CCN-to-Ethernet Converter Installation Instructions

Installation

The CCN-to-Ethernet Converter is a device designed to enable connection of a Carrier Comfort Network (CCN) to a ComfortWORKS 5.0 or greater computer over an Ethernet-based Local Area Network (LAN). The device can also be used in a bridge function to interface CCN Communication Buses in order to extend a CCN within a campus or building over their Ethernet LAN.

The module may be installed as a desktop unit or can be wall or panel mounted using the detachable mounting plate provided with the unit.

Wall or Panel Mounting the Converter

To mount the CCN-to-Ethernet Converter to a wall or panel do the following:

1. Attach the Converter to the factory provided mounting plate by removing the three Phillips-head screws that hold the cover on the module, align the three holes with the corresponding holes on the mounting plate and reinstall the three screws. See Figure 1.

2. Place the Converter in the desired mounting position and fasten using the four mounting screws provided with the unit.

Notes:

1. When wall or panel mounting the unit, do not attach the stick-on feet provided with the unit, which are intended for use when installing the unit on a desktop.
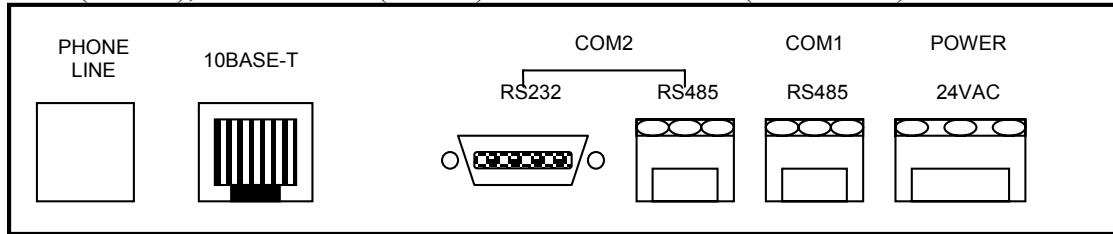
Figure 1
Wall or Panel Mounting
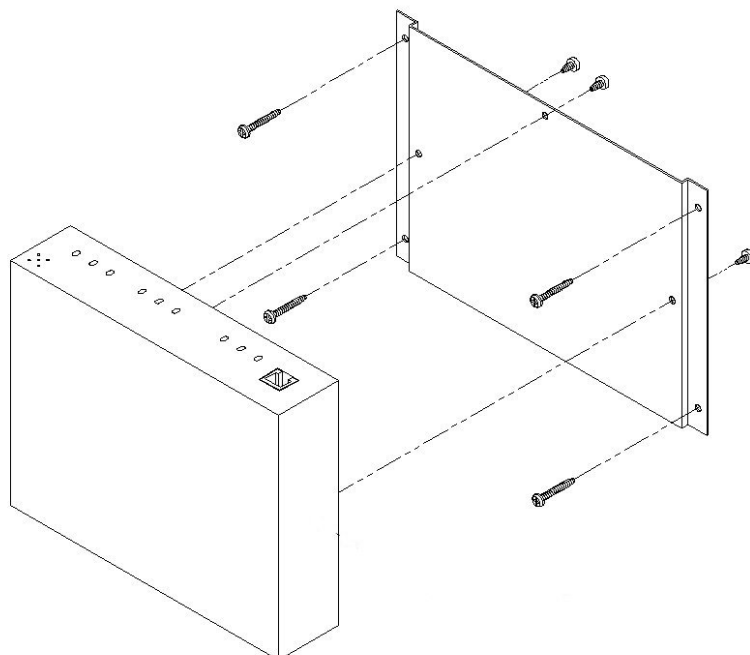
Connectors

Figure 2 indicates the connectors that are used to provide power to the CCN-to-Ethernet Converter, to connect to the CCN (COM1), Console Port (COM2) and to the Ethernet (10BASE-T).
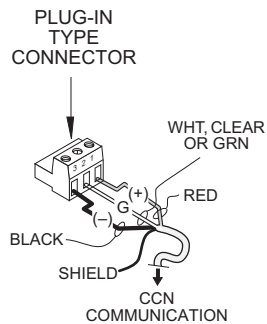
Figure 2
Connectors

Note: The phone line connector is not used on the CCN-to-Ethernet Converter.

Make the following connections to the module:

1. Connect the CCN Communication Bus to the factory supplied, three pin screw terminal-type CCN Bus connector (COM1). Consult the *CCN Installation and Start-up Manual* (808-211) for information concerning the wiring that must be provided for that purpose.
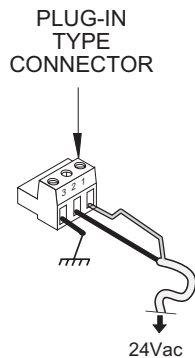
Figure 3
CCN Communication Connector

2. Connect a user supplied isolated 24 Vac, minimum 15VA, power source to the factory supplied three-pin screw terminal-type power connector. See Figure 3.

> **Note:** Do not power this unit from the same transformer used to power other devices. Equipment damage may result.

Figure 4
Power Connector

Note: To meet FCC regulations, Pin 3 must be connected to earth ground.

