

CN2510 Series Quick Installation Guide

Version 7.2, January 2021

Technical Support Contact Information
www.moxa.com/support

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P/N: 1802025001013



Overview

Welcome to the Moxa CN2510 Async Server, a communication server with 8/16 asynchronous RS-232 ports and 1 10/100 Mbps Ethernet LAN port. The CN2510 Async Server can be used to connect terminals, modems, printers, and other asynchronous serial devices to LAN hosts. The CN2510 complies with TCP/IP and IEEE 802.3 specifications using standard Ethernet 10/100BaseT and twisted pair 10/100BaseTX cable as the physical medium.

Package Checklist

CN2510 Async Server products are shipped with the following items:

- CN2510 Async Server
- AC power cord (only for the CN2510-8 and CN2510-16)
- RJ45 loopback tester
- Rackmount kit, including 2 brackets and 8 screws
- CBL-RJ45F9-150
- CBL-RJ45M25-150
- Quick installation guide (printed)
- Warranty card

Optional Accessories

- CBL-RJ45M9-150: 8-pin RJ45 to male DB9 cable, 150 cm
- CBL-RJ45F9-150: 8-pin RJ45 to female DB9 cable, 150 cm
- CBL-RJ45M25-150: 8-pin RJ45 to male DB25 cable, 150 cm
- CBL-RJ45F25-150: 8-pin RJ45 to female DB25 cable, 150 cm

NOTE: Please notify your Moxa sales representative if any of the above items are missing or damaged.

Hardware Introduction

Front Panel



| LED | Color | Description |
|-----------|--------|---|
| Reset | None | If you forget the password, use a pointed object, such as a straightened paper clip or toothpick, to press the reset button. The Ready LED will blink on and off while the factory default settings are being loaded. Once the Ready LED stops blinking (after about 5 seconds), release the reset button. You will hear a beep, which indicates that the default settings have been restored, and the CN2510 has rebooted. |
| Ready | Red | Power is on and the CN2510 is booting up. |
| Ready | Green | Power is on and the CN2510 is ready. |
| Serial Tx | Green | Serial port is transmitting data. |
| Serial Rx | Yellow | Serial port is receiving data. |

Rear Panel



| Connector | Function |
|---------------------|--|
| AC Power Input | Automatic detection of 100-240V, 47-63 Hz AC power supply (CN2510-8 and CN2510-16). Automatic detection of ± 48 VDC (38 to 72 VDC, -38 to -72 VDC) power supply (CN2510-8-48V and CN2510-16-48V) |
| Power On/Off Switch | I indicates power on, O indicates power off |
| RS-232 Console Port | One RJ45 connector for console terminal connection |
| LAN | Auto detecting 10/100 Mbps port |
| Serial Ports | 8 or 16 RJ45 connectors for DCE (modem) connections |

LCM Display

We recommend using the LCM display and four push buttons to configure the IP address for the first time.

Basic Operation:

If the CN2510 is working properly, the LCM panel will display a green color. The red Ready LED will also light up, indicating that the CN2510 is receiving power. After the red Ready LED turns to green, you will see a display similar to:

```
C N 2 5 1 0 - 1 6 _ 3
1 9 2 . 1 6 8 . 1 2 7 . 2 5 4
```

This is where:

- **CN2510-16** is the CN2510's name
- **3** is this CN2510's local sequence number
- **192.168.127.254** is the CN2510's IP address

There are four push buttons on CN2510's nameplate. Going from left to right, the buttons are:

| Button | Name | Action |
|--------|-------------|---|
| MENU | menu | activates the main menu, or returns to an upper level |
| ^ | up cursor | scrolls up through a list of items shown on the LCM panel's second line |
| v | down cursor | scrolls down through a list of items shown on the LCM panel's second line |
| SEL | select | selects the option listed on the LCM panel's second line |

As you move through the various functions and setting options, note that the top line shows the current menu or submenu name, and the bottom line shows the submenu name or menu item that is activated by pressing the SEL button.

