

Specifications

Input Power Requirements

12VDC, 270mA. Powered by DPS15

Maximum Cable Lengths

ACU/ECU to NETCOM2— 22 AWG 5 conductor shielded maximum 100 feet /30 m

CIM to NETCOM2—22 AWG 5 conductor shielded maximum 49.2 ft/14.9 m @ 9600 baud

Network Communication

Existing LAN or WAN (TCP/IP protocol—port 3001)

Agency Approvals—Ethernet Socket

Complies with Class B limits of EN 55022: 1998 Direct & Indirect ESD.

Complies with EN55024: 1998

Dimensions

3.031" x 3.896" (77 mm x 99 mm)

Environmental

Suitable for industrial and commercial applications.

Operating temperatures: 5° C to 70° C (41° F to 158° F)

RJ45 Ethernet (Xport) LED States

The RJ45 Ethernet terminal has two bi-colour LEDs:

Link LED (left side)		Activity LED (right side)	
Amber – flashing	10 Mbps	Amber – flashing	Half-duplex
Green – flashing	100 Mbps	Green – flashing	Full-duplex

Address Settings

*IP Address:

*Subnet Mask:

Gateway:

**Ethernet Connection

Type:

* Required fields for device configuration with software

** If other than Automatic Negotiation



Keyscan Inc.

901 Burns St., E. Whitby, Ontario, Canada L1N 0E6

1.888.539.7226 (toll free Canada/USA)

905.430.7226 (elsewhere)

www.keyscan.ca

Technical Support

Hours – 9:00 A.M. to 6:30 P.M. Eastern Time

NETCOM2 Installation Guide (PC109x – 07.14)

NETCOM2 Installation Guide

This guide outlines how to install and program the NETCOM2 (serial to Ethernet converter). The NETCOM2 can be mounted inside the ACU/ECU enclosure.

Before You Start

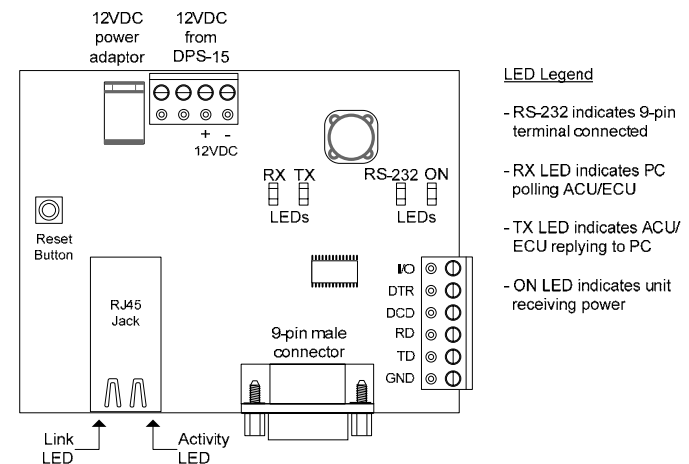
- Verify that you have all the parts as outlined below.
- Obtain a static IP address, Subnet Mask, and, if applicable, a Gateway from the network administrator for each NETCOM2. Space for recording addresses is provided at the back.
- Ensure that you install the latest Keyscan NETCOM Program Tool utility, which is on the enclosed CD, on a laptop or PC that can be serially connected to program the NETCOM2.

Important

The NETCOM2 involves 2 wiring procedures: temporary serial programming connections and permanent operation connections. Refer to the appropriate connection diagrams.

Contents		Parts List	
NETCOM Program Utility	2	NETCOM2	1
Installing the NETCOM	2	Serial Data Cable	1
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Figure 1 - NETCOM2 Circuit Board



KI-00245E-10-12

1) Keyscan NETCOM Program Tool Utility

Each NETCOM2 that you are installing must be programmed with the Keyscan NETCOM Program Tool utility which is on the enclosed CD. You will require a PC or laptop that has a direct serial connection to the NETCOM2 to program the device. To install the Keyscan NETCOM Program Tool utility, load the CD into the CD-ROM drive. The utility auto-starts. Follow the on-screen prompts.

