AI-SRVR

ARCNET Server to Ethernet Client

Software Manual

TD000200-0MC

CONTEMPORARY CONTROLS®

WARNING — This is a Class A product as defined in EN55022.
In a domestic environment this product may cause radio interference
in which case the user may be required to take adequate measures.

TD000200-0MC

1 Table of Contents

2 History

2/1/2005 Initial Release

7/1/2006 Expanded LED and Proxy functionality

7/1/2014 Added TCP timeouts, Hostname and expanded Server functionality

3 Introduction

The AI-SRVR employs a CPU (running the Linux operating system) to perform as an ARCNET Server to an Ethernet Client. There are several models which offer different transceiver options. The AI-SRVR-1/CXB accommodates coaxial cabling at a data rate of 2.5 Mbps. The AI-SRVR-1/TB5 has an RJ-45 port for dipulse signals at a rate of 2.5 Mbps. Two other models are designed for EIA-485 signalling — the AI-SRVR-1/485D accepts DC-coupled signals at all of the common data rates while the AI-SRVR-1/485X passes AC-coupled signals at three popular data rates.

On the ARCNET side, the unit operates transparently. No changes or protocol overhead are needed. The unit will appear as just another node within an ARCNET network.

The Ethernet port accepts 10BASE-T or 100BASE-TX signals, continuously monitors connectivity and supports TCP/IP and UDP protocols. This port supports the PAUSE function for full-duplex operation and the backpressure scheme for half-duplex data. It auto-negotiates the port parameters of data rate, duplex mode and flow control.

With the help of incoming packet buffering, multiple Ethernet users can send messages to any ARCNET node. Complete ARCNET frames are encapsulated.

When communicating from ARCNET to Ethernet, frames are sorted by Source ID and buffered in 255 FIFO mailboxes. Mailbox "0" is used for broadcast messages. Ethernet users can receive packets from specific nodes or poll mailbox buffers of specific nodes.

An included function called AI-PROXY allows one ARCNET node to communicate via an Ethernet backbone link (either wired or wireless) to another ARCNET node in a completely different LAN. This arrangement requires *two* units — one in each LAN. Each unit acts as a *local proxy* for the represented node situated in the remote LAN.

When using the AI-SRVR function, the unit can be set to accept *only* messages addressed to it or *all* messages from *any* ARCNET node, regardless of the intended destination.

Configuration can be accomplished in two ways — through an EIA-232 console port (COM2) connected to a Windows®-based terminal emulation application such as HyperTerminal® — or through a Telnet session where simple password protection is provided. A second serial port (COM1) is for factory service only.

The unit is powered from a wide-range, low-voltage AC or DC source — and redundant power connections are present for backup considerations. It comes with all that is needed for either DIN-rail or panel mounting. The switch front panel features a general status LED and there are LEDs for link status, activity, and data rate of each port.

Additional helpful technical information can be found at:

www.ccontrols.com/support/aisrvr.htm

TD000200-0MC

3.1 Product Images

AI-SRVR-1/CXB
AI-SRVR-8/CXB

AI-SRVR-1/TB5
AI-SRVR-8/TB5

AI-SRVR-1/485D
AI-SRVR-8/485D
AI-SRVR-1/485X
AI-SRVR-8/485X

Figure 1 — The AI-SRVR Series

TD000200-0MC

4 Operation

4.1 General Considerations

Configuration is accomplished while the AI-SRVR is connected to a suitable device, either a computer terminal or a computer running a terminal emulation program such as HyperTerminal or PuTTy. The connection is made via the AI-SRVR serial port (console port) which uses standard EIA-232 protocol.

4.1.1 Functions of Operation

The unit has the following two ways of functioning:

In the **AI-SRVR Function**, the unit performs as an ARCNET server for delivering ARCNET packets to one or more Ethernet clients.

In the **AI-PROXY Function**, an ARCNET node can communicate via an Ethernet backbone to an ARCNET node in a different LAN. This requires two AI-SRVRs — one in each ARCNET LAN — each acting as a proxy for the remote node being represented.

4.1.2 Configuration

To avoid communication difficulties, configuration should be accomplished before the unit is connected to either the ARCNET or Ethernet network. Whether the unit is configured by a Telnet session or through its console port, the procedure and the display screens are the same. However, the screens used for the AI-SRVR Function differ slightly from those displayed for the AI-PROXY Function.

4.1.3 LEDs

Several LEDs aid in monitoring performance and in troubleshooting:

ARCNET: The **RX** LED glows **green** when the unit receives data from the ARCNET LAN.

The **ACT** LED flashes **yellow** whenever the unit's CPU and ARCNET chip communicate.

Ethernet: The **LINK/ACT** LED glows if a valid link exists to an operating Ethernet device and indicates speed by colour: **green** for 100 Mbps and yellow for 10 Mbps. It flashes to indicate activity.

The **DUP** LED glows **green** to indicate full-duplex operation and **yellow** for half-duplex.

STATUS: During boot-up, this **green** LED flashes. Once all files have loaded — about 15 seconds on newer units, 50 seconds for older units) — it glows solid to indicate the unit is operational.
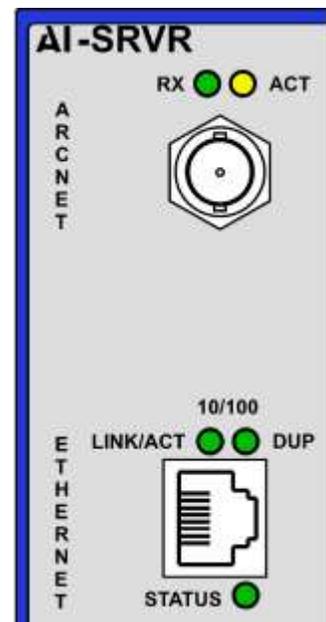
4.1.4 Access Options

The AI-SRVR can be accessed through its Ethernet port or its console (serial) port. Initially, the unit must be configured so that its IP address is set to a value placing it on the same subnet as that in which it is being installed. The **simplest** way to do this is via the console port. If a null-modem cable is not available, the unit can also be configured via its Ethernet port and a Telnet session as described in Section 4.1.4.4.