3. Connect to the Ethernet LAN using the RJ-45 connector (10BASE-T) provided on the Converter.

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Setup

In order for the CCN-to Ethernet Converter to function on the Ethernet you must first configure certain data contained in its Internet Protocol (IP_CONF) Configuration Table. This *must be* done through its CCN communications port (COM1) using ComfortWORKS, ComfortVIEW, Network Service Tool, or through its RS-232 port (COM2) using a dumb terminal or a PC running a terminal emulation program such as Windows® Hyperterminal. To access and configure this data using ComfortWORKS, ComfortVIEW or the Network Service Tool please refer to their respective manuals.

Accessing and inputting data to the CCN-to Ethernet Converter using a dumb terminal or a PC running a terminal emulation program is referred to as Console Port mode. Refer below to Console Port Operation and Commands for a list of the commands that you use in order to read and enter data using this mode.

Cable

The following cable will be required to connect between the RS-232 port (COM2) on the CCN-to-Ethernet Converter and the serial communications port of your PC. See Table 1 below for required pin-outs.

Table 1
PC to Ethernet Converter Cable (Serial Null Modem Cable)

9-pin female miniature D-sub style	9-pin female miniature D-sub style
Pin	Pin
1 and 6 ———————————	4
2 ———————————	3
3 ———————————	2
4 ———————————	1 and 6
5 ———————————	5
7 ———————————	8
8 ———————————	7

Cable Equivalent: Black Box # EYN257H-0006-FF

Port Settings

The following port settings are required for the dumb terminal (VT100) or terminal emulation program.

Bits per second = 9600   Flow Control = None (if using a serial null modem cable)
Data Bits   = 8
Parity   = none
Stop bits   = 1

Console Port Operation and Commands

Once the cable is connected between the terminal's or PC's communications port and COM2 on the CCN-to-Ethernet Converter, press the Return (or Enter) key. The terminal screen should display the prompt *Console Port >*.

The following describes the Console Port commands that you use in order to read and enter data in the CCN-to Ethernet Converter's Internet Protocol (IP_CONF) Table.

Commands may be entered in either upper or lower case and must be terminated by pressing the Return (or Enter) key. Upper case is used in this document for clarity. When entering data a space must be left between the command character and the data entered.

Note: When any decision's data is changed, you must power cycle the converter in order for the change to take effect.

Command	Function
?	Displays menu of commands and one line description for each. See sample screen display below.
	Commands:
	c - Display Current IP Configuration Settings
	a - a <xxx.xxx.xxx.xxx> Device IP Address
	m - m <xxx.xxx.xxx.xxx> Subnet Mask
	f - f <xxx.xxx.xxx.xxx> Default Gateway IP Address
	n - n <text> Host Name (up to 16 characters A-Z,a-z,0-9,-)
	d - d <1/0> DHCP Service (1 = Enabled or 0 = Disabled)

(continued)

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Command	Function
	t - t <G/B> Device Type (G = Gateway or B = Bridge) g - g <xxx.xxx.xxx.xxx> CCN/Ethernet Gateway IP Address l - l <1/0> Lock Out Configuration Table (1 = Yes or 0 = No)
C	Displays current configuration of IP_CONF Table
A	Displays the current IP address of the device
A *xxx.xxx.xxx.xxx*	Sets device IP address to *xxx.xxx.xxx.xxx* where *xxx* is a decimal number between 0 to 255.
M	Displays current value for Subnet Mask
M *xxx.xxx.xxx.xxx*	Sets Subnet Mask value to *xxx.xxx.xxx.xxx* where *xxx* is a decimal number ranging between 0 and 255. Valid entries are 0, 128, 192, 224, 240, 248, 252, 254 and 255
F	Displays configured IP address for Default Gateway
F *xxx.xxx.xxx.xxx*	Sets Default Gateway IP address to *xxx.xxx.xxx.xxx* where *xxx* is a decimal number between 0 to 255
N	Displays current Host Name
N *hostname*	Sets device where *hostname* consists of up to 16 alphanumeric characters. The first character must be a letter and no blank spaces can be used. Dashes may be used to separate characters. Characters may be upper or lower case.
D	Displays current configuration for DHCP Select
D 1	Sets DHCP Select to *Yes* **Note:** When set to Yes, the DHCP server must provide an infinite lease on the IP address.
D 0	Sets DHCP Select to *No*
T	Displays current device type - Gateway or Bridge
T G	Sets device type to Gateway - If the device is connected to the primary CCN Bus (0) then device type should be set to Gateway.
T B	Sets device type to Bridge - If the device is connected to a secondary CCN Bus then device type should be set to Bridge.

Command	Function
G	Displays configured IP address for the CCN-to Ethernet Gateway
G *xxx.xxx.xxx.xxx*	Sets CCN-to Ethernet Gateway IP address to *xxx.xxx.xxx.xxx* where *xxx* is a decimal number between 0 to 255
L	Displays whether IP Configuration Table is Locked or Unlocked. When Locked, the IP Configuration cannot be changed from CCN
L 1	Sets IP Configuration table to Locked
L 0	Sets IP Configuration table to Unlocked

Port Numbers

In a TCP/IP-based network such as a building LAN, certain ports are assigned to specific applications. A port number is used to link incoming data to an appropriate service. Port numbers that must be enabled at a firewall to allow access to CCN Converter data from outside a facility include:

- UDP Ports: 50005, 50006, 50007, 50008

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