Important

If you program the NETCOM2 with a previous version of the NETCOM Program Tool utility, you may experience technical difficulties. You will then have to re-program the NETCOM 2 following the procedures outlined in Manually Configure the NETCOM2 via a Serial Connection on page 10.

About the Reset Function

During the NETCOM2 programming procedures, you are prompted to reset the device, which is a soft re-boot. This is equivalent to a power cycle.

2) Install and Program the NETCOM2

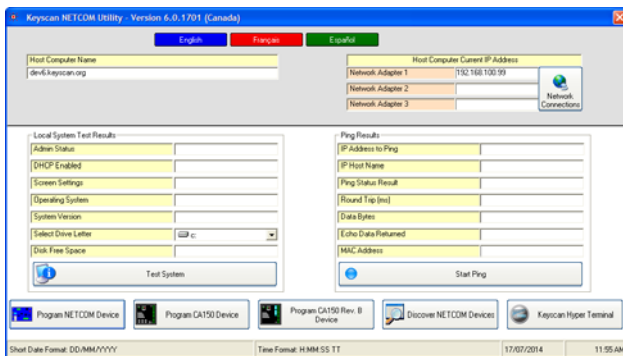
Follow the steps below to install and program the NETCOM2. Connection diagrams are on the succeeding pages of the guide as outlined:

- See Figure 2 or Figure 3 for temporary serial programming connections to the laptop/PC with the Keyscan NETCOM Program Tool utility.
- See Figure 4 to Figure 6 for permanent network connections.

Installation Steps

The NETCOM2 can only be programmed using a direct serial connection.

1. Mount the NETCOM2 in its designated location.
2. Connect the serial programming cable from the NETCOM2 to the laptop or PC as illustrated in the temporary serial programming connection diagrams.
3. Turn on the laptop or PC connected to the NETCOM2.
4. Connect the NETCOM2 to a power source.
5. Select start > All Programs and open the Keyscan NETCOM Program Tool from the Keyscan menu on the PC/laptop connected to the NETCOM2.
6. From the Keyscan NETCOM Utility screen, click Program NETCOM Device.



7. From the Select NETCOM Device Type screen, click on the Program NETCOM 2 Family of Boards button.

16 = 255.255.0.0
17 = 255.254.0.0
18 = 255.252.0.0
19 = 255.248.0.0
20 = 255.240.0.0
21 = 255.224.0.0
22 = 255.192.0.0
23 = 255.128.0.0
24 = 255.0.0.0

- Set DNS Server IP addr: Press the N key for no.
 - Change telnet config password: Press the N key for no.
9. After completing the Server parameters, press 1 for Channel 1 setup parameters and enter the following Keyscan values. Press the Enter key after each entry.

1 Channel 1 (Keyscan Values)

- Baudrate = 9600 (Must match ACU settings)
 - I/F Mode = 4C
 - Flow = 00
 - Port No. = 3001
 - ConnectMode = C0
 - Send '+++ ' in Modem Mode = N
 - Show IP addr after 'RING' = N
 - Remote IP Address = 000.000.000.000
 - Remote Port = 0
 - DisConnMode = 00
 - FlushMode = 80
 - Pack Cntrl = 01
 - DisConnTime = 15:00
 - SendChar 1 = 00
 - SendChar 2 = 00
10. After completing the Channel 1 parameters, Press 9 to save the configuration and restart the NETCOM2 unit.

Note

To exit without saving any changes, press 8.

Manually Configure the NETCOM2 via a Serial Connection

These procedures should only be performed in the event that the NETCOM Program Tool utility was used to program the NETCOM2 and the device is still failing to communicate.

If this condition does not apply to the NETCOM2, use the programming procedures outlined in the preceding sections of this installation guide.

These procedures are intended for advanced computer users only.