4.1.4.1 Terminal Emulators — Hercules, HyperTerminal © and PuTTY

These terminal emulators can connect to the AI-SRVR in either of two ways**:** by Telnet or the unit's console port using a null-modem cable (not provided). Earlier versions of HyperTerminal lacked Telnet capability. Once a connection is made, either method of access involves the **same procedure** and displays the **same screens**.
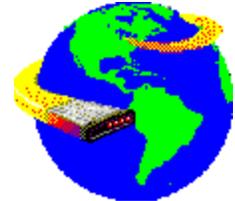
4.1.4.2 Console Port Access

With a serial null-modem cable connected between the unit's COM2 (DE-9) port and a computer terminal (or a computer performing terminal emulation), the unit can be monitored and configured. For proper EIA-232 communication**:**

- Set the Baud rate to 57600.
- Set the Data bits to 8.
- Set the Parity to None.
- Set the Stop bits to 1.
- Set the Flow control (handshaking) to None.
- Set Emulation to ANSI.

With console port access, no login is required. As soon as the unit boot-up process is completed and the serial cable is connected, the screen will display the statistics screen for the most recently used function — AI-SRVR or AI-PROXY.

4.1.4.3 Telnet Access

The AI-SRVR includes a Telnet server. It is factory-programmed with a default IP address of 192.168.92.68 and a Class C subnet mask of 255.255.255.0. Changing the IP address is strongly encouraged. Once the AI-SRVR has finished booting and its Ethernet port has been connected to the Ethernet network, Telnet communications are possible. However, the AI-SRVR and any computer communicating with it must share the **same subnet**. If they are not on the same subnet, they cannot communicate.

A Telnet session requires a login procedure as displayed in Figure 2. The default login string is "root" and it is echoed on screen. The default Password string is "ccsi2431", but it is NOT echoed on screen. If the login is successful, a Linux bash prompt is displayed. From the bash prompt, two commands enable the user to choose the operational function. These commands are *config-srvr* and *config-proxy*.


```
Contemporary Control Systems, Inc.
AI-SERVER

        login: root
Password:


BusyBox v1.00 (2009.12.10-16:55+0000) Built-in shell (ash)
Enter 'help' for a list of built-in commands.

[root@AI-SERVER ~]: _
```

Figure 2 — Telnet Login Screen

4.1.4.4 Initial Access by a Telnet Session

The hardware arrangement for the initial setting of the IP address via a Telnet session appears in Figure 3. The PC should be temporarily disconnected from the Ethernet LAN in case the AI-SRVR default address matches that of another device on the existing LAN. If it is certain that no existing device on the LAN uses IP address 192.168.92.68, then the computer can remain in the LAN. Otherwise, the procedure for changing the IP address employs the creation of a *temporary* LAN composed of nothing but the AI-SRVR, the computer used to configure it and a CAT5 cable connecting the computer to the Ethernet port of the AI-SRVR. Consequently, this computer will be unavailable for normal network functions until this procedure is finished.
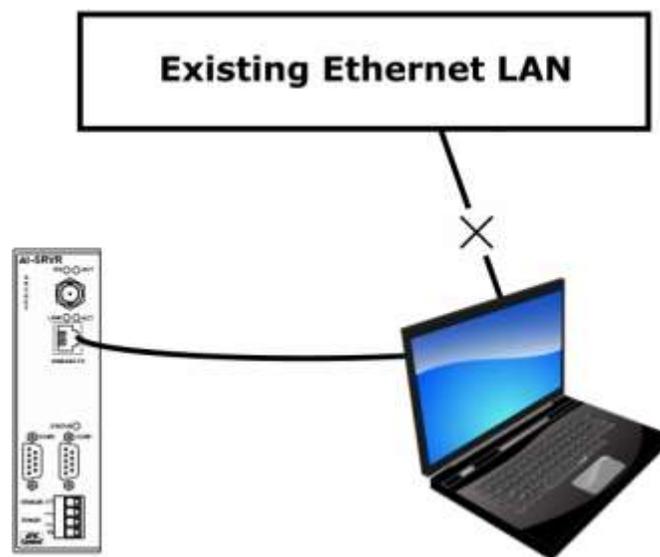
Figure 3 — Setup for Initial IP Address Configuration by Telnet

TD000200-0MC

For initial configuration, the computer chosen for the procedure should temporarily have its IP address modified as shown in Figure 4 — which uses a Windows 7 example.
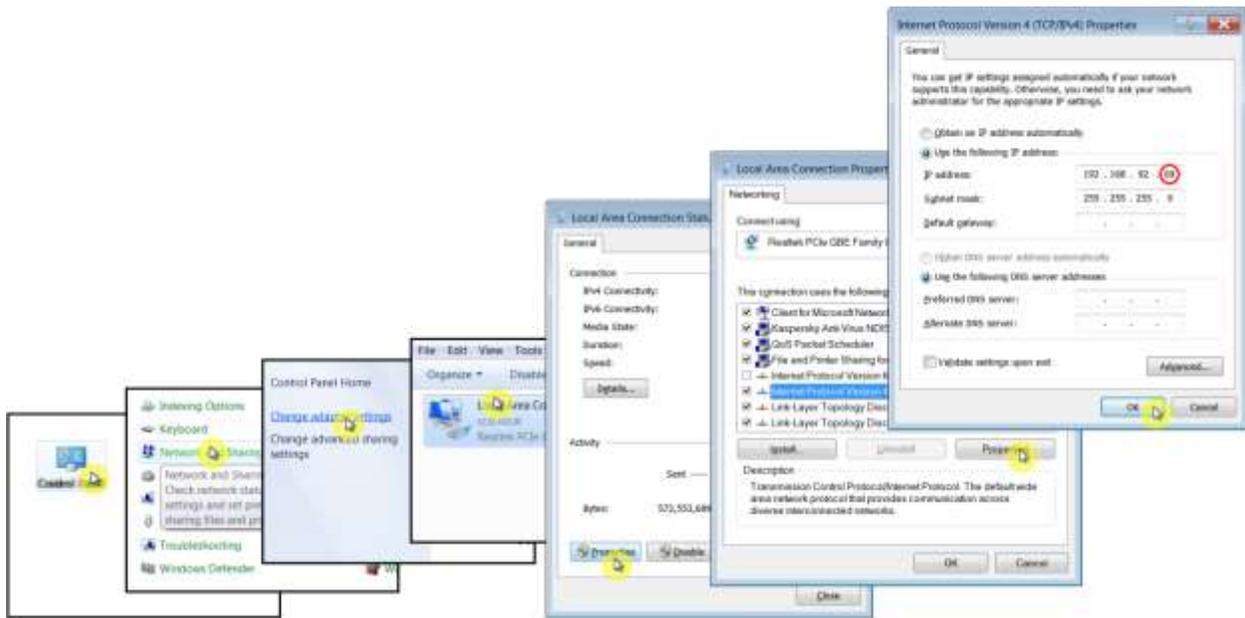
Figure 4 — Changing the IP Address of the Computer Used for Setup

The example in Figure 4 suggests an IP address for the computer of 192.168.92.**69**, but the final quad of the address could be any value from 1 to 255 — except for **68** which is used in the AI-SRVR's default IP address. After the IP address of the computer has been set to a value placing it in the same subnet as the AI-SRVR, the computer can access the AI-SRVR via the unit's default IP address using either a web browser or a Telnet session. However, web browser access allows only monitoring — configuration can only be done via Telnet or through the console port.