Refer to the CN2510 Async Server User's Manual for more details.

Hardware Installation

1. Installing the CN2510

Place the CN2510 on a desktop, or attach it to a standard rack cabinet.

2. Wiring Requirements

- A. Use separate paths to route wiring for power and devices. If power wiring and device wiring paths must cross, make sure the wires are perpendicular at the intersection point.

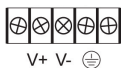
NOTE Do not run signal or communication wiring and power wiring in the same wire conduit. To avoid interference, wires with different signal characteristics should be routed separately.

- B. We strongly advise that you label wiring to all devices in the system.

3. Connecting the Power

AC: Connect the CN2510 100-240 VAC power line with its AC connector. If the power is properly connected, the "Ready" LED will show a solid red color until the system is ready, at which time the "Ready" LED will change to a green color.

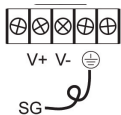
DC: Connect the CN2510-16/8-48V's power cord to the CN2510's DC connector, and then follow the steps given below:



1. Loosen the screws on the V+ and V- terminals of the CN2510-8/16-48V's terminal block.
2. Connect the power cord's 48 VDC wire to the terminal block's V+ terminal, and the power cord's DC Power Ground wire to the terminal block's V- terminal, and then tighten the terminal block screws. (Note: the CN2510-8/16-48V can still operate even if the DC 48V and DC Power Ground are reversed.)

If the power is properly connected, the "Ready" LED will show a solid red color until the system is ready, at which time the "Ready" LED will change to a green color.

Grounding CN2510-16/8-48V:



Grounding and wire routing helps limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screw to the grounding surface prior to connecting devices. The Shielded Ground (sometimes called Protected Ground) contact is the second contact from the right of the 5-pin power terminal block connector located on the rear panel of the CN2510-8/16-48V. Connect the SG wire to the Earth ground.

4. Connecting to the Network

Connect one end of the Ethernet cable to the CN2510's 10/100M Ethernet port and the other end of the cable to the Ethernet network. There are 2 LED indicators located on the top left and right corners of the Ethernet connector. If the cable is properly connected, the CN2510 will indicate a valid connection to the Ethernet in the following ways:



The top right corner LED indicator maintains a solid green color when the cable is properly connected to a 100 Mbps Ethernet network.



The top left corner LED indicator maintains a solid orange color when the cable is properly connected to a 10 Mbps Ethernet network.

5. Connecting to a Serial Device

Connect the serial data cable between the CN2510 and the serial device.

6. Connecting to a Console

A console is a combination of keyboard and monitor used to configure settings and monitor the status of your system. If you do not have a network environment, use a terminal, a PC running UNIX, or a PC with terminal emulation software (e.g., HyperTerminal in Windows; PComm by Moxa). Use an RJ45-to-DB25 or RJ45-to-DB9 cable to connect the terminal to the console socket. Refer to the CN2510 Async Server User's Manual for more details.

Software Installation

For the NPort's configuration, the default IP address of the NPort is: LAN: Static; IP = 192.168.127.254; netmask = 255.255.255.0.

NOTE If you have forgotten the NPort's IP address, use the Device Search Utility (DSU) from your PC to locate the NPort. After searching the LAN for NPort units, the DSU will display the IP address of each unit.

You may log in with the password **moxa** to change any setting to meet your network topology (e.g., IP address) or serial device (e.g., serial parameters). For first-time use, click the Wizard in the left navigation panel. The wizard will prompt you to configure the IP address, SSID, and security mode. For other settings, use the factory defaults or modify the settings for your application.

For software installation, download the relative utilities from Moxa's website:

https://www.moxa.com/support/support_home.aspx?isSearchShow=1

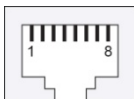
- Download the NPort Windows Driver Manager and install it as the driver to run with Real COM mode of the NPort Series.
- Execute NPort Windows Driver Manager; then map the virtual COM ports on your Windows platform.
- You may refer to Pin Assignment Async RS-232 port section to loop back pin 4 and pin 5 for the RS-232 interface to carry out a self test on the device.
- Use HyperTerminal or a similar program (you may download Moxa's program, called PComm Lite) to test whether the device is good or not.

