

Eagle 450TX Terminal Server Announced

- **ColdFire®** power in a terminal server
- Supports up to 32 serial devices plus a parallel printer
- Big-value software bundle: 34-user AMOS *plus* MULTI

Dear Alpha Microsystems VAR:

The Alpha Micro terminal server family steps up smartly in scope and performance with the new Eagle 450 TX Terminal Server. Shipments are scheduled to begin in August. Underscoring our commitment to the terminal server product sector, the Eagle 450TX features these highlights:

- **ColdFire power** — The Eagle 450TX incorporates the same Motorola *ColdFire* processor as our best-selling Eagle 450 Business System. This puts more processing power in the 450TX — a peripheral server — than you'd find in a whole AM-4000.
- **Supports up to 32 terminals** — The Eagle 450TX connects up to 32 terminals to an AMOS host system via a single 10BaseT Ethernet connection. Users at the terminals see the same features and functions as if their terminals were hard-wired to the AMOS host through RS-232 cables. Plus, the Eagle 450TX includes a parallel printer port with LPD software support.
- **Hardware infrastructure** — Standard features of the Eagle 450TX include 32MB main memory (expandable to 128MB), 4MB flash memory, and 10BaseT and AUI Ethernet ports. Eight RJ-45 serial ports are built in, with expansion slots for 8, 16, or 24 optional ports.
- **Embedded MULTI** — Standard in the Eagle 450TX, the windowing feature of our MULTI™ Environment Manager allows multiple tasks to run concurrently at each terminal. Windowing happens entirely within the Eagle 450TX, offloaded from the AMOS host. By offloading processes from the host, Embedded MULTI boosts overall system performance. MULTI also allows hot-key switching between multiple hosts.
- **“32-Port Ready” AMOS license** — The Eagle 450TX is delivered with a 34-user AMOS license *as a standard feature*. At no extra charge and no change of PICs, you get software support for up to 32 terminals plus two channels for maintenance and system management.

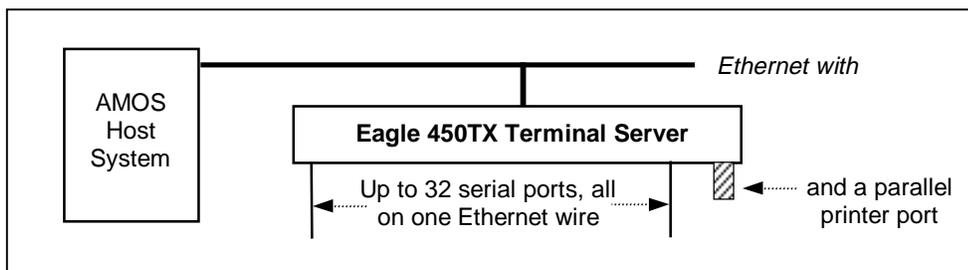


Figure 1.
Eagle 450TX
Terminal Server
block diagram

Product Overview

System Concepts

The Eagle 450TX Terminal Server is a computer that connects up to 32 terminals to an Ethernet. Connection for a parallel printer is also standard. See Figure 2. The server communicates with an AMOS host system via AlphaTCP. Users at the terminals see the same features and functions as if their terminals were hard-wired to the AMOS host through RS-232 cables. MULTI, a popular option on Alpha Micro systems, is a standard feature of the Eagle 450TX.

From the outside, an Eagle 450TX looks much the same as a standard Eagle 450. Inside the 450TX are a 4MB flash ROM memory card (Flashcard), 32MB of RAM, and an Ethernet controller, all furnished as standard. There is no disk drive; the operating system resides in the Flashcard. There's no dedicated front panel display; system status information is instead routed to a terminal.

The Eagle 450TX makes provision for 32 serial ports. The first eight are furnished as standard, along with three expansion slots. Each expansion slot accommodates one optional AM-318-10 8-port card, for a system total of 32 ports. All ports are RJ-45 connectors equipped for full modem control and lightning protection.

Applications and Advantages

The Eagle 450TX Terminal Server can improve the efficiency of an installation in several ways. One is more flexibility in equipment layout. Others include higher throughput in the host system, lower connection cost, and protection of the user's investment in existing terminals. The Eagle 450TX offers all of these benefits plus the end-to-end integrity of an all-AMOS, all-Alpha Micro solution.

- **Performance potential** — Figure 2 shows how the Eagle 450TX offloads MULTI windowing, a resource-intensive operation, from the AMOS host. This frees up host resources for other jobs, so the user sees an overall improvement in system performance.
- **Simpler setup** — Putting terminals on an Eagle 450TX, instead of serial cables, makes a system easier to manage. For example, adding a hard-cabled terminal involves hardware and software setup in the CPU. A serial port is needed, which may entail another AM-3XX serial I/O card. The Initialization file must change to add JOBALC, TRMDEF, and SETJOB statements.
None of that's needed when you plug another AM-65 into an installed Eagle 450TX. Just power up the terminal, start a TELNET session with the host, and you're ready to begin operating.
- **Total flexibility in system layout** — A terminal server lets you install terminals wherever the network reaches. Distance limitations of RS-232 cabling are no longer a factor.
- **Lower connection costs** — When installing terminals in user departments, a terminal server can often avoid the expense of long RS-232 cables, or multiplexors, or modems.