4.1.4.5 Web Browser Access (Read Only)

Although the AI-SRVR must be configured via either its console port (Section 4.1.4.2) or via a Telnet session (Section 4.1.4.3), statistics can be **monitored** by a web browser run from any Internet-capable computer. The AI-SRVR is factory-programmed with a default IP address of 192.168.92.68 and a Class C subnet mask of 255.255.255.0. **Changing the IP address is strongly encouraged.** A sample statistics page appears in Figure 5.
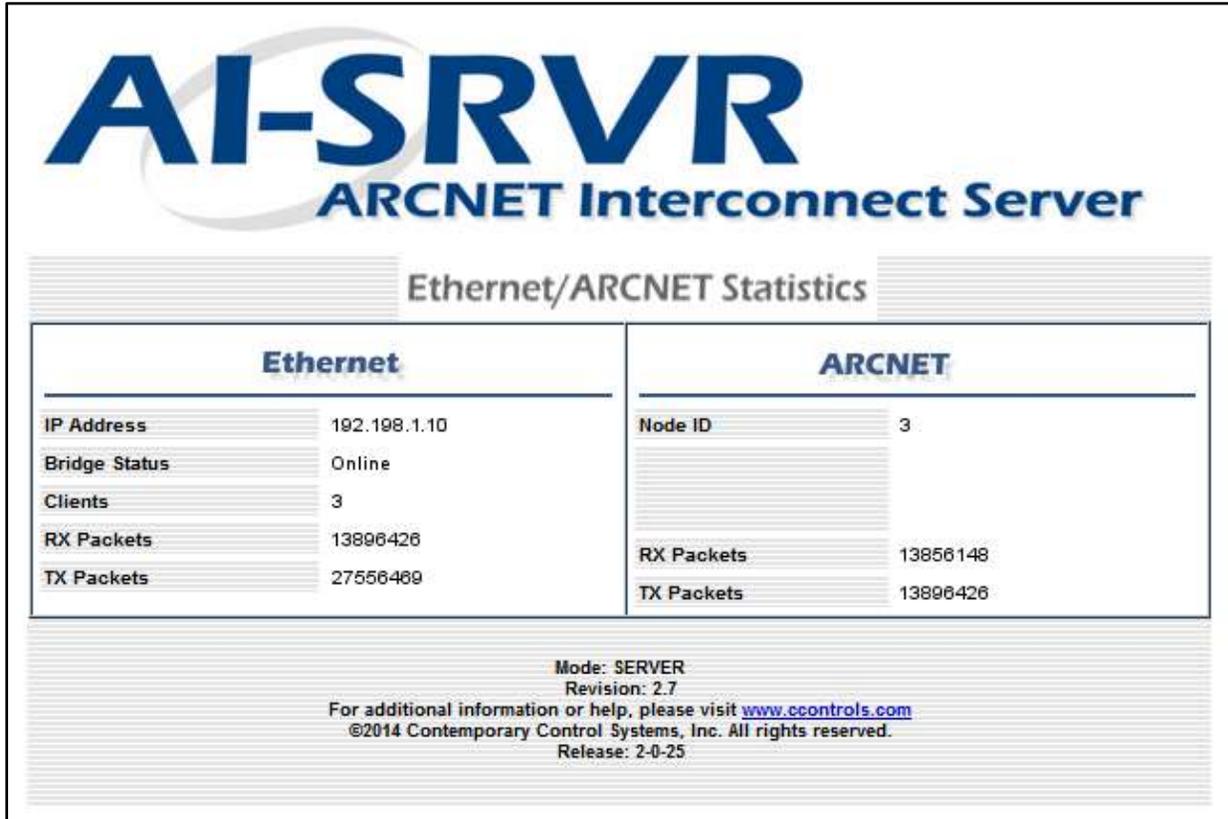
Figure 5 — The AI-SRVR Statistics Web Page