Important

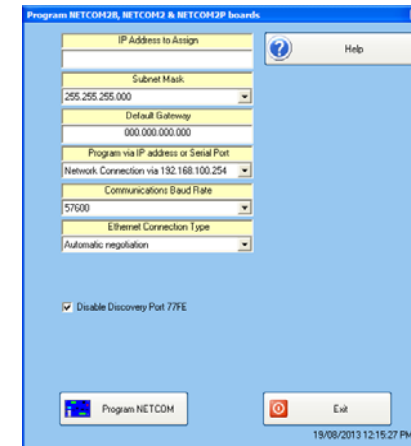
Keyscan recommends that you review the setup procedures before you actually perform them so you are familiar with the steps, some of which are intricate and require quick dexterity.

1. Refer to the Temporary Serial Programming Connection diagrams and with the serial data cable establish a connection to the PC laptop with the NETCOM Program Tool utility.
2. Open the NETCOM Program Tool utility and select the Keyscan Hyper Terminal Button.
3. Set the Comm Port Number if you are connected via a serial port other than communication port #1.
4. Leave the baud rate set on 9600. Click on the Open Port button.
 - If this fails, then you will have to re-open the session and try with the baud rate set at 57,600.
5. To enter Setup Mode, reset the NETCOM2, either by pushing the reset button or cycling the unit's power (power off and back on).
6. Within 1 second of the NETCOM2 reset, enter 3 lowercase x characters—xxx.
 - Tip—The easiest way to enter Setup Mode is to hold down the x key at the keyboard terminal while resetting the unit.
7. When the Setup Mode window opens, press the Enter key within 5 seconds to enter setup mode.
8. Once you reach the Change Setup: prompt, Press 0 for Server setup parameters and enter the following values for 0 Server (Keyscan values)

0 Server (User Defined Values)

- IP Address: Enter the User Static IP Address, and press the Enter key.
- Set Gateway IP Addr: Press the Y key for yes or the N key for no.
- If Y was selected in the previous step, then enter the Gateway IP address, and press the Enter key.
- Netmask: Specify the Netmask by entering its list number (the number on the left opposite the Netmask) and press the Enter key.
 - 3 = 255.255.255.248
 - 4 = 255.255.255.240
 - 5 = 255.255.255.224
 - 6 = 255.255.255.192
 - 7 = 255.255.255.128
 - 8 = 255.255.255.0 (Default)
 - 9 = 255.255.254.0
 - 10 = 255.255.252.0
 - 11 = 255.255.248.0
 - 12 = 255.255.240.0
 - 13 = 255.255.224.0
 - 14 = 255.255.192.0
 - 15 = 255.255.128.0

8. From the NETCOM Program NETCOM2B, NETCOM2 & NETCOM2P Boards screen, enter the IP address.

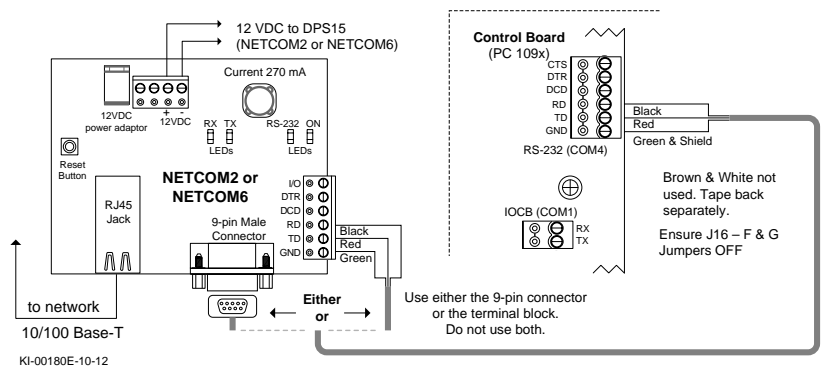
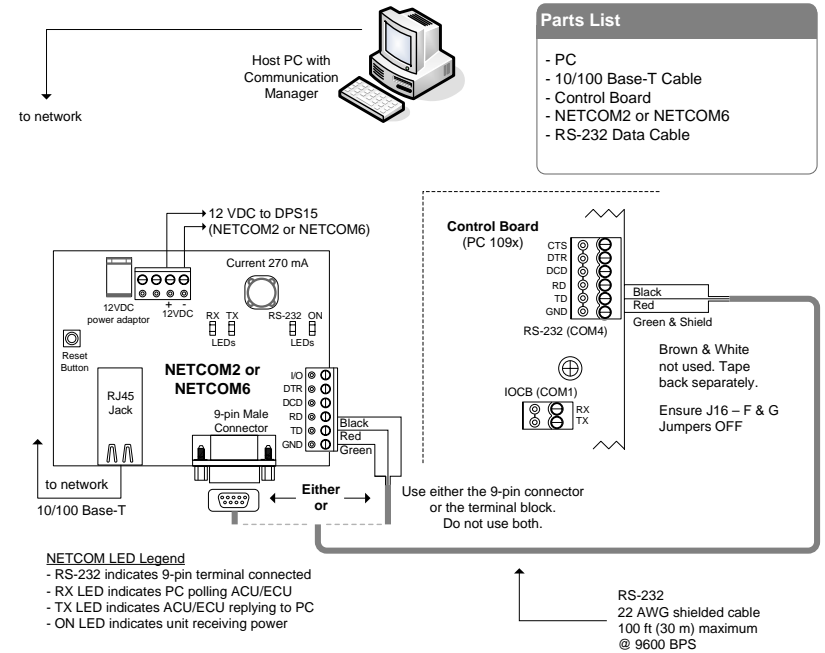


