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NetCom Card Installation and Programming Guide

COMPUTER PROCESS CONTROLS

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1 Using the NetCom Card with Einstein

The CPC NetCom Card Ethernet Controller (P/N 370-4000) is a device that plays a key role in providing TCP/IP connectivity over Ethernet to devices that normally communicate over an RS-232 serial link. In the case of Einstein and UltraSite, this means that communications that normally occur over a direct serial or modem connection can be achieved over an existing LAN or WAN. For example, instead of dialing a phone number and making a connection to a remote Einstein system via a modem, UltraSite can simply request a remote socket connection over the network. Likewise, Einstein can use that same network to dial out alarms to UltraSite.

1.1. Working with the Network Administrator

Like other computers on the network to which it is attached, the NetCom Card is also a network node. Every network device uses a node address. Your network administrator is responsible for setting up all network devices with their node addresses. Without the cooperation of the network administrator, it would be impossible to make the NetCom Card function properly.

1.2. IP Address Specification

An IP address and subnet mask are denoted as a series of four decimal numbers separated with periods. Each number has a value between 0 and 255.

The following are ***examples*** of valid IP addresses and subnet masks. The actual numbers used as IP addresses must be determined by the network administrator.

IP Address	192.168.1.33
Subnet Mask	255.255.255.0
“Empty” IP Address	0.0.0.0

1.3. Network Considerations

Like any other node on the network, the NetCom Card must be assigned an IP address. For this reason, the network administrator input is required for the NetCom Card installation. Obtain the following information from the network administrator before configuring the NetCom Card.

- NetCom Card IP Address (required)
- Subnet mask (required)
- UltraSite PC IP Address (may not be required)
- Primary DNS IP address (may not be required)
- Secondary DNS IP address (may not be required)
- Primary gateway IP address (may not be required)
- Secondary gateway IP address (may not be required)

1.4. Ethernet Network Wiring and Wire Types

To connect the NetCom card to an existing Ethernet network, use the same standard Category 5 network cable used by the rest of the network. If the NetCom card is being wired as part of a brand new Ethernet network installation, consult your network administrator or IS technician for the proper wire type.

In either case, you will need to crimp an RJ45 connector to the end of the network cable segment that will connect to the NetCom card.

1.5. Installing the NetCom Card

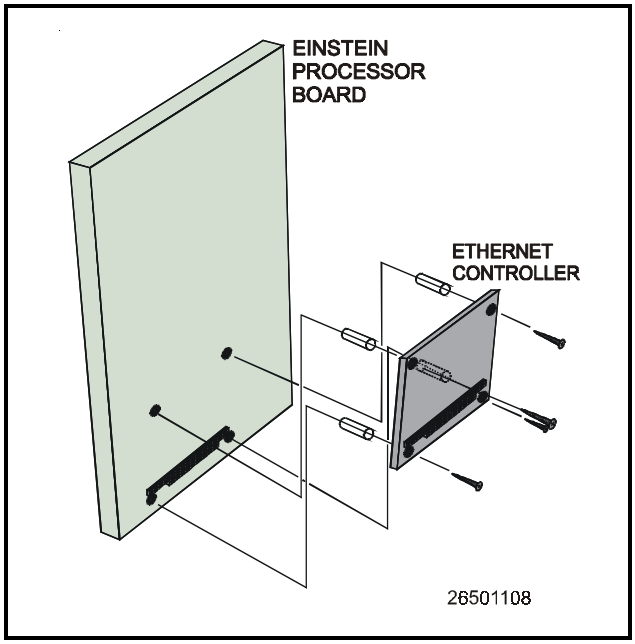


Figure 1-1 *- Mounting Detail*

1. Mount the NetCom Card on the Einstein circuit board by carefully aligning and pressing the pins down on the PC/104 jack (see ***Figure***

1-1). Install the plastic stand-offs in the approate holes on the circuit board and and fasten them the the NetCom Card.

As in the case of an internal modem, the NetCom Card will be connected to the Einstein that is designated as the site alarm annunciator (See **Section 1.6.**).