4.2 AI-SRVR Function

4.2.1 AI-SRVR Statistics Screen (Read Only)

When the AI-SRVR Function is initially invoked, the default **AI-SRVR Statistics** screen of Figure 6 appears — presenting information in 8 data fields.

```
              Contemporary Control Systems, Inc.
                      AI-Server Statistics
                         Revision 2.7

        ETHERNET                              ARCNET

    IP Address 192.168.92.68           Node ID 1
       Clients 1
    RX Packets 0                    RX Packets 0
    TX Packets 0                    TX Packets 0
 Server Status ONLINE


  Press R to refresh the screen
  Press S for Setup Screen
  Press C to Reset Counters
```
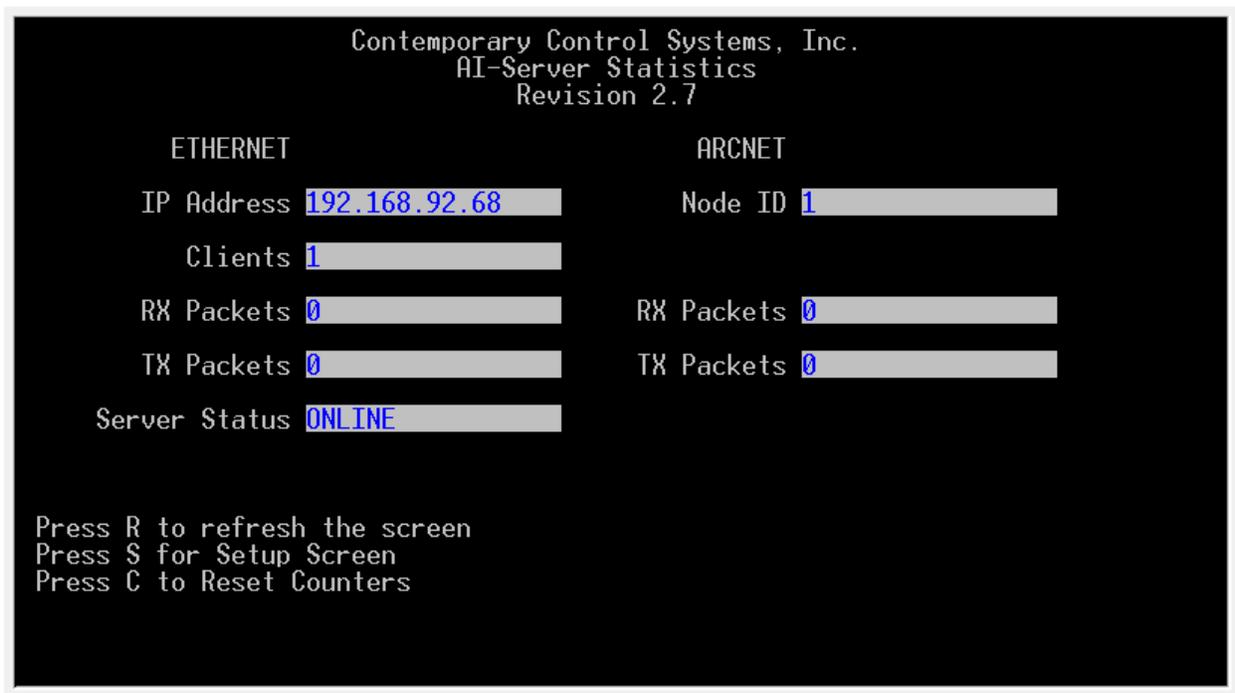
Figure 6 — AI-SRVR Statistics Screen (Read Only)

On the left side of the screen, 5 *ETHERNET* fields are reported**:**

IP Address   reports the currently assigned IP Address of the AI-SRVR.

Clients   lists how many Ethernet clients are connected to the AI-SRVR. Accessing the unit by web browser temporarily increases this count by one.

RX Packets   counts the number of Ethernet packets received by the AI-SRVR.

TX Packets   counts the number of Ethernet packets transmitted by the AI-SRVR.

Server Status   identifies the AI-SRVR status. If the AI-SRVR software is running the unit *should* be *ONLINE*, otherwise the software is inactive. This could occur during Telnet access if *config-srvr* is run while AI-PROXY is active. Executing *config-proxy* would then confirm that AI-PROXY is *ONLINE*.

On the right side of the screen, 3 *ARCNET* values are reported**:**

Node ID   reports the currently assigned ARCNET node ID of the AI-SRVR.

RX Packets   counts the number of ARCNET packets received by the AI-SRVR.

TX Packets   counts the number of ARCNET packets transmitted by the AI-SRVR.

The screen of Figure 6 offers three *case-insensitive* options**:**

R forces an immediate refresh of the screen. Otherwise, the screen refreshes itself *automatically* every 10 seconds.

S opens the Setup Screen for configuration (Section 4.2.2).

C resets all 4 packet counters.

4.2.2 AI-SRVR Configuration

By pressing "S" from the **AI-SRVR Statistics Screen**, the default **AI-SRVR Configuration Screen** of Figure 7 appears to allow control of 16 parameters. All fields in the left column (except **Node ID**) are modified by *pressing the space bar*.   These are**:**

Function should be toggled to the desired mode: *SERVER* or *PROXY*.

Boot Protocol is *NONE* by default, but can be toggled to *DHCP*.

Hostname *AI-SERVER* by default, it can be 32 alpha-numeric or hyphen characters.

Node ID is *1* by default, but a value from *1–255* can be **entered**.

Speed is *2.5Mbs* by default, but can be set from *156kbs* to *10Mbs*. The *7.5Mbs* option is the undocumented "reserved" speed of the COM20022 — but it is not recommended for use.

Ext Timeout is *STD* by default, but can be set to *16X*, *8X* or *4X*.

Recon Timeout is *STD* by default, but can be set to *64Nodes*, *32Nodes* or *16Nodes*.

Receive All (promiscuous mode) is *ON* by default, but can be toggled to *OFF*.


```
NETWORK                    +---------------When DHCP Not Used---------------+
                           ;                                                ;
        Function SERVER    IP Addr 192.168.92.68    Gateway 0.0.0.0
Boot Protocol none         Netmask 255.255.255.0    DNS #1 0.0.0.0
        Hostname AI-SERVER                          DNS #2 0.0.0.0
BRIDGE
         Node ID 1         Rx Broadcast Enable       Keepalive Time 30
           Speed 2.5Mbs      Tx Enable Enable     Keepalive Interval 10
     Ext Timeout STD         FIFO Depth 5            Keepalive Probes 3
   Recon Timeout STD           TCP Port 5001              TCP Retries 5
      Receive All OFF          UDP Port 5001          TCP FIN Timeout 30
File Controls:
CTRL-K,Q : Exit w/o Saving
CTRL-K,S : Save and Exit
CTRL-K,R : Save and Restart              OVERTYPE : OFF  CTRL-V Toggles
```

Figure 7 — AI-SRVR Configuration Screen

All fields in the centre and right columns of Figure 7 require numerical values**:**

IP Addr	is *192.168.92.68* by default. Defining a new address before placing the unit into service is highly recommended.
Netmask	is the subnet mask — *255.255.255.0* by default.
Gateway	is *192.168.92.1* by default. If your Ethernet LAN does not have a gateway, set this value to *0.0.0.0*.
DNS #1	is the IP address of the chosen Domain Name Server (if one is desired at all). It is *0.0.0.0* by default.
DNS #2	is *0.0.0.0* by default.
Netmask	is the subnet mask — *255.255.255.0* by default.
Rx Broadcast	is *Enable* by default, but can be toggled to *Disable*.
Tx Enable	is *Enable* by default, but can be toggled to *Disable*.
FIFO Depth	is *5* by default, but it can be set from *1 – 10*.
TCP Port	is *5001* by default, but can be *1025 – 65535*.
UDP Port	is *5001* by default, but can be *1025 – 65535*.
Keepalive Time	is *30* seconds by default, but can be *1 – 65535*.
Keepalive Interval	is *10* seconds by default, but can be *1 – 65535*.
Keepalive Probes	is *3* by default, but can be *1 – 65535*.
TCP Retries	is *5* by default, but can be *1 – 65535*.
TCP FIN Timeout	is *30* seconds by default, but can be *1 – 65535*.

