## BUILD OR BUY PC NEWS

Volume I Issue No. 5 B&B005PC.SAM July 5, 1995

# GET CONNECTED—ON LINE!

On Line Communications require fax / modem hardware and fax / modem software (communications program) to electronically transfer information from one location to another. Fax/ modem speeds required—14.4 bps & 28.8 bps. Bits Per Second are used to measure the speed of data transfer in a communications system.



Data communications refers to digital transmission, and telecommunications refers to analog and digital transmission, including voice and video.

#### The fax technology

### fax (Facsimile)

Originally called telecopying, a fax is the communication of a printed page between remote locations. Fax machines scan a paper form and transmit a coded image over the telephone system.

The receiving machine prints a facsimile of the original. A fax machine is made up of a scanner, printer and modem with fax signaling.

Groups 1 and 2, used in the 1970s and 1980s, transmit at six and three minutes per page respectively. Group 3 transmits up to 9,600 baud using data compression at less than one minute per page. This speed increase led to the extraordinary rise in usage in the late 1980s, resulting in today's most universal form of electronic mail.

Group 3 resolution is 203x98 dpi in standard mode and 203x196 dpi in fine mode. Higher-speed Group 4



machines rely on all-digital (ISDN) networks which may not be prevalent until the mid 1990s.

#### Fax/modem

A combination fax board and data modem available as an external unit or internally as an expansion board. This hardware includes a fax switch that routes the call to the fax or the data modem.

A fax board uses software that generates fax signals directly from disk files or the screen and transmits a sharper image than an external fax machine, which gets its image by scanning. Incoming faxes are printed on the computer's printer.

## Ways of communicating ON LINE

- w BBS Bulletin Board Systems HAL-PC BBS 713-963-4100
- **w** *On Line* Services—Compuserve, America OnLine, Prodigy, GEnie and others.
- w The InterNet through an InterNet Service Provider using a graphical Web Browser (also known as the World Wide Web). HAL-PC InterNet!

The "InterNet" is made up of more than 10,000 interconnected computer networks worldwide, comprised of academic, commercial, government and military networks. Originally used by the military, more than half of the InterNet today is used for academic and commercial research. Users have access to unpublished research, journals and BBSs.

Connection to the InterNet is also available through many on-line services.

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InterNet computers use the TCP/IP communications protocol. At the end of 1992, there were 1.3 million hosts on the InterNet. A host is a mainframe, mini or workstation that directly supports the InterNet Protocol (the IP in TCP/IP).