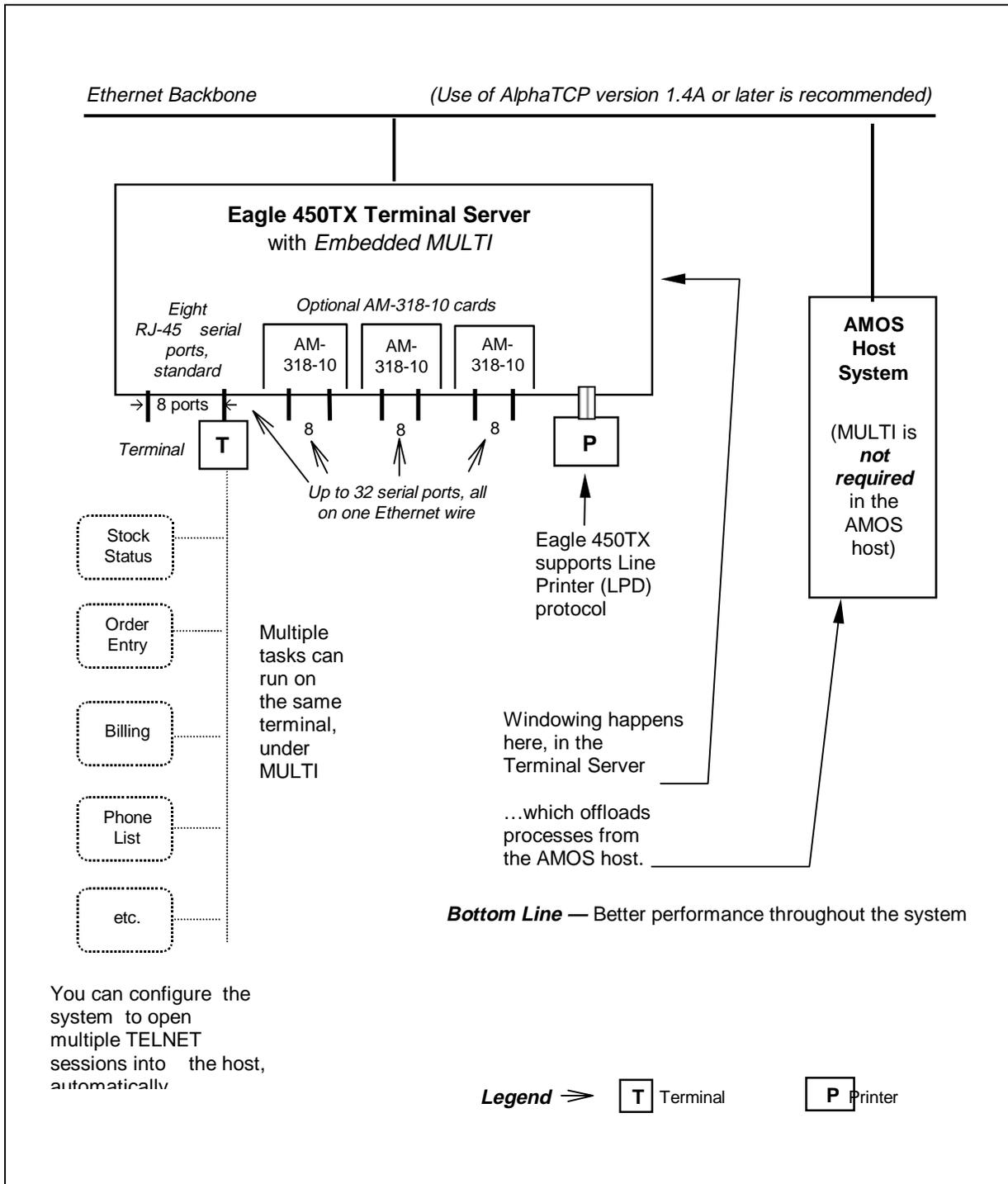


Figure 2. Configurations and Data Flow: Eagle 450TX Terminal Server and AMOS Host

- **Multiple host support** — Terminals connected to an Eagle 450TX can switch back and forth between multiple AMOS hosts at the stroke of a key. Embedded MULTI preserves screen contents in the server. See Figure 3.