EDITING IN FIELDS REQUIRING ENTERED VALUES: The default cursor position is in the **Function** field. Use the *Tab* key to advance from field to field. Within each field, use the *cursor arrow keys* to position the cursor and the *backspace* key to erase characters to the left of the cursor.

CTRL-V toggles the editing mode between the default *OVERTYPE: OFF* (characters are *inserted* as you type) and *OVERTYPE: ON* (characters are *replaced* as you type).

EXPLANATION OF EACH FIELD

For the **NETWORK** configuration at the top of the screen, first set the **Function** to either *SERVER* (if Ethernet clients are to access your ARCNET) or to *PROXY* (if you plan to set up an Ethernet backbone between nodes in separate ARCNET LANs).

The **Boot Protocol** is the next item to be configured. If the IP address is to be set via Dynamic Host Configuration Protocol, the *DHCP* option should be selected. When *DHCP* is in effect, the following 5 fields are ignored**:** **IP Addr**, **Netmask**, **Gateway***,
DNS #1 and **DNS #2**. If a fixed IP address is to be used, then *NONE* should be selected and the five fields listed in the previous sentence should be changed to values that are appropriate for your Ethernet network.

* **NOTE:** If AI-SRVR units connect to the network through routers, this is the address of the router through which access is gained to the rest of the network or to the Internet.

TD000200-0MC

Then, the **Hostname** field should be modified if desired.

Next, the **BRIDGE** fields should be configured.

The **Node ID** can be any value from *1* through *255* so long as the designated value is *unique* within the ARCNET network to which it belongs.

Speed can be set to *156kbs*, *312kbs*, *625kbs*, *1.25Mbs*, *2.5Mbs*, *7.5Mbs* or *10Mbs*. The *7.5Mbs* option is not recommended, but it is provided if a special need exists.

> * **NOTE:** The TB5 and CXB transceivers only support 2.5 Mbps. The 485X transceiver only supports 1.25 Mbps, 2.5 Mbps and 5 Mbps.

By default, the **Ext Timeout** (extended timeout) value of the AI-SRVR is set to *STD* (no extended timeout). If the physical size of the network is so great that extended timeouts are required, then the **Ext Timeout** value can be increased to *16X*, *8X* or *4X*. However, care must be exercised that all nodes within the ARCNET network are set to the same extended timeout value — or the network will suffer disruptions.

The COM20022 ARCNET controller within the AI-SRVR is capable of programmable reconfiguration timeout values. The **Recon Timeout** setting controls this parameter which is measured in node counts of 255 (*STD*), 64, 32 and 16 — allowing operation with shorter timeouts when the number of nodes permits it. However, care must be exercised in two respects**:** If *16Nodes* is selected, the network *must* include a device whose node ID is 255. And all nodes within the ARCNET network must operate at the same reconfiguration timeout value — or the network will suffer disruptions.

If you want the AI-SRVR to receive only those ARCNET packets destined for its unique node ID, set **Receive All** to *OFF*. Otherwise, set it to *ON*.

Rx Broadcast can be used to enable/disable the reception of Broadcast ARCNET messages (Destination Node ID 0).

Tx Enable can be used to enable/disable the transmit function of the COM20022 ARCNET controller chip. With the function disabled, the AI-SRVR does not participate in token passing — which can be useful to just monitor or receive packets and not appear as an active node of the network (if **Receive All** is set to *ON*).

The number of messages that can be stored in each node's mailbox is limited by the size of the onboard memory. Each mailbox constitutes a FIFO (first-in-first-out) type of register. Thus, when a mailbox message limit is exceeded, the first message that was stored in that mailbox will be lost to make room for the latest message. By default, the message limit of each mailbox (**FIFO Depth**) is *5*, but this parameter can be set to as low as *1* or as high as *10*. The user can manage memory usage by lowering this value to accommodate many mailboxes or raising it if only a few mailboxes are used.

The **TCP Port** number and the **UDP Port** number are each *5001* by default. Each of these can be set to a value in the range of 1025 – 65535. However, the only reason to change either of these values would be if they were in conflict with another application. Therefore, in almost all situations, these values should be left unchanged

Keepalive Time is the duration between two *keepalive* transmissions in idle condition.

Keepalive Interval is the duration between two successive *keepalive* retransmissions, if acknowledgement to the previous keepalive transmission is not received.

Keepalive Probes is the number of retransmissions to be carried out before declaring that the remote end is not available.

TCP Retries tells the kernel how many times to retry before killing an alive TCP connection.

TCP FIN Timeout tells the kernel how long to keep sockets in the state FIN-WAIT-2, if you were the one closing the socket. This is used if the other peer fails to close its side of the connection — perhaps because the other peer crashed.

You can exit the configuration screen using any of three **CTRL-K** codes. (These require pressing *CTRL* and *K* **simultaneously**, **releasing**, **then** pressing the final key)**:**

CTRL-K, Q allows you to exit without saving any changes made to the configuration. **NOTE:** Upon re-displaying the configuration screen, changes you have made will *still* appear on screen (and give the illusion of having been saved) as long as the equipment is not restarted — but these field values *have not been stored to EEPROM*.

CTRL-K, S allows you to exit and save your changes to EEPROM. However, your changes will not take effect until the AI-SRVR is restarted.

CTRL-K, R saves your changes to EEPROM and restarts the unit so changes will take effect once reboot completes (some 15 seconds on new units, 50 seconds on older ones).

NOTE: Mailbox content is held in RAM and *lost* during a restart or loss of power. Only the configuration settings are stored in EEPROM and are immune to power disruption.

4.3 AI-PROXY Function

The AI-SRVR offers a function called "AI-PROXY". This function allows an ARCNET node in one LAN to communicate with an ARCNET node in another LAN through an Ethernet backbone link that can be either wired or wireless. A communication path between two ARCNET networks requires two AI-SRVR units, each serving in one ARCNET LAN as a proxy for a remote node in the other LAN.