9. Enter the Subnet Mask by selecting an address from the drop down list.
10. For a gateway, optional, enter the number in the Default Gateway text box.
11. From Program via IP Address or Serial Port, select the port with the serial connection to the NETCOM2 to install the software utility.
12. Select the communication baud rate that corresponds to the ACU panels.
 - The recommended ACU bit/s (baud rate) is 57,600
13. Leave Ethernet Connection Type on Automatic Negotiation unless given a specific setting by the IT administrator.
 - If the NETCOM device experiences network communication difficulties, you may have to alter the Ethernet Connection Type from automatic negotiation. (The Ethernet Connection Type is the network speed & duplex setting). Set the NETCOM so it matches the network equipment setting. If the network equipment was on an automatic setting, then reconfigure both the network equipment, which may include routers or switches, and the NETCOM to a matching fixed speed and duplex setting. As an example, NETCOM = 100 Mbit/Half Duplex – Network equipment = 100Mbit/Half Duplex.
14. The Discovery Port 77FE setting is disabled by default. Keyscan recommends that you leave it on the default setting. This function is principally for troubleshooting communication difficulties.
15. Click on the Program NETCOM button.
16. The Program NETCOM2B, NETCOM2 & NETCOM2P Boards screen indicates it is waiting for a NETCOM reset or power cycle. Press the Reset button on the NETCOM2. Wait while the device is programmed.
 - If the NETCOM does not program on the 1st attempt, keep the NETCOM Program Settings screen open and press the F4 key. Click inside the box to the left of Program Server Address Settings Only so it has a check mark. Ensure the settings have been retained, including the IP Address, otherwise re-enter them. Click on the Program NETCOM button. If successful, program the NETCOM one more time. For additional programming tips, press the F1 key with the Keyscan NETCOM Program Settings screen open.
17. When prompted after the NETCOM2 has been programmed, disconnect the temporary serial cable from the NETCOM2, and click on the OK button of the ...please remove the serial connection... dialog box.
18. Press the reset button on the NETCOM2.

19. Connect a network cable from the RJ45 terminal on the NETCOM2 to a network terminal.
20. Click on the Exit button of the Program NETCOM NETCOM2B, NETCOM2 & NETCOM2P Boards screen.
21. If the PC/laptop has a network connection, verify network communication with the NETCOM2 by selecting the Start PING button on the Keyscan NETCOM Utility screen.
 - If the PC/laptop does not have a network connection, close the NETCOM Program Tool utility, complete any remaining connections for permanent operation, re-locate to a PC connected to the network and PING the NETCOM's IP address using the Command Prompt. The Average Round Trip Times should be less than 100 milliseconds and the Packets Sent should equal the Packets Received with 0% loss. Continue at step 24.
22. Wait for the PING Status result message:
 - IP Success indicates the NETCOM2 has network communication
 - IP Timed Out indicates the NETCOM2 does not have network communication—verify settings and connections
23. Click on the x in the upper right corner of the Keyscan NETCOM Utility screen to close the application.
24. Complete any other connections required for permanent NETCOM2 operation as outlined in the permanent operation diagrams.

