

## Terminal Server Systems from Alpha Micro

- **All-Alpha Micro, all-AMOS, serial-and-parallel solutions**
- **Our first step toward application-specific server systems**
- **Terminal Server is upgradeable to full Eagle 100 System**

Dear Alpha Microsystems VAR:

Device servers are flexible, economical, interface boxes that connect terminals, printers, modems, and other peripherals to a networked host. Many Alpha Micro dealers are using servers today, sourced from third parties, for connecting terminals to TCP-equipped AMOS systems. We are proud to announce that Alpha Microsystems has now entered this rapidly growing technology arena. We are making our move in two phases:

- **Phase I — Eagle 100TX Terminal Server**...Now in beta test, the Eagle 100TX connects up to eight terminals *and* a parallel printer to an AMOS host via an Ethernet wire. The 100TX provides an all-AMOS, all-Alpha Micro solution to the terminal and printer server requirement. Pricing is competitive. Packaged in an Eagle chassis, the 100TX can be upgraded to a fully functional Eagle 100 system, something that's impossible with third-party servers. In Phase I we also introduce a new value-priced Network Server designated Eagle 100NX.
- **Phase II — Application-specific servers**...As a logical next step, we will exploit server technology to enhance the performance and versatility of AMOS systems in several directions. We'll begin with an AlphaFAX server. By off-loading much of the fax processing from the AMOS host, this unit will handle high-volume fax traffic *and* boost the performance of the host system for background report printing, serial I/O, and other CPU-centric functions.

Figure 1 illustrates these concepts. For product details, read on.

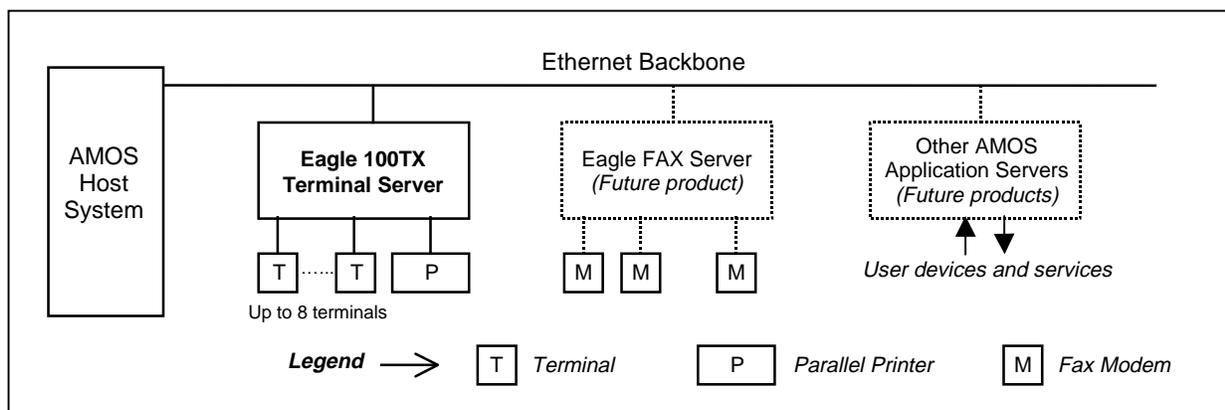


Figure 1. Terminal Server Concepts: *Phase I* ——— *Phase II* .....

## Product Line Overview — Phase I

Phase I of the server program, detailed in this bulletin, introduces two new Alpha Micro products: the Eagle 100TX Terminal Server and the Eagle 100NX Network Server. Highlights are as follows.

### **Eagle 100TX Terminal Server — *Now in Beta Test***

The Eagle 100TX Terminal Server is a computer that connects up to eight terminals (or modems, or other serial devices) to an Ethernet. Connection for a parallel printer is also provided. 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.

From the outside, an Eagle 100TX looks much the same as a standard Eagle 100. Inside the 100TX are a 2MB flash ROM memory card, 4MB to 32MB of RAM, and an Ethernet controller. There is no disk drive; the operating system resides in flash memory. There's no dedicated front panel display; system status information is instead routed to a terminal.

Now in beta test, the Eagle 100TX was first shown publicly at the AMUS '98 Convention in Riverside, this past October.

### **Eagle 100NX Network Server — *Released Product, Available Now***

The Eagle 100NX Network Server is a specially configured Eagle 100LC, equipped with an Ethernet controller and priced for use as an AlphaTCP network host. From the standpoint of price and performance, the 100NX is positioned as the AMOS host for the Eagle 100TX Terminal Server. However, the 100NX Network Server will work in the same environments as any other AMOS-based network server. Supporting PCs with AlphaLAN is one example. The Eagle 100NX Network Server is available for immediate shipment.

