



- **Full connectivity to internet email over HF radio**
- **International long distance email fax and voice communication**
- **No phone lines, non satellite, non cellular**
- **Enhanced message transfer security**

The Barrett 2020 system is ideal for the provision of full and secure email and data transfer over HF radio within organisations with remote-sited operations with no existing communications infrastructure.

The 2020 system provides a simple automatic interface for speech, data transfer and email among all stations in the HF radio network with full connectivity to internet email via an HF gateway station.

After the initial capital equipment cost, which is comparable or less than current satellite systems, there are no ongoing time charge costs for data transfer within the network.

The Barrett 2020 has easy to use windows based software that runs on any personal computer platform with Microsoft Windows operating systems and interfaces seamlessly with common STMP/POP email clients such as Microsoft Outlook.

The Barrett 2020 system has been designed specifically for simple installation and ease of use. For the system administrator, a variety of automatic linking options and a link scheduler, fully interoperable with FED STD ALE and CCIR Selective Calling protocols, are available to provide a comprehensive and automated networking solution.

To the end user the 2020 system is transparent; emails are sent and received via the users own and familiar mail client software such as MS Outlook or any other common email program.

On air link protection is provided through user configurable DES Data Encryption with enhanced link security, ensuring secure communications between like coded stations.

The Barrett 2020 email system uses the Barrett 4023 HF data modem (Clover 2000 and 2500). The modem employs the latest Digital Signal Processing (DSP) techniques specifically designed for HF radio operation. Modulation formats vary from simple robust two phase to multi-level differential phase four level amplitude modulation modes which combined with sophisticated compression algorithms within the Barrett 2020 operating software produce compressed on-air data rates in excess of 14400 bps*.

The 4023 HF modem package which includes the 2020 Email fax and data system software is available as an internal fit option for the Barrett 4050 and 2050/2090 HF Transceivers as per below.

4023 Clover 2000 HF Data modem internal fit PCB to suit 4050 HF SDR Transceiver - Part Number BC402301

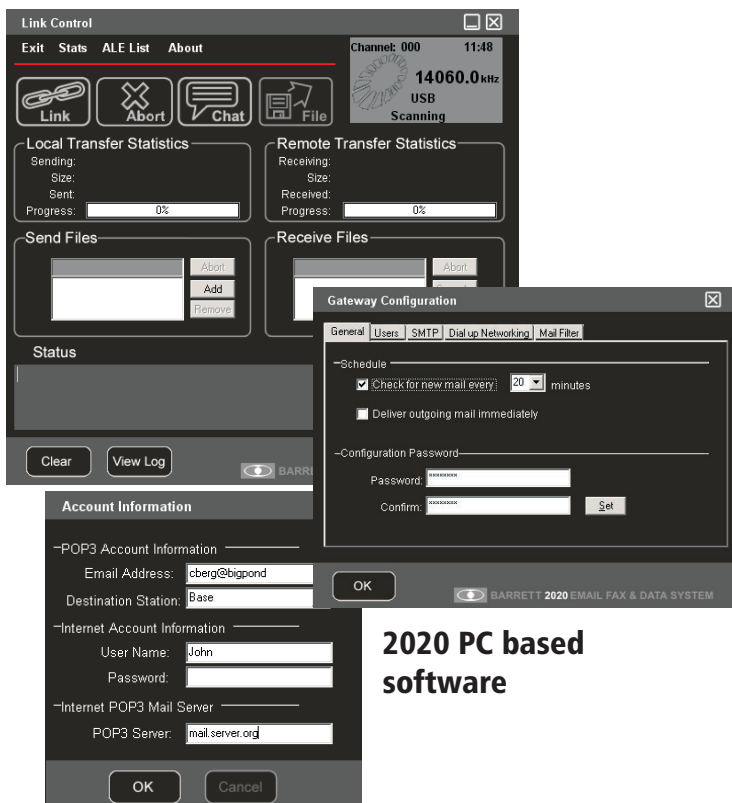
Includes:-

- Serial cable P/N BCA90023
- USB to serial adaptor P/N BCA92318
- 2020 HF Email with internet and fax gateway software P/N BCA202005
- Clover link security and DES56 (Digital encryption standard) on air data encryption

