BARRETT COMMUNICATIONS

High Frequency Single Sideband Communications Systems

923 high speed HF modem specifications

923 Clover 2000 modem

Interoperability	Clover 2000, Pactor I, Sitor
Raw on air data transfer rate	2000 bps (actual data throughput rate with modem overheads removed) Compression gain within the 923 software between 2 and 100, producing data throughput rates from 4000 to 200,000 bps, depending on file type.
Minimum SNR for data transfer	-3 dB
Modulation Modes (Clover 2000)	16P4A - 16 Phase, 4 -Amplitude Mod, 16PSM - 16 - Level Phase Shift Mod, 8P2A - 8 Phase, 2 Amplitude Mod, 8PSM - 8 level Phase Shift Mod, QPSM - 4-level Phase Shift Mod, BPSM - binary Phase Shift Mod, 2DPSM 2- channel diversity, FSM Frequency shift Mod, 4DPSM 4-channel diversity BPSM , 2DFSM 2-channel diversity FSM
CCIR Emission	2K0H J2 DEN or 2K0H BEN
Operating Temperature	-15°C to + 55°C

923 Pactor II modem

Interoperability	Pactor II, Pactor I, Sitor
Raw on air data transfer rate	589 bps (actual data throughput rate with modem overheads removed) 1000 bps using automatic plain text data compression. Compression gain within the 923 software between 2 and 100, producing data throughput rates from 1178 to 58900 bps, depending on file type.
Minimum SNR for data transfer	-10 dB
Modulation Modes	AFSK - Centre frequency 1700Hz, Shift 200Hz. DPSK - staggered 2 tone using 2-16 phase differences Crest factor 1.45
CCIR Emission	J2B - bandwidth 500Hz maximum.
Operating Temperature	-15°C to + 55°C

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Dealer Stamp

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High Frequency Single Sideband Communications Systems

923 HF email fax and data system

Barrett 923 HF email fax and data systems give new power to HF radio providing HF network stations access to Internet email and fax facilities either directly via the international telephone network or through common email systems such as CCMail and any POP3/SMTP mail software.

Barrett 923 email fax and data systems are ideal for the provision of full telecommunications facilities within organisations that have many remotely sited operations. After the initial capital equipment cost, which is comparable with current satellite systems, there are no ongoing time charged costs.

The 923 software package provides a simple interface between HF network stations and the international telecommunications network. In it's simplest form the 923 software can be configured to only allow the user access to a mail box. The 923 mail box operates in a similar manner to those found in currently available email packages. Configuring all its features the 923 system provides many other facilities such as image capture, editing and transfer facilities, real time "keyboard chat mode", voice communications and direct file transfer facilities.

For ease of operation by non-technical staff the Barrett 923 operating system handles all operations involved in routing, linking and transferring data between HF stations and the Internet or common email packages. This makes the HF radio system transparent to the user.

Barrett 923 HF data modems used with the 923 software package are state of the art, employing the latest Digital Signal Processing (DSP) techniques, specifically designed for HF operation. 923 systems will simultaneously support Clover 2000 and Pactor II modems.

Modulation formats vary from simple robust FSK to multi-level differential phase modulation and two level amplitude modulation modes, producing actual uncompressed raw data transfer rates of up to 2000 bps. Note:- this raw data rate is actual data throughput with all modem overheads removed. Sophisticated compression algorithms within the Barrett 923 operating software produce compressed on-air data rates of between 4,000 bps and 20,000 bps for text files and up to 200,000 bps for image files. In real terms this means a typical fax page can be transmitted, error free, in less than 3 minutes and a text file, with up to seven pages full of text, in less than a minute.

HF fax and data system

BVQI Quality System Certified to ISO 9002 Registration No. 57114

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923 features

Fully integrated with Barrett Communications' 500 and 900 series of transceivers and accessories, the Barrett 923 email fax and data system is easy to install and set up however if assistance is required our international network of sales and service agents are ready to serve.

Email mailbox

A complete email mailbox with automatic routing and forwarding allows attachment of files, images and faxes to messages. Includes fully unattended link establishment and forwarding with confirmation of receipt. Data security is assured via multiple password levels and on-air encryption.

File transfers

Efficient data compression with adaptive selection of the most suitable algorithm significantly speeds up file transmission. In addition, file transfers made as attachments within the email mailbox system that are interrupted, are restarted automatically at the exact position within the file that the transfer was stopped, thus alleviating the need to re-transmit the whole file...another time saver.

Image Transfer

The 923 system includes a comprehensive image editor that supports most image file formats. Image compression is built in for high speed image transfers. The system also includes a Twain interface for use with most scanners and digitisers. Transferred images can be printed in full colour, on inkjet, colour laser or video printers.

ALE Automatic Link Evaluation

The 923 software controls the 550 or 950 transceiver via the Barrett 923 modem. ALE channel information is sent to the transceiver on startup or when a channel is changed. The 923 software also provides channel scanning and channel change information to the transceiver, providing fully automated linking between stations on the network without any user intervention.

Automatic logging

All system activities are stored automatically in log files. These can be referred to at any time to confirm links or information transfer.