The specifications and price lists in this bulletin use special printing to help you distinguish the Eagle 100TX from the Eagle 100NX:

- Information about the Eagle 100TX Terminal Server is headed like this:
- Information about the Eagle 100NX Network Server is headed like this:

**Eagle 100TX Terminal Server**

**Eagle 100NX Network Server**

## Applications and Advantages — Phase I Products

Terminal servers are in and running today at many Alpha Micro installations. Some sites use a small AMOS system as the terminal server. Others use purpose-built terminal servers from third parties. These approaches work, though none has the flexibility, economy, and end-to-end integrity of our new Eagle 100TX Terminal Server and Eagle 100NX Network Server. Consider these specifics:

- **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. See Figure 2. All the network equipment shown in the diagram, including the 10BaseT Ethernet Hub, is available from Alpha Micro. Note also that parallel printer support is a standard feature.

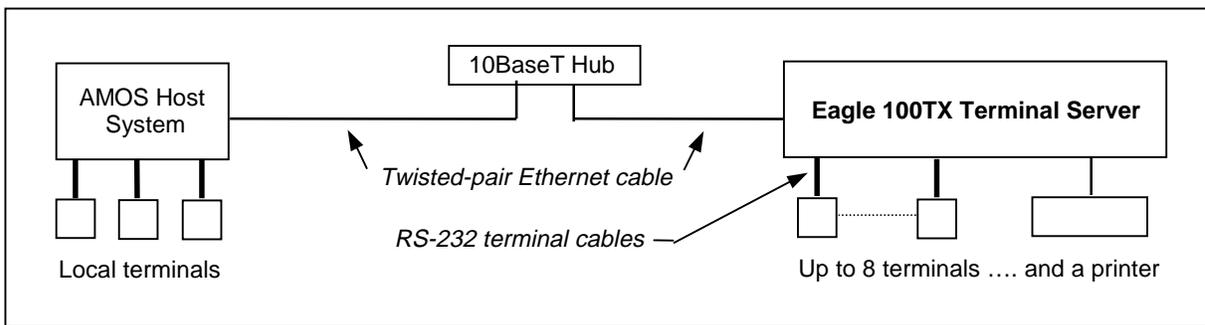


Figure 2. Eagle 100TX Terminal Server with Remote Terminals and Printer

- **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.
- **Simpler setup** — 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 an additional AM-65 to an installed Eagle 100TX. Just power up the terminal, start a TELNET session with the host, and you're ready to begin operating.
- **More users for small CPUs** — A terminal server breaks the serial I/O barrier to system expansion. Provided the system has enough CPU power, and isn't compute-bound, there is no physical limit to adding more terminals. Even if all the serial ports on the host system are full, you can still add more terminals. Just put another Eagle 100TX Terminal Server on the wire.
- **Protect your investment in terminals** — Nowadays many Alpha Micro system upgrades involve adding a network. With a terminal server, the user isn't 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 100 System** — The Eagle 100TX Terminal Server is built in a standard desktop chassis, the same as a regular Eagle 100 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 100TX to a full Eagle 100 System. Upgrade will be performed here at the factory; details of the program will be announced later.

## Expanding the Server Concept — Phase II Products

The Eagle 100TX Terminal Server is our first step in applying all-AMOS, all-Alpha Micro technology to the server marketplace. Here are some of the directions we're going; schedules will be announced later.

- **High-volume Fax Server** — An Alpha Micro device server is more than a concentrator box; it's a powerful AMOS-based computer in its own right. That means the server can run applications, offloaded from the host CPU. For example, Figure 3 shows an Eagle "Model X" configured as a fax server. Our new fax software — AlphaFAX 2.0 Plus — supports multiple modems, as shown here.