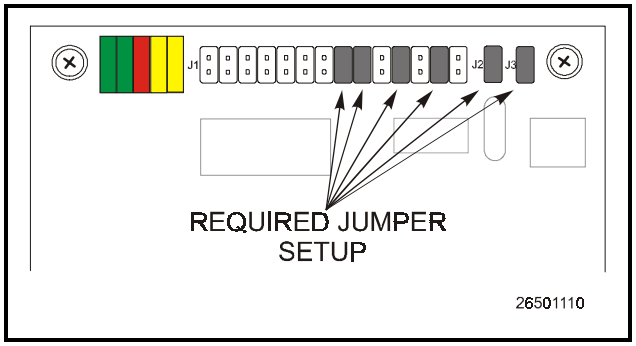


Figure 1-2 *- NetCom Card Jumper Setup*

2. Confirm that the jumpers on J1, J2 and J3 are in place according to ***Figure 1-2***.

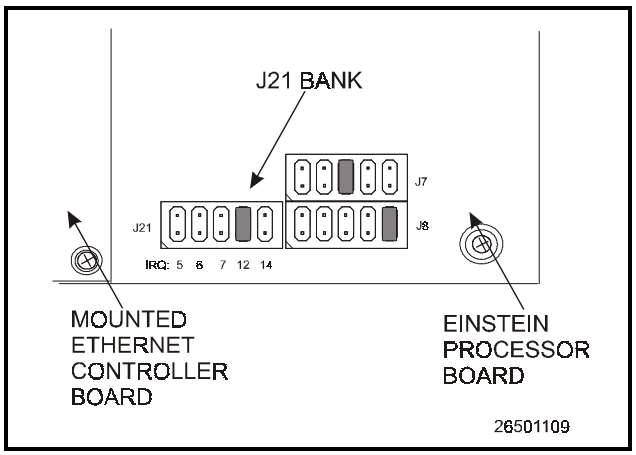
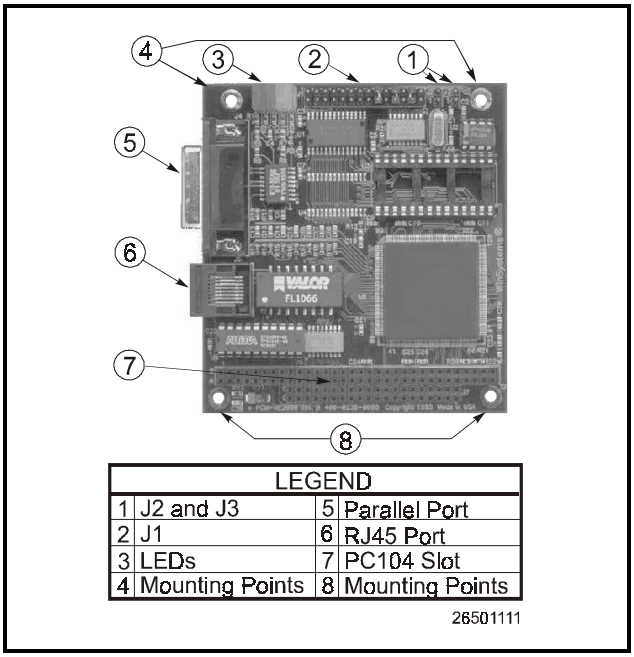


Figure 1-3 *- Einstein Jumper Setup*

3. Insure that the Einstein circuit board has a jumper in the correct position on J21. J21 is located in the bottom-right corner of the Einstein main processor board. See ***Figure 1-3***.

4. Connect one end of a twisted-pair Ethernet cable to the RJ45 connector on the NetCom Card (see ***Figure 1-4***). The other end of this cable is attached to equipment (hub or router) that provides connectivity to the LAN.



LEGEND			
1	J2 and J3	5	Parallel Port
2	J1	6	RJ45 Port
3	LEDs	7	PC104 Slot
4	Mounting Points	8	Mounting Points

26501111

Figure 1-4 *- NetCom Card Detail*

1.6. Configuring the Einstein

1.6.1. Alarm Annunciating

After all of the hardware setup and connections, including all of the jumper settings on the Einstein and the NetCom Card are made, you must designate your Einstein controller to annunciate alarms. If you are using more than one Einstein, designate the Einstein with the NetCom Card installed to be the alarm annunciator. Any other Einstein in the system will not be an annunciator.

