# MacWEEK

# MacBLAST carves a place for itself in communications applications

## Has fast, error-free file-transfer protocol
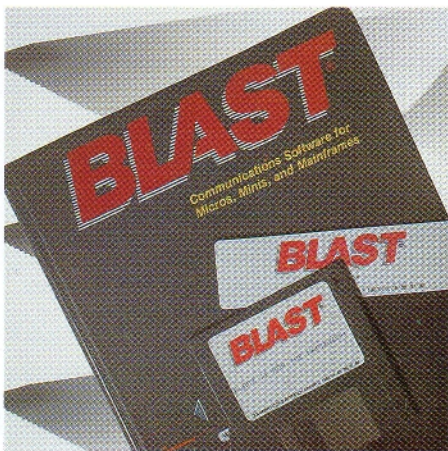


MICHAEL JAY

**By Don Crabb**

MacBLAST from Communications Research Group (CRG) of Baton Rouge, La., is a new Macintosh communications application previously available for IBM PCs and various workstations, mainframes and minicomputers. MacBLAST provides basic terminal emulation and a capable scripting language but also offers extremely stable and fast file transfers over any phone lines.

BLAST, or blocked asynchronous transmission, is a proprietary file transfer protocol. Although MacBLAST can communicate via standard transfer protocols like XModem, you will benefit most from the system if it's used with a BLAST implementation on both ends. CRG provides versions of BLAST for many different computers and operating systems. MacBLAST uses Version 8.1 of the BLAST II protocol.

The BLAST protocol runs over all kinds of communication links, including direct connections, modem connections, satellite links, X.25 networks and other kinds of

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**MacBLAST**

**Communications Research Group Inc.**
5615 Corporate Blvd.
Baton Rouge, La. 70808
(504) 923-0888

List price: **$195** Mac version; **$250** IBM PC version; **$495** and up for DEC VAX configurations.

**+** Provides fastest error-free file-transfer protocol available on the Mac; immune to noisy phone lines; background downloads under MultiFinder; powerful scripting language.

**−** Script language is difficult; no Watch Me macro capability; bad screen refresh; fewer user interface frills than competing Mac telecom products.

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networks, like SNA, that can connect the Mac to other computers. The only requirement for running MacBLAST is that the medium support asynchronous transmission, which is normal for telephone lines. It even supports virtual asynchronous links over AppleTalk networks, such as Shiva's NetSerial and NetModem and Touch Communications' Touch-OSI.

Although MacBLAST can be considered a competitor to such general telecommunications programs as MicroPhone II, Red Ryder and VersaTerm Pro, its file-transfer capabilities give it a specialized niche. We took a look at MacBLAST both as a general-use Mac terminal program and as the latest implementation of BLAST on another computer.

**BLAST testing.** Since CRG's claim to fame is multivendor connectivity, we tested MacBLAST on everything we could find. Each day for a month, we connected from a Mac Plus, a Mac SE and a Mac II to different hosts:

▶ A Sun 3 file server running BLAST II Version 7.4 under Sun OS Unix.

▶ A VAX 8650 running BLAST II Version 8.4 under VMS.

▶ A Sun, a Pyramid, a DEC-20 and an Amdahl not running BLAST.

▶ MCI Mail, CompuServe and BIX information services.

▶ Other Macs and PCs.

We used many different kinds of asynchronous connections: digital phone switches, normal phone lines and long-distance lines from many carriers. And we tested MacBLAST using many different modems, like the Shiva NetModem 2400, Hayes SmartModem 2400 and V9600, Gandalf 2400 and 9600, and WorldPort 2400.

Our tests showed that when connected to a host running BLAST, MacBLAST provides the most error-free and fastest file transfers we've yet seen. On low noise lines, the transfers were twice as fast as XModem transfers to the same host using MicroPhone II or VersaTerm Pro. The MacBLAST-to-BLAST combo was more than six times as fast as VersaTerm Pro running Kermit.

A bigger payoff came with noisy long-distance connections. While Kermit and XModem transfer speeds fell off dramatically regardless of the program used, BLAST transfers did not. On noisy lines, Mac-BLAST retained about 90 percent of its normal performance. Kermit and XModem transfers often failed completely, especially at high speeds. MacBLAST to BLAST never lost data and never blew a connection in our tests.

**Other features.** MacBLAST incorporates good terminal emulation of TTY, VT-52, VT-100 and VT-220 terminals. Although the VT-100 emulation is less accurate than VersaTerm Pro's, the quirks weren't serious. The program also supports standard XModem and MacBinary, should you want to transfer Mac files to non-BLAST hosts.