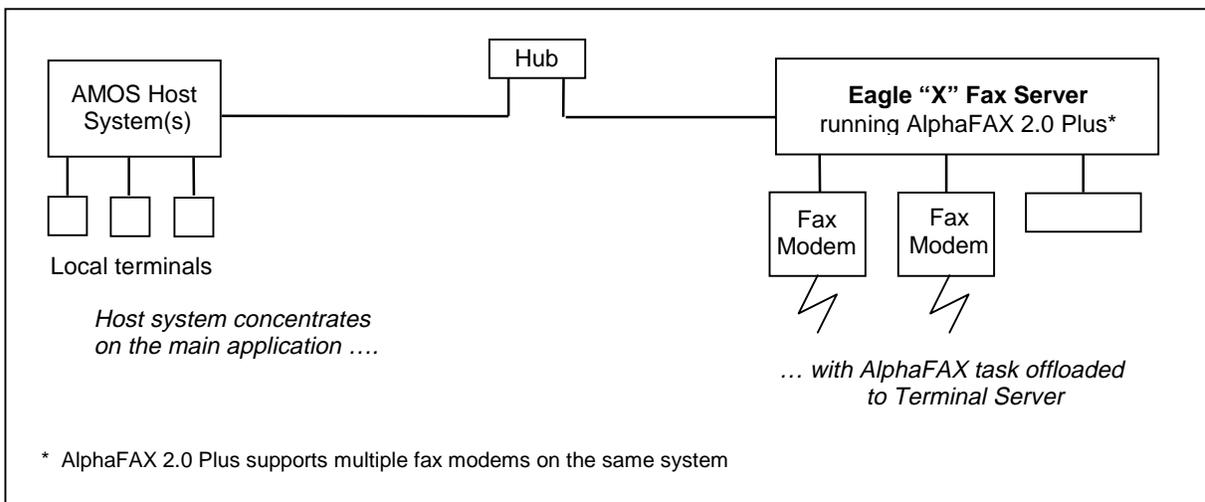


Figure 3. Eagle "X" Fax Server, a logical extension of Eagle 100TX Terminal Server technology

- **Higher-performance server hardware** — The Eagle 100TX, built around a Motorola 030 CPU, is only a starting point for server hardware. We're already looking ahead to a device server based on our new Eagle 450, with its Motorola *ColdFire* CPU. An Eagle 450-based terminal server, would have processing power and connectivity for up to 32 serial devices plus a parallel printer. Other potential applications include an AlphaFAX super-server, driving dozens of fax modems with data downloaded from an AMOS host.

**Eagle 100TX Terminal Server — Specifications**

The Eagle 100TX is a single-board computer specially configured for the terminal server mission. In the specifications below, some features are standard; others are required, though priced separately from the server itself; and still others are optional. See the Reseller Supplement for detailed pricing and configuration rules.

**Processor**

- **CPU** — Motorola MC68030 CPU chip
- **Flash memory** — AM-703 Flash Memory Card, 2MB. The card has room for a 4MB flash memory, which may be offered as an option on production systems. The card includes a NOVRAM with CMOS features for storing setup parameters.
- **RAM Memory** — Choice of 8MB, 16MB, or 32MB

**Networking Features**

- **Ethernet controller** — AM-366 Ethernet Controller (plug-in card on processor board)
- **External Ethernet connector** — AUI 15-pin connector (standard); 10BaseT (optional)

**I/O Features**

- **Eight serial I/O ports, with full modem control**
  - DB-9 female connectors with AM-314-style pinout (on model SBC-100TX-01)
  - RJ-45 jacks (on model SBC-100TX-02)
- **Parallel printer port** — Centronics compatible; DB-25 connector

**Peripheral Devices**

- In its role as a terminal server, the Eagle 100TX 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

**Software**

- **Operating software** — The Eagle 100TX runs on a special version of AMOS 2.3A, which resides in flash memory. 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 100TX 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.

<b>Eagle 100NX Network Server</b>
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 — **Specifications**

The Eagle 100NX is a version of the present Eagle 100LC configured and priced for use as an AlphaTCP network server. Functionally, the 100NX has all the capabilities of an AMOS host system and can be used in any AMOS environment, networked or otherwise. Specifications are similar to those for the Eagle 100LC system. See the Reseller Supplement for detailed pricing and configuration rules.

**Processor**

- **CPU** — MC68EC030 CPU chip; 40MHz clock rate
- **RAM Memory** — Choice of 8MB, 16MB, or 32MB

**Peripheral Devices**

- **Disks, tapes, and other SCSI devices**, the same as for other Eagle systems (like the Eagle 100 and 100LC, the Eagle 100NX is equipped with a narrow SCSI bus)
- **Diskette drive**, part number PDB-00212-05, and AM-219 Floppy Controller

**Networking Features**

- **Ethernet controller** — AM-366 Ethernet Controller (plug-in card on processor board)
- **External Ethernet connector** — AUI 15-pin connector (standard); 10BaseT (optional)

**I/O Features**

- **Four serial I/O ports, with full modem control**
  - DB-9 female connectors with AM-314-style pinout (on model SBC-100NX-01)
  - RJ-45 jacks (on model SBC-100NX-02)No serial I/O expansion is offered; additional users can access the system via network connection.
- **Parallel printer port** — Centronics compatible; DB-25 connector

**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

**Software**

- **Operating software** — Price of the Eagle 100NX includes a 12-user license for AMOS 2.3A.

**The Bottom Line**

With the introduction and forthcoming shipment of the Eagle 100TX Terminal Server, you can look to Alpha Micro for virtually every component in a client/server configuration. In addition to a full line of AMOS-oriented host systems, servers, and terminals, we offer modems, a 10BaseT Ethernet hub, and comprehensive technical support.

Our new family of server products also offers the long-standing Alpha Micro benefit of investment protection. As workloads grow and the business environment evolves, system change is inevitable. Your investment retains value, however, through trade-in or upgrade programs we offer for virtually any Alpha Micro CPU or server product. We can't offer that protection for third-party servers, but you can depend on it for the Eagle 100TX Terminal Server.

Best regards,

John F.G. Leighton  
VAR Marketing Manager