Voice

The 923 system can automatically set up voice communications between two stations. Once the voice communications link is established, the data connection is temporarily suspended, and voice communications can take place. When completed, the data link is re-established.

Internet, CC mail and MS mail connectivity

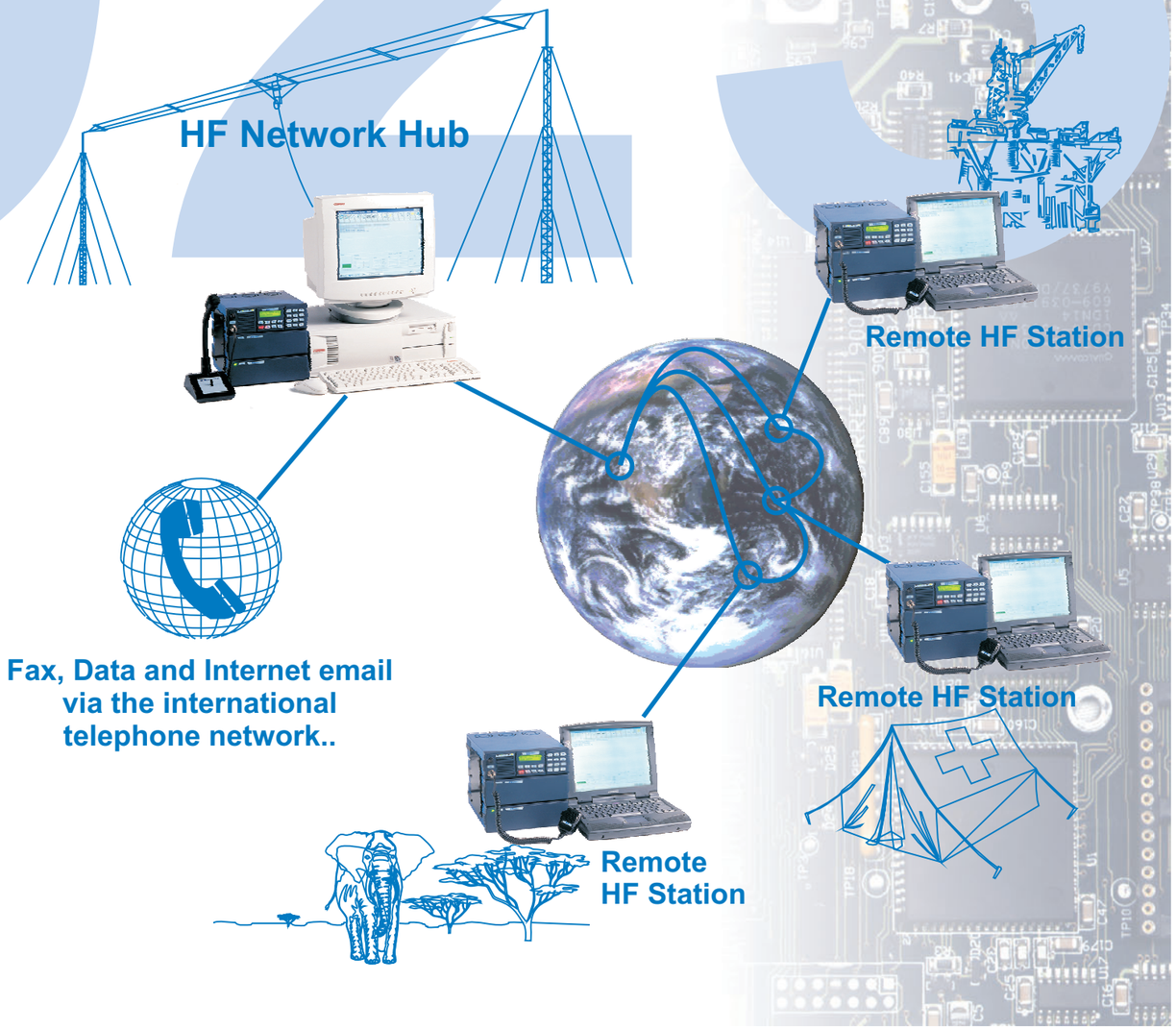
Automatic mail forwarding to and from common landline mail systems such as the Internet, MSmail and CCmail from any station on the network via the HF hub station computer landline modem or directly onto a LAN.

Fax-modem interface for fax transmission and reception.

Transmission and reception of faxes from any station via the HF network to any fax on the international telephone network via the HF hub station landline fax modem.

Duplex "Chat" mode

Both sides of a link can type simultaneously whilst file or mailbox transfers are in progress.



923 Fax and Data System requirements:-

HF SSB transceiver
Barrett 550 or Barrett 950 with fan and RS-232 control option.

Desktop computer or Laptop computer
PC 586/Pentium or better with a minimum of 16mB RAM and a mouse. Parallel printer port Serial interface with 16550 chip Landline FAX/Data modem internal or external (required only if onward transmission of fax or email required)
Optional - Scanner and cable - Twain compliant with parallel or SCSI operation
Printer with parallel interface

Cables
Modem to 550/950 transceiver cable BCA90021
Modem to PC cable with 9 - 25 way adaptor (for 25 pin serial ports) P/N BCA92301