handset. The operator is guided by a large 128 x 64 LCD graphics display that is removable from the main unit to wear on webbing in front of the operator. The handset plugs into the remote display. The display has adjustable back lighting, allowing maintenance of night vision or high levels of luminescence in poor visibility. Network station addresses and telephone numbers are stored in easily accessible address and phone books and as little as two key strokes will initiate a call.

## Data capability FDT's

Using the 2090's flexible auxiliary connector and internal PCB modems, Barrett 2020 email and data systems and many OEM FDT's (Field Data Terminals) are supported.

## GPS tracking

Fitted with the optional GPS module, the 2090 manpack is able to be automatically tracked with the Barrett 977 base tracking system. Individual operators can be located, maintained within certain areas or corridors, be alerted if straying into no-go areas and have facilities to alarm controllers if they are in danger. Tracking signals are digital and encrypted for security.

## Selective calling systems

The 2090 manpack provides international standard four and six digit Selective Call facilities that include Telcall, SMS, GPS position and remote transceiver operational status monitoring, point to point Secure Call and remote transceiver disable capabilities.

## Accessories

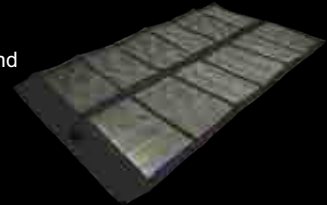
### Framed backpack for manpack - full pack version

The full pack provides for the 2090 and various accessories including wire antennas and spare battery packs.



### Solar panel

Solar power supply pack - for charging and operating the 2090 manpack.



### Broadband dipole antenna

Rapid deployment broadband dipole operates from 2 MHz to 30 MHz without adjustment - 40 W PEP max. Can be deployed as full length broadband dipole or in compact form.



### Portable mast kit

Portable mast kit for broadbands and dipoles - rapid deployment.



### Collapsible whip 3 metres

Includes gooseneck for manpack transceiver - colour black.



### GPS receiver / antenna module

12 channel GPS receiver connects to 2090 GPS connector to provide global position for tracking applications.



### Clover 2000 internal modem

Operates with Barrett 2020 HF data system software providing full email facilities and connection to the internet email system.



### Headphones - lightweight

Folding headphones with 5 pin connector.



### Display / handset extender interface

Enables the display and handset to be extended by either 1.5 or 30 metres from the 2090 main unit.



# 2090

## HF Radio Communications

### Specifications

<b>Frequency range</b>	1.6 MHz to 30 MHz Tx, 250 kHz to 30 Mhz Rx*	
<b>Channel capacity</b>	Up to 500 programmable channels (simplex or semi-duplex)	
<b>Operating modes</b>	J3E (USB, LSB) - H3E (AM) - J2A (CW) - J2B (AFSK)	
<b>Frequency stability</b>	±0.5 ppm	
<b>Sensitivity</b>	-120 dBm (0.224 µV) for 10 dB SINAD - J3E Mode pre-amp on -115 dBm (0.398 µV) for 10 dB SINAD - J3E Mode pre-amp off	
<b>Blocking</b>	-20 kHz and +20 kHz better than 71 dB (max. usable sens.)	
<b>Rx intermodulation</b>	Better than 89 dBµV	
<b>RF connections</b>	Whip or long wire using internal automatic antenna tuner or 50 ohms	
<b>RF output power</b>	30 W PEP ±1.5 dB, 10 W PEP ±1.5 dB (100 W PEP ±1.5 dB) when in vehicle docking station (voice duty cycle only)	
<b>Supply voltage</b>	22 to 24 V DC from external supply	
<b>Average battery life</b>	20 hrs based on a 10% voice duty cycle	
<b>Environmental</b>	-30°C to +60°C, IP67	
<b>Programming</b>	RS-232	
<b>Weight</b>	2090 manpack	3.9 kg
	10 Ah Lithium Ion battery cartridge	1.3 kg
<b>Standards</b>	Meets AS/NZS4770:2000, CE, MIL-STD 188-141B MIL-STD 810G immersion, shock, vibration, dust and spray	

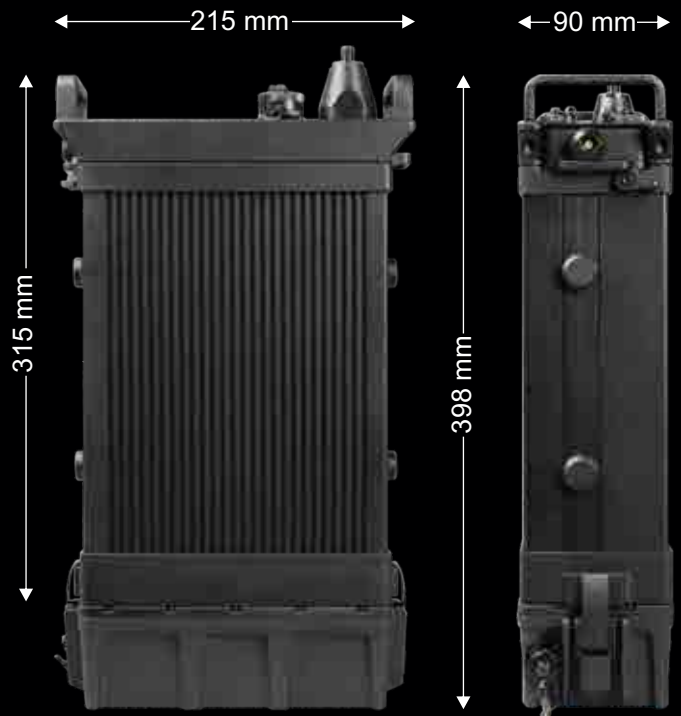
### 2090 manpack includes:

Handset - lightweight  
Barrett 2090 operation and installation manual

### Option examples:

Battery pack 10 Ah  
Collapsible whip 3 metres  
Counterpoise earth kit - single wire  
Long wire throw out antenna  
Standard display / handset extender interface  
Standard display / handset extender cable 1 metre  
Secure Call  
ALE MIL-STD 188-141B  
four and six digit Selective Call and Telcall  
AC/DC power adaptor 11 to 18 V DC/100 to 254 VAC input  
Solar power supply  
Hand crank generator  
Headphones  
CW key  
Broadband dipole  
Wire dipole antenna  
GPS receiver  
PC programming kit

### Dimensions



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