Go to a PC with a Keyscan Client software module, log on, and complete the necessary hardware interface screens. To access the Client help, press the F1 key.

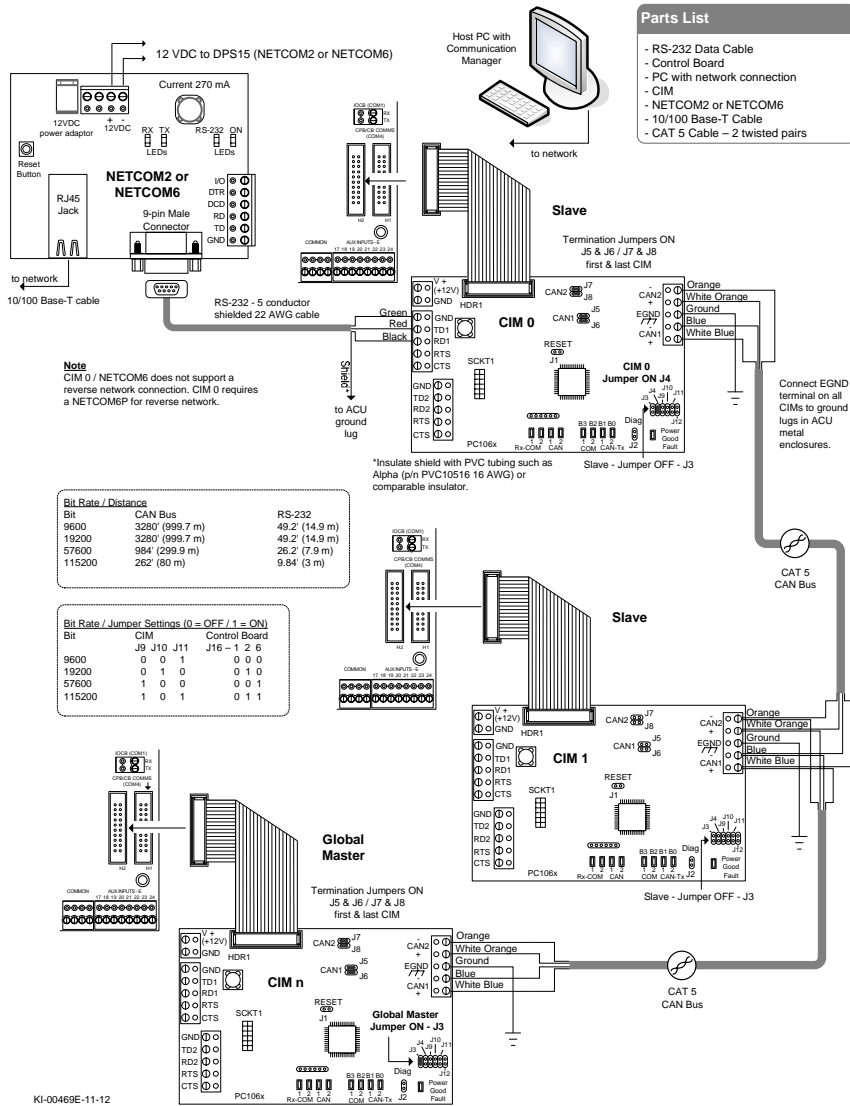
Figure 6 - Multiple NETCOM2s/ACUs (1 to 1)



If connecting to a PC1097 or higher control board, ensure S2.7 and S2.8 DIP switches are both off so the RS-232 terminal block is active.

If connecting to an ACU PC101x board or higher and the NETCOM2 is mounted outside the ACU enclosure, the shield must be insulated and connected directly to the ACU enclosure ground lug.