1. Log on to Einstein.

2. Enable *Full Options* by selecting F8 , Q.

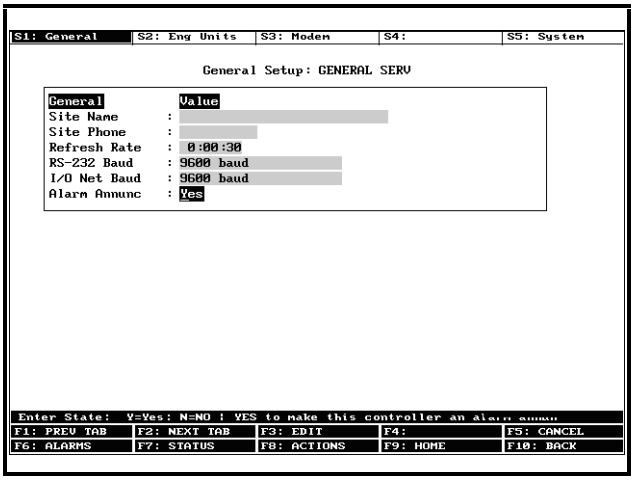


Figure 1-5 *- Enabling Alarm Annunciator*

3. Log into the Einstein and select F8 , Y and 1 to enter the General Controller Information. See ***Figure 1-5***.

4. Scroll down to the Alarm Annunciator field and type Y and press Enter.

1.6.2. Setting Up the IP Address

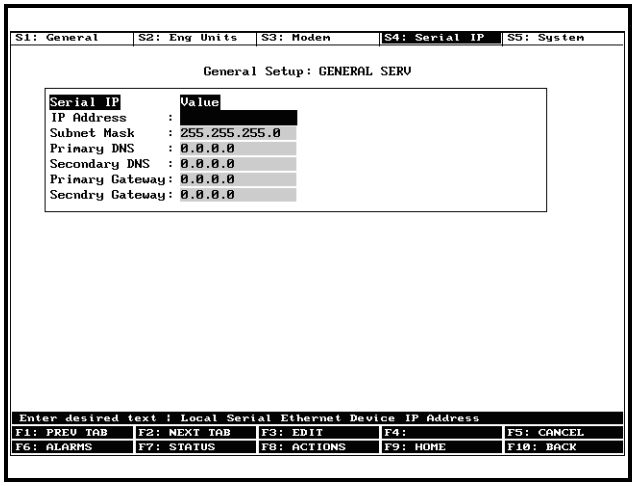


Figure 1-6 *- TCP/IP Screen*

5. Press F2 three times (or press Shift and F4 together) to reach the TCP/IP screen. See ***Figure 1-6***.

6. In the IP Address field, enter the IP address to be associated with the NetCom Card. The network administrator determines this IP address (not a host name). If this information is not entered, you cannot proceed. See **Section 1.1.,** *Working with the Network Administrator*.

7. Enter the subnet mask. Again, the network administrator provides this information.

8. The network administrator determines whether the remaining fields relating to DNS and Gateway are required. If not, ensure that addresses consisting of all zeros have been entered in the remaining fields like the following example:

   0.0.0.0

1.6.3. Setting up for Alarm Dialout

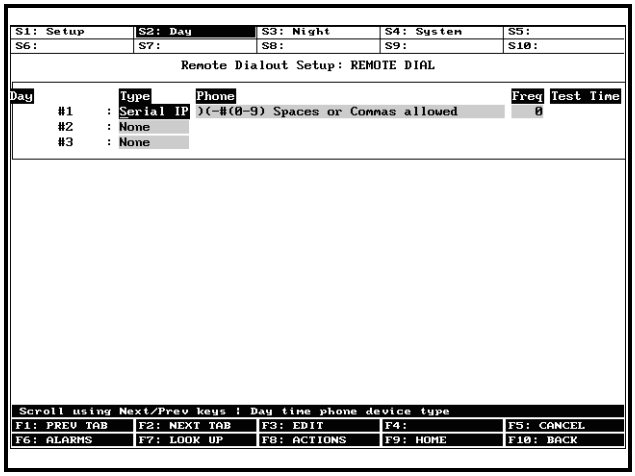


Figure 1-7 *- Alarm Dialout*

1. Log into the Einstein and select F8 , Y, and 5 to edit Alarm Status/Setup.

2. Select option 1, Dial-out Setup.

3. Go to the second configuration screen by pressing F2 .

4. Press F7 (LOOK UP) and select Internet (#5).

5. Press Enter twice and then arrow over to the phone field.

6. Clear out the Phone field and enter the address and port information of the UltraSite PC waiting for alarms.

The information must be of the form:

ppp.ppp.ppp.ppp:,

where ppp.ppp.ppp.ppp represents the IP address of the UltraSite PC.

For ***example***, if the UltraSite PC IP address were:

192.168.1.99,

you would enter 192.168.1.99: in the Phone field.

The remainder of alarm dialout works as before. As is the case with the modem, if UltraSite has initiated a connection to Einstein through the network, new alarms will not be dialed out over the network. This does not mean that UltraSite will not end up finding new alarms. Once UltraSite terminates the connection, the Einstein alarm dialout subsystem will reinitiate the connection and retransmit new alarms.

1.7. Configuring UltraSite

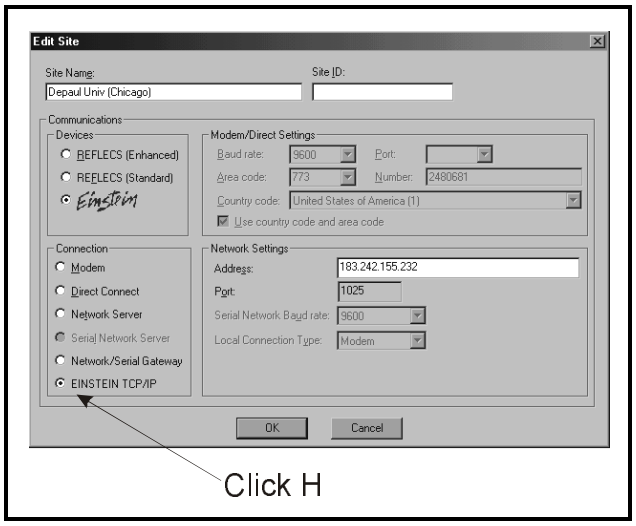


Figure 1-8 *- Edit Communications Window*

1. Select Edit Communications Information from the site pop-up menu to bring up the Configuration menu.
2. In the Connection control group, select the Einstein TCP/IP option.
3. In the Network Settings control group, the Address field will automatically have the IP address of the NetCom Card.
4. Click on OK.