Please refer to the CN2510 Async Server User's Manual for more details.

Pin Assignments and Cable Wiring

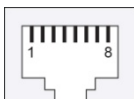
10/100BaseTX Port Pinouts

| Pin | Signal |
|-----|--------|
| 1 | Tx+ |
| 2 | Tx- |
| 3 | Rx+ |
| 6 | Rx- |



Async RS-232 Port and Console Port Pinouts

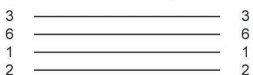
| Pin | RS-232 |
|-----|-----------|
| 1 | DSR (in) |
| 2 | RTS (out) |
| 3 | GND |
| 4 | TxD (out) |
| 5 | RxD (in) |
| 6 | DCD (in) |
| 7 | CTS (in) |
| 8 | DTR (out) |



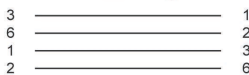
10/100BaseTX Cable Wiring



Cable Wiring



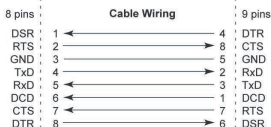
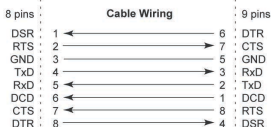
Cable Wiring



NOTE The following cables are optional accessories.

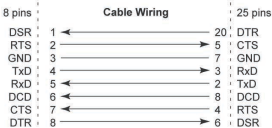
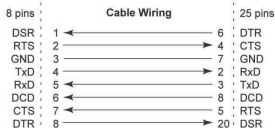
CBL-RJ45M9-150

CBL-RJ45F9-150



CBL-RJ45M25-150

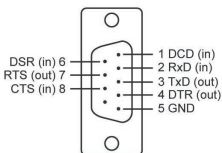
CBL-RJ45F25-150



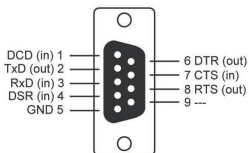
DB9 and DB25 connector pinouts:

The following figures illustrate standard connector pinouts. However, pinouts for serial devices differ from manufacturer to manufacturer. Refer to the serial device's user's manual for the exact pinouts of your device.

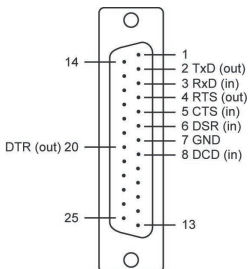
DB9 Male Connector



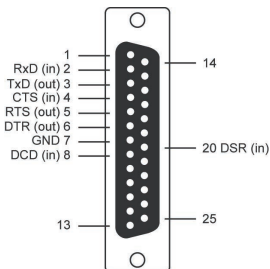
DB9 Female Connector



DB25 Male Connector



DB25 Female Connector



Environmental Specifications

| Power requirements | |
|------------------------|--|
| Power Input | 100 to 240 VAC, 47 to 63 Hz, or ±48 VDC |
| Power Consumption | |
| CN2510-8/16 | 125 mA @ 110 VAC |
| CN2510-8/16-48V | 180 mA @ 48 VDC |
| Operating temp. | 0 to 55°C (32 to 131°F) |
| Operating humidity | 5 to 95% RH |
| Dimensions (W×D×H) | 190 × 44.5 × 478 mm (including ears) 190 × 44.5 × 440 mm (without ears) |
| Serial line protection | 15 kV ESD for all signals |
| Magnetic isolation | 1.5 kV for Ethernet |
| Power line protection | 4 kV Burst (EFT), EN61000-4-4 2 kV Surge, EN61000-4-5 |
| Regulatory approvals | FCC Class A, CE Class A, UL, CUL, TÜV |