Each AI-SRVR-1 can act as proxy for *only one* node as shown in Figure 8. In the LAN on the left, the AI-SRVR-1 will be present as Node ID 2. On the right, the AI-SRVR-1 will represent a Node ID value of 1.
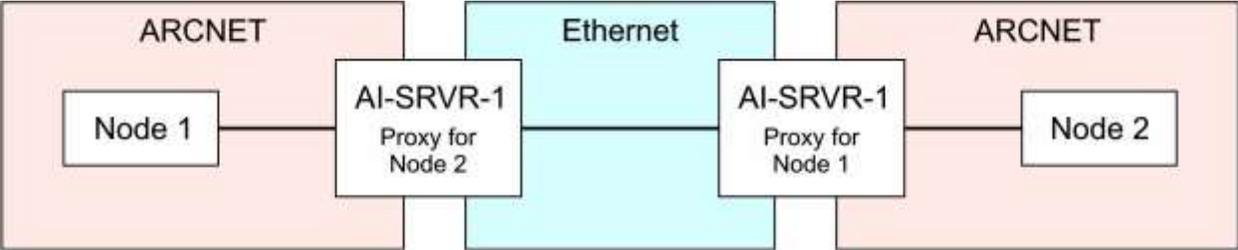
Figure 8 — Each AI-SRVR-1 Can Represent One Node

Each AI-SRVR-8 contains *eight* ARCNET controllers. Therefore, an AI-SRVR-8 can represent up to eight nodes as shown in Figure 9. The LAN on the left has sixteen nodes including nodes 9–16 contained (by proxy) within the AI-SRVR-8. The LAN on the right also has sixteen nodes — eight individual pieces of equipment and nodes 1–8 represented by the AI-SRVR-8. Multiple AI-SRVR-8 devices can be used when more than eight ARCNET nodes in an ARCNET LAN need representation.
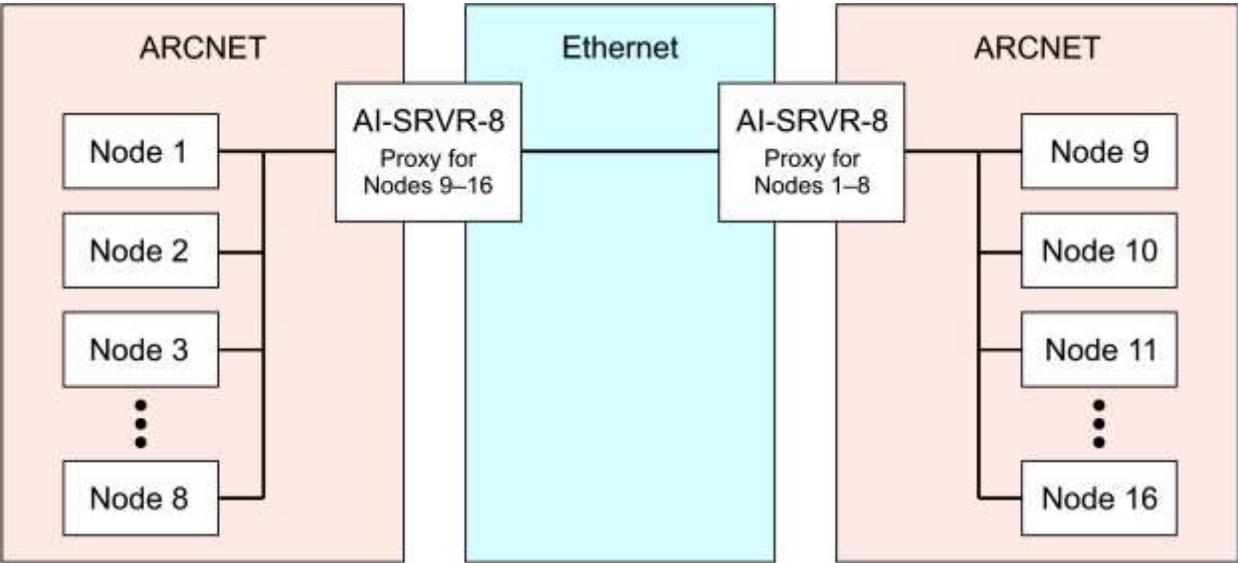
Figure 9 — Each AI-SRVR-8 Can Represent Eight Nodes

TD000200-0MC

The AI-SRVR-1 and the AI-SRVR-8 can be used together — for example, to add a remote ARCNET node to an eight-node ARCNET system as shown in Figure 10.
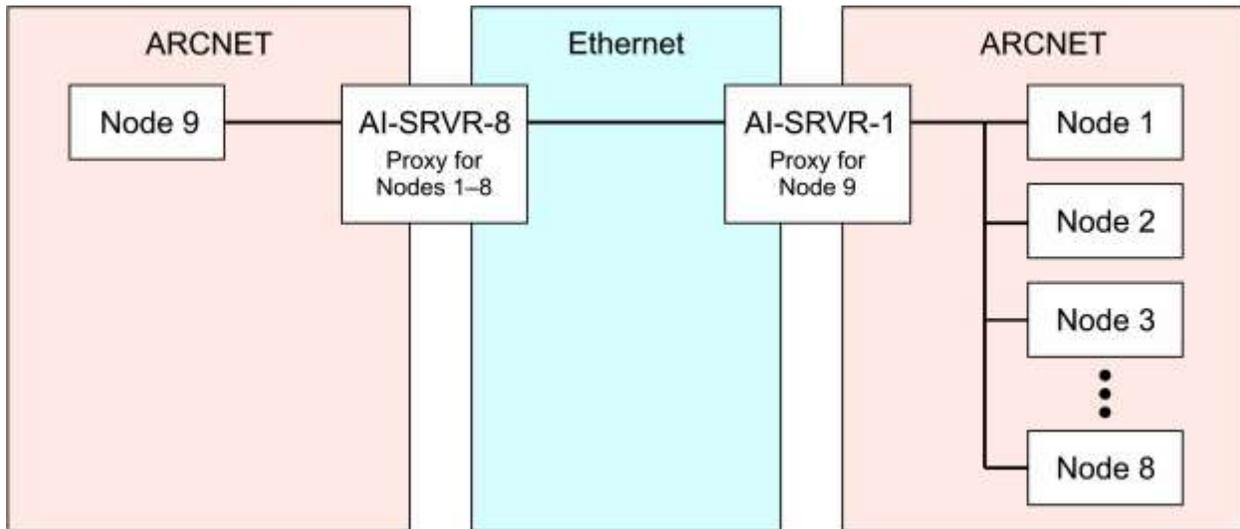
Figure 10 — AI-SRVR-1 and AI-SRVR-8 Can Work Together

The AI-PROXY concept requires each local proxy represent a node in the remote network by assuming the Node ID of the remote device being represented. The local proxy also has a **Connections** table for these two parameters of each remote proxy**:**

- *Node ID* being represented by the remote proxy
- *IP Address* of the remote proxy

Thus, each **Connections** table entry associates the local Source ID with the IP Address through which it is represented in the remote network.