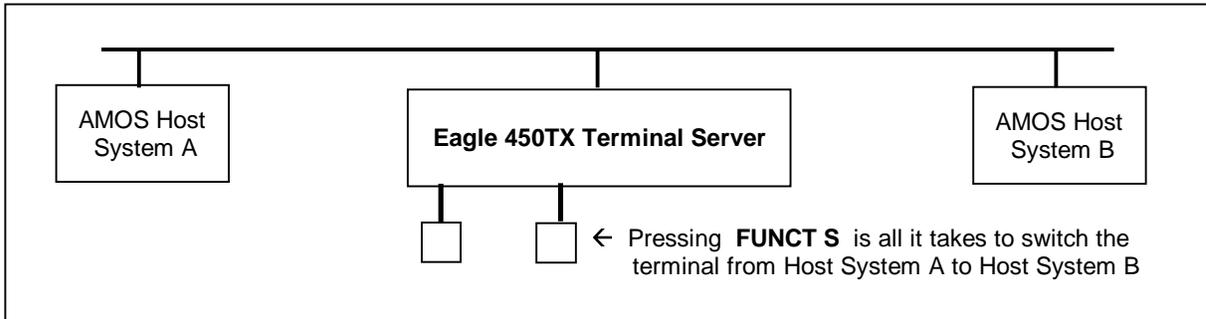


Figure 3. Using the Eagle 450TX for hot-key switching between multiple AMOS hosts

- **Protect existing investment in terminals** — Nowadays many Alpha Micro system upgrades involve adding a network. With a terminal server, the user is not compelled to retire existing terminals. PCs have their place, of course, but terminals remain well suited to many tasks. They can continue to give good service — with a terminal server.
- **Upgrade to full Eagle 450 System** — The Eagle 450TX Terminal Server is built in a standard desktop chassis, the same as a regular Eagle 450 System. The two systems also share many of the same internal components, including power supply, sheet metal parts, and connectors. This commonality makes it feasible to upgrade an Eagle 450TX to a full Eagle 450 System. Upgrade will be performed here at the factory; details of the program will be announced later.

Specifications

The Eagle 450TX is a single-board computer specially configured for the terminal server mission. Product specifications are as follows:

Processor

- **CPU** — Motorola *ColdFire* RISC processor CPU chip
- **Flash memory** — AM-703 Flashcard, 4MB.
- **RAM memory** — System board is equipped with two SIMM slots for memory. Minimum memory is 32MB, furnished as standard and included in system price. Maximum is 128MB.

Networking Features

- **Ethernet controller** — 16-bit, dual-port Ethernet controller; 10BaseT and AUI connectors furnished as standard

I/O Features

- **Serial I/O ports, RJ-45, with surge protection and full modem control**
 - Standard: 8 ports
 - Optional: up to three AM-318-10 cards, providing a total of up to 24 additional ports
- **Parallel printer port** — Centronics compatible; DB-25 connector

Peripheral Devices

- In its role as a terminal server, the Eagle 450TX does not require, or support, disks, tapes, or diskette drives. All such devices are installable, however, after upgrade to an Eagle-family business system, or trade-in, as appropriate.

Physical Planning

- **Chassis** — Eagle deskside mini-chassis; 17¾"H x 9"W x 17"D (44.5cm x 22.9 x 43.1)
- **Power** — Internal power supply; 5 amp @ 115VAC; 2.5amp @ 230VAC
- **UPS management** — A dedicated DB-9 serial port is provided for monitoring an attached UPS system

Software

- **Operating software** — The Eagle 450TX runs on a special version of AMOS 2.3A, which resides in the Flashcard. System price includes a 34-user AMOS license (for use only on the Terminal Server). The 34-user license allows simultaneous operation on 32 terminals plus two channels for system management and maintenance.

Terminals on the server communicate with the host through TELNET sessions. Since the terminals are serial devices, not PCs, AlphaLAN is not required. The Eagle 450TX supports the Line Printer (LPD) protocol. This allows the host, or other servers on the TCP wire, to send print files to a printer on the Eagle's parallel printer port.

- **MULTI** — An 32-user license for the MULTI Window-based Environment Manager is furnished as standard. A MULTI license is *not* required in the AMOS host system for terminals connected to an Eagle 450TX Terminal Server.

Installation Considerations

Disk-dependent Features of MULTI

The full-featured MULTI offered as an option on AMOS host systems includes a group of features called Desk Accessories. A desk calculator, a calendar, an alarm clock, and a phone list are among the functions provided. Some of these features require reference to disk files, which do not exist in the Eagle 450TX. Consequently such features are not available in the Eagle 450TX or are functional only to a limited extent.

Maintenance

The AMOS operating system for the Eagle 450TX is pre-loaded in the 4MB Flashcard. Software changes can be saved from the server's RAM memory to the Flashcard by using the `FLUTIL.LIT` utility.

With current AlphaTCP software, Flashcard restore, if required, is accomplished by download from a local, cable-connected PC. AlphaTCP 1.5, the upcoming new version of AlphaTCP, introduces an entirely different method. AlphaTCP 1.5 includes a feature called the Alpha Micro Package Manager (AMPM). AMPM makes Flashcard download virtually automatic. On the AMOS host, you maintain a master copy of the terminal server software. When required, the Eagle 450TX and the host send files back and forth to synchronize with each other. See the AlphaTCP 1.5 marketing bulletin for further information.

Bottom Line

Improving system performance is a major product development goal at Alpha Micro. We have demonstrated that terminal servers are a good way to approach that goal. Terminal servers are especially attractive because they can boost performance without requiring an investment in new CPU hardware or in rebuilding the application software.

Our first terminal server, the 8-port Eagle 100TX, was introduced this past April. Now the Eagle 450TX extends the concept and the benefits to larger, more demanding environments.

Best regards,

John F.G. Leighton
VAR Marketing Manager