Like VersaTerm Pro, MicroPhone II, Red Ryder and other Mac communications programs, MacBLAST does scripts. With the BLASTscript language, you can build sophisticated macros to automate all the dirty work of dialing a remote system, connecting to it and initiating file transfers.

Unfortunately, that sophistication comes at the expense of ease of use, especially for novices. Unlike MicroPhone II's helpful Watch Me feature, which watches everything that happens in a given communication session, memorizes it and then repeats it at your
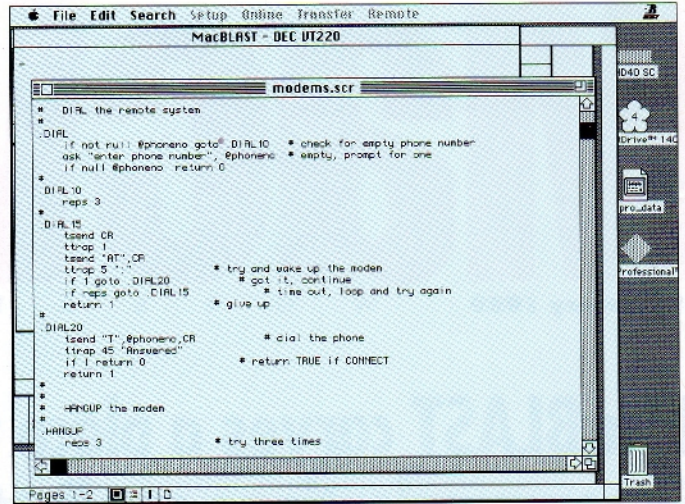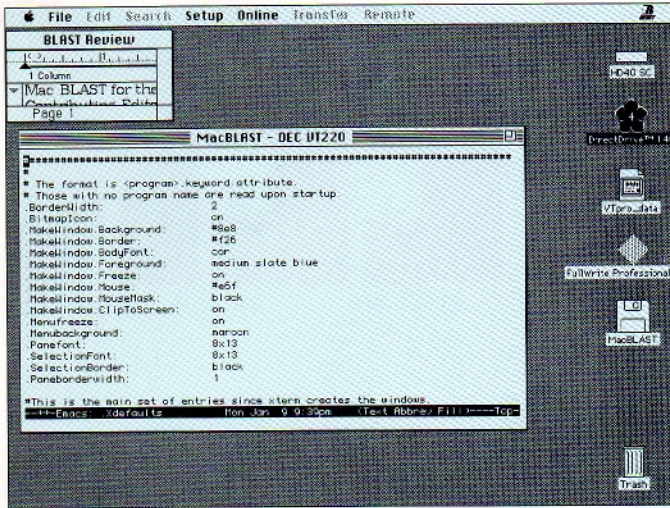
**MacBLAST under MultiFinder connected over phone lines to a Sun 3 running the GNU EMACS editor. The BLASTscript editor, showing supplied modem script.**

command, MacBLAST's BLASTscript is based on plain vanilla text editing. If you want to create a custom script, you have to write it from scratch. The package does come with tutorial examples, but the manuals, which are otherwise on a par with the competition, just don't offer enough help for making macros. Overall, we found BLASTscript far less convenient than other communications scripting environments.

**Conclusions.** Specific needs are always important in software selection, but especially so in the case of communications programs. There are many available packages, with widely varying capabilities.

While MacBLAST provides good terminal emulation, basic file transfer capabilities and a programmer-oriented scripting language, it would fall short of the competition on the basis of these features alone. MacBLAST's forte is its file transfer protocol, which has consistently proven to be the fastest and most error-free file transfer protocol running over asynchronous communications lines.

Although it can't compete with VersaTerm Pro's first-rate terminal emulation or with MicroPhone II's excellent scripting features, MacBLAST blows them both out of the water when it comes to file transfers. Your choice will depend on the relative importance of these features to you. □

# How the BLAST protocol works

MacBLAST, like all BLAST software, incorporates a proprietary full-duplex file transfer protocol plus the CCITT-CRC16 algorithm for data integrity. BLAST is a sliding window protocol that uses selective block retransmission and bit-level block framing. This means it doesn't have to resend as much data as other protocols when line noise increases, so BLAST transmissions are almost error-free.

The latest BLAST protocol also incorporates a type of automatic adaptive data compression. This compression improves performance over noisy phone lines and cuts the time necessary to complete file transfers, so that even the propagation delays over X.25 packet switching networks are taken in stride.

MacBLAST includes other data integrity features worth mentioning. Even if the phone line is physically broken, MacBLAST can continue its file transfer at the point of interruption when service is restored. The system also constantly monitors the quality of the connection and reports that status to you, a handy extra when you are trying to improve a phone connection or line. — By Don Crabb