Because a proxy could communicate with many other proxies (up to 255), its **Connections** table could be large. No matter how many proxies are involved, each local proxy must invariably represent a remote node whose ID *is not present in the local network* where the local proxy resides.

4.3.1 AI-PROXY Statistics Screen (Read Only)

A sample **AI-PROXY Statistics** screen appears in Figure 11. The 3 upper *ETHERNET* fields and the *ARCNET* **RX Packets** and **TX Packets** fields serve the same function as in the AI-SRVR — as do the **R**, **S** and **C** commands. However, the AI-PROXY screen differs from the AI-SRVR screen in the following ways**:**

The **PROXY Status** field replaces the **Server Status** field of the AI-SRVR. Whenever the AI-PROXY software is running, this field will report *ONLINE*.

The AI-PROXY does not have multiple Ethernet clients to maintain — so there is no **Clients** field in Figure 11.

The **Node ID List** field will list up to 8 node IDs being represented by AI-PROXY units.

The AI-PROXY will maintain a list of remote proxies with which it communicates and this list will appear in the **Connections** panel (blank by default). Each line in this panel will report the remote proxy's node ID and IP address (obtained via a self-discovery process using broadcast messages). If this list exceeds the size of the panel, scrolling can be accomplished by the action of two new commands**: N** scrolls down to the next entry (line) in the list and **B** scrolls back up.

Pressing the **Q** key, will terminate the AI-PROXY program. This option is not available when the user is connected to the AI-PROXY via the COM2 port because this port only allows program *monitoring* — it does not allow configuration or program control.
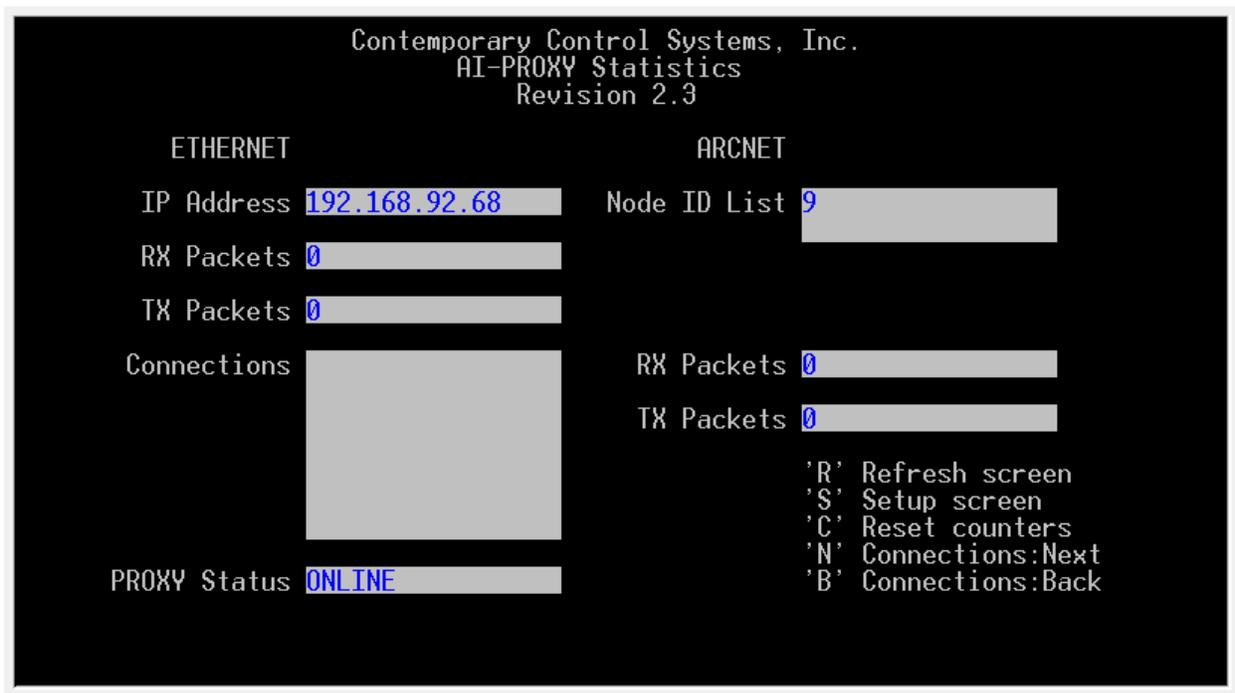
Figure 11 — AI-PROXY Statistics Screen (Read Only)

4.3.2 AI-PROXY Configuration

The AI-PROXY configuration screen differs from that of the AI-SRVR in that five fields have been deleted and two fields added. The default screen is that of Figure 12. The fields present in the AI-SRVR screen but missing from the AI-PROXY screen are**:**

Node ID	(Instead, the AI-PROXY uses the **Node ID List** field.)
Receive All	(Promiscuous mode is not used in the AI-PROXY.)
Tx Enable	(In Proxy mode, **Enable**.)
FIFO Depth	(Mailboxes are not used with AI-PROXY.)
UDP Port	(UDP protocol is not used with AI-PROXY.)
Keepalive Values	(In Proxy mode, these three values are unused.)
TCP Values	(In Proxy mode, default values are okay.)

The two new fields are described below**:**

Remote Proxy IPs — This field lists only the IP addresses (in the dotted-quad format) of AI-PROXY units that are **separated by a router**. Since a router blocks broadcast messages, such units cannot self-discover their IP addresses as is normally done within a common subnet. This field can accept up to 256 lines including **comment lines** that must begin with the pound symbol (#) and have no more than sixteen characters.