Figure 5 - NETCOM2 Connected to CIM 0 Communication Terminal

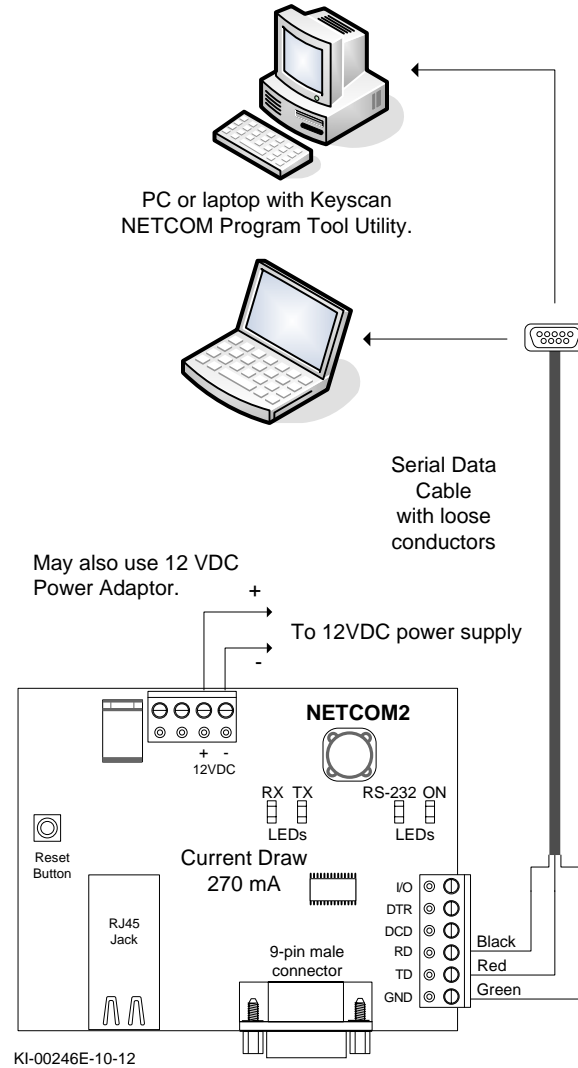


Temporary Serial Programming Connections

Figure 2 illustrates serial programming connections from the PC or laptop to the NETCOM2 using the enclosed serial data cables.

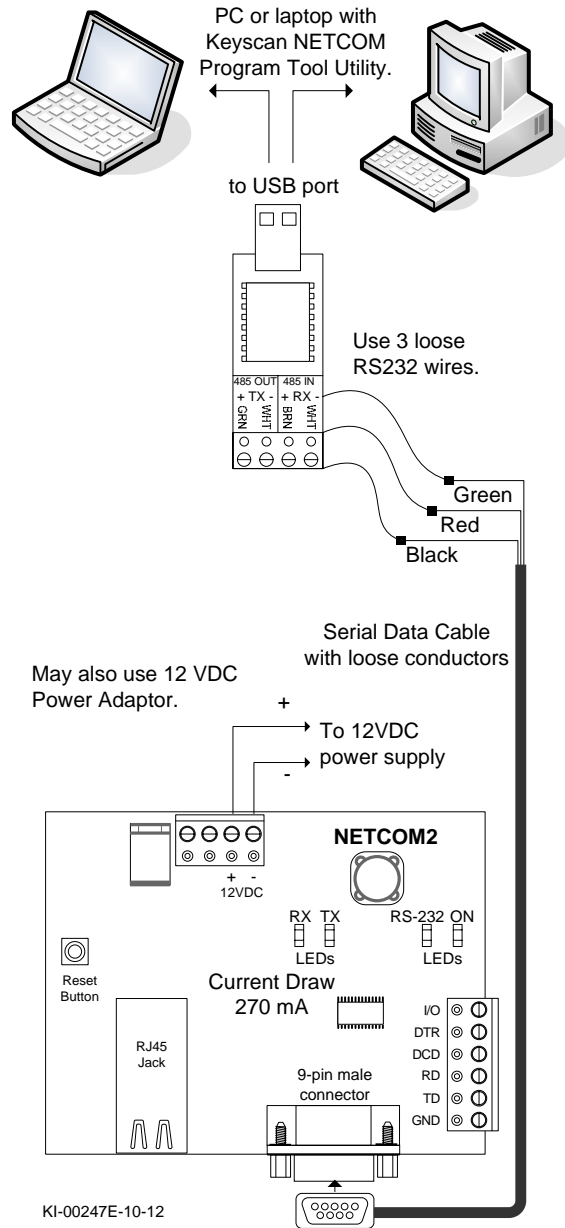
If the PC or laptop does not have a serial port, use Keyscan's optional USB Adaptor as shown in Figure 3.