4023 Clover 2000 HF Data modem internal fit PCB to suit 2050 and 2090 HF Transceivers - Part Number BC202301

Includes:-

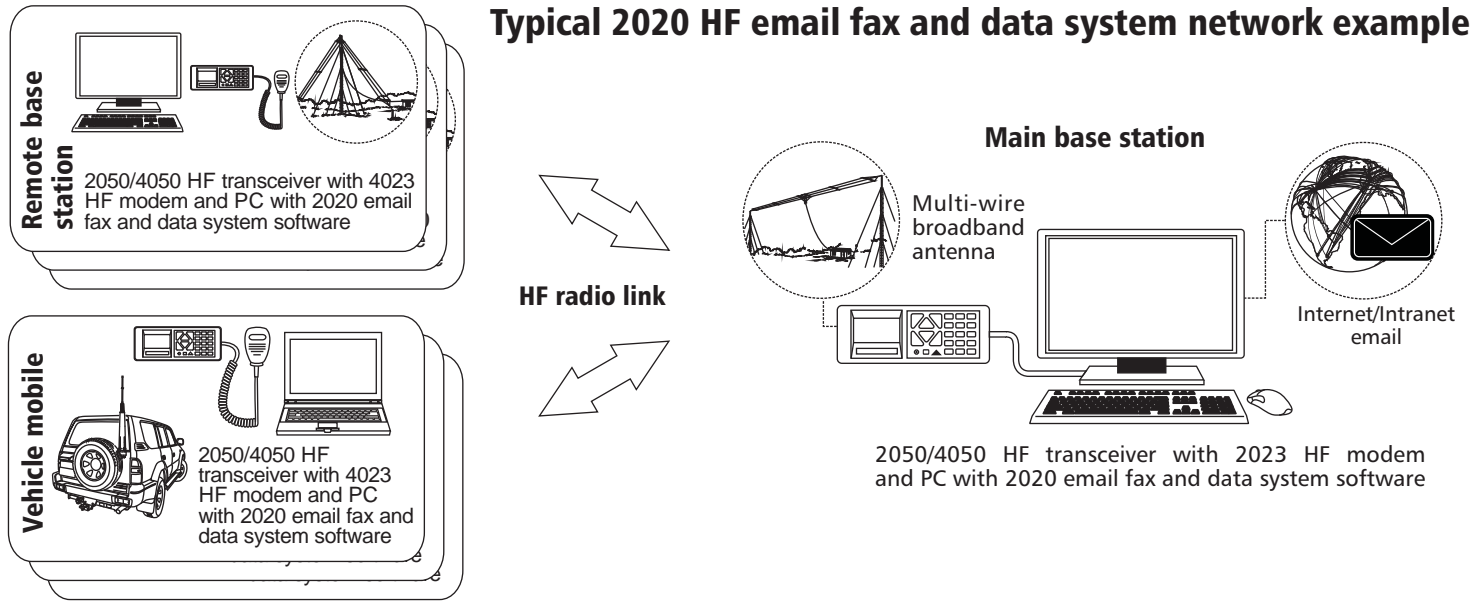
- Serial cable P/N BCA90023
- USB to serial adaptor P/N BCA92318
- 2020 HF Email with internet and fax gateway software P/N BCA202005
- Clover link security and DES56 (Digital encryption standard) on air data encryption



2020 PC based software



4023 Clover 2000 HF Data modem PCB for internal fitting

Typical 2020 HF email fax and data system network example

General specifications
4023 Clover 2000 HF Data modem internal fit PCB

Data protocol	Clover 2500 - An adaptive High Speed Selective ARQ repeat modulation for 100% error free data transmission
Data transfer rate	In excess of 14400 bps* error corrected, compressed (2020 only) Based on average to good link quality and file compressibility
Modulation modes	BPSM 2 phase, 625 bps QPSM 4 phase, 1250 bps 8PSM 8 phase, 1875 bps 8P2A 8 phase, 2 amplitude, 2500 bps 16P4A 16 phase, 4 amplitude, 3750 bps
CCIR emission	2k0H J2 DEN or 2k0H BEN
Required bandwidth	2000 (at 6 dB)
Min S/N for data transfer	-3 dB
PC/transceiver interface	RS232 data rate 9600 Bd (up to 57,600 bps max)
Current consumption	400 mA standby
Operating temperature	-15°C to +55°C (-40°C to +60°C storage)

*Specified data transmission speed is subject to link quality and file compression rate

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