Node ID List — This field is used to enter the **decimal** value of each node ID being represented by this proxy device. After each value is typed in, press the 'Enter' key. If the proxy device is an AI-SRVR-8, up to eight values can be entered. When more than three values are entered, this field will scroll to accommodate another value. You can scroll this field with the up and down arrow keys.
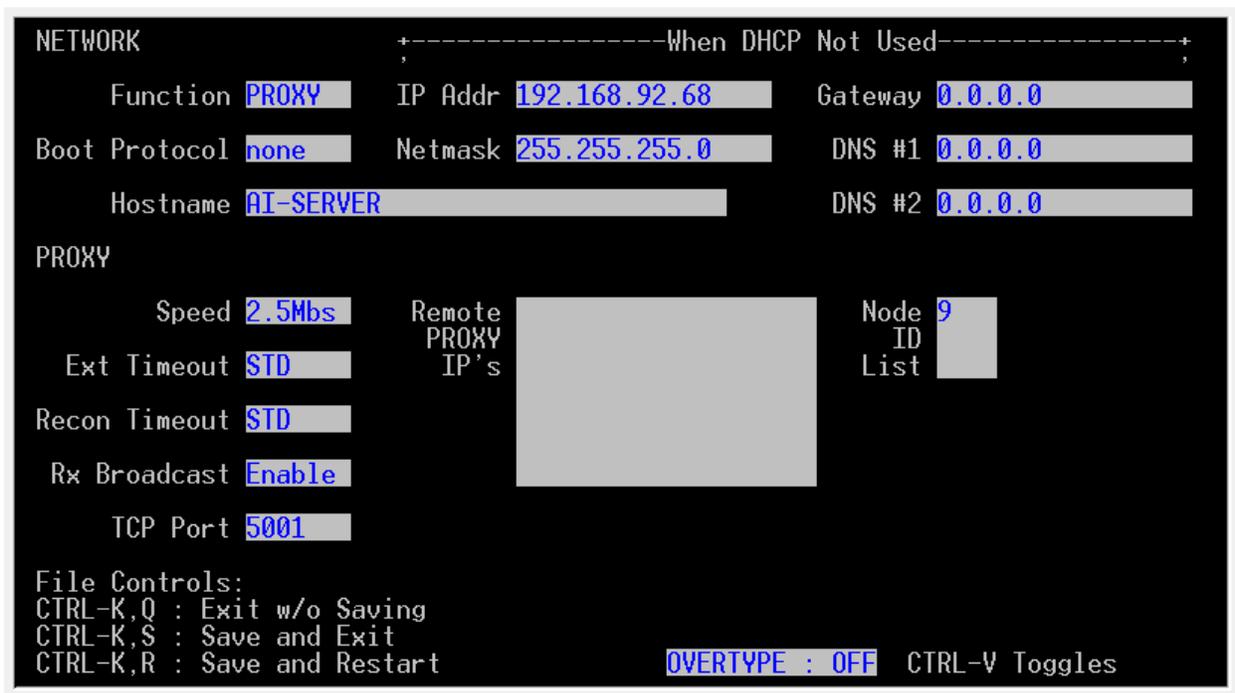
Figure 12 — AI-PROXY Default Configuration Screen

TD000200-0MC

19

EXAMPLE: Figure 13 shows how (using sample values) the fields of an AI-SRVR-8/CXB might be configured in AI-PROXY mode. Only those fields that have had their default values changed are discussed**:**

Boot Protocol	has been set to DHCP.
Hostname	has been set to AISRVRa2.
IP Addr	DHCP server has assigned 10.0.0.22 to this proxy unit.
Gateway	has been set to 10.0.0.1.
DNS #1	has been set to 159.50.0.1.
Remote Proxy IP's	has two entries for proxy units outside the local subnet.
Node ID List	has two values visible (of a list potentially as great as eight) of the node IDs being represented by this AI-SRVR-8/CXB.
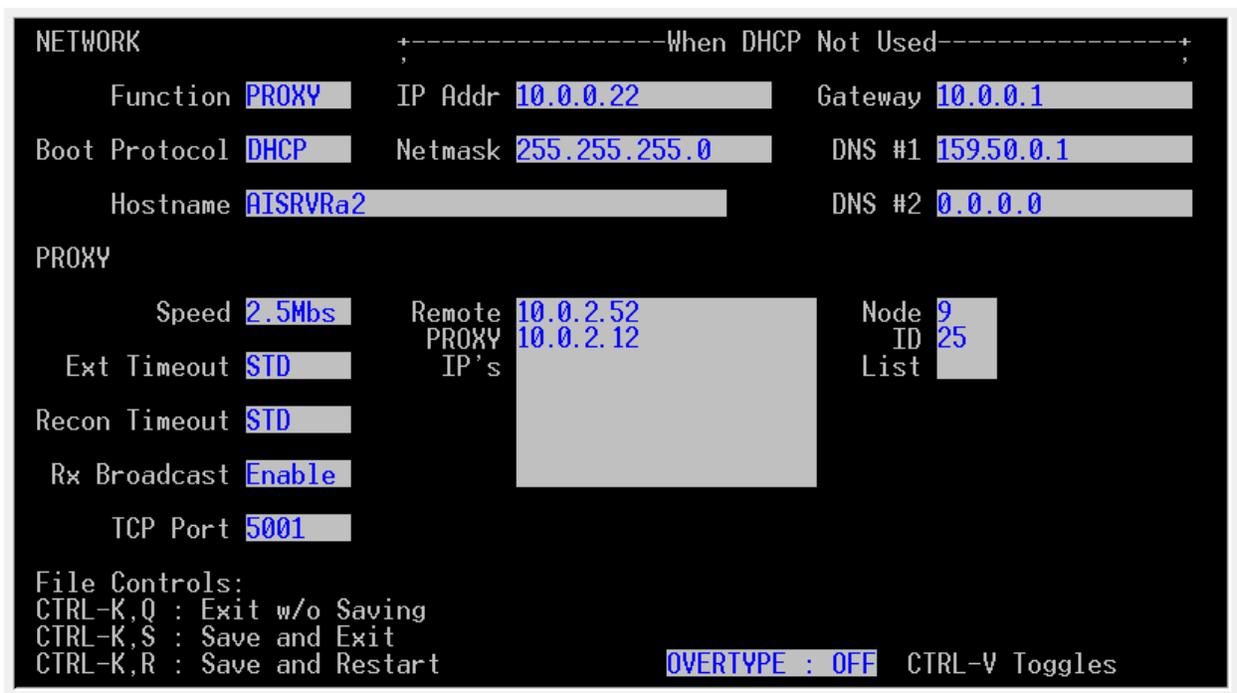
Figure 13 — Example AI-PROXY Configuration Screen