Figure 2 – NETCOM2 Serial Programming Connections



Temporary connections for programming only.

Figure 3 – NETCOM2 Serial Programming Connections via USB Adaptor



Temporary connections for programming only.

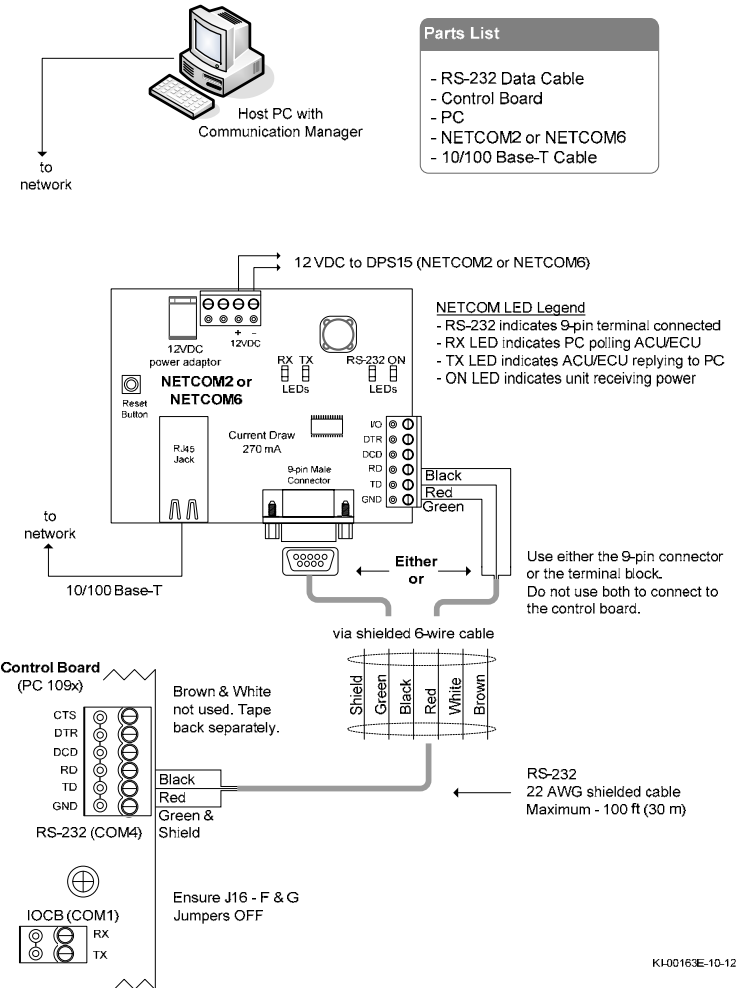
NETCOM2 Operational Connections

The following figures illustrate NETCOM2 operating connections. Refer to the appropriate diagram depending on your communication/system configuration.

Multiple Building Communication on a WAN

KeyScan requires a point-to-point private network where NETCOMs are used on a LAN/WAN (TCP/IP) that integrates building to building communication.

Figure 4 - NETCOM2 Connected to Control Board Communication Terminal



If connecting to a PC1097 or higher control board, ensure S2.7 and S2.8 DIP switches are both off so the RS-232 terminal block is active.

If connecting to an ACU PC101x board or higher and the NETCOM2 is mounted outside the ACU enclosure, the shield must be insulated and connected directly to the ACU enclosure ground lug.