



# CN2510 Series

## Quick Installation Guide

Sixth Edition, August 2015

### 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
- Software and documentation CD-ROM
- 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.

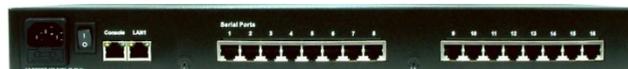
### Hardware Introduction

#### 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, 47-63Hz AC power supply (CN2510-8 and CN2510-16). Automatic detection of $\pm 48$ 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

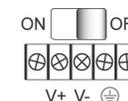
- Use separate paths to route wiring for power and devices. If power wiring and device wiring paths must cross, make sure the wires are perpendicular at the intersection point.
- NOTE:** Do not run signal or communication wiring and power wiring in the same wire conduit. To avoid interference, wires with different signal characteristics should be routed separately.
- 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:

- Loosen the screws on the V+ and V- terminals of the CN2510-8/16-48V's terminal block.
- 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.)

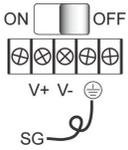


P/N: 1802025001010



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

### Entering the Console Utility

The Console Utility is the main application needed to set up the server/port configuration, and to execute utilities such as ping, diagnosis, monitor, and upgrade. There are two ways to enter the Console Utility. One is to use terminal emulation through a console terminal, and the other is to telnet from a network terminal.

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-



### 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)

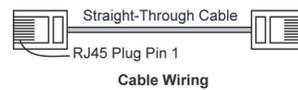


### Async RS-232 Port Pinouts

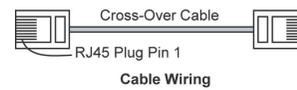
Pin	RS-232
1	DSR (in)
2	RTS (out)
3	GND
4	TxD (out)
5	RxD (in)
6	DCD (in)
7	CTS (in)
8	DTR (out)



### 10/100BaseTX Cable Wiring



Cable Wiring	
3	3
6	6
1	1
2	2

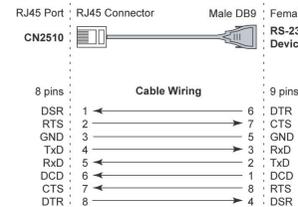


Cable Wiring	
3	1
6	2
1	3
2	6

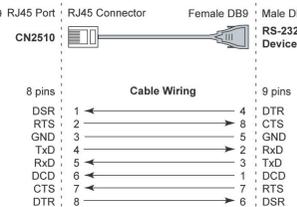
### Async RS-232 Cable Wiring:

Note: The following cables are optional accessories.

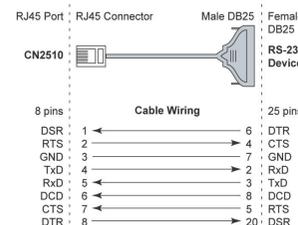
#### CBL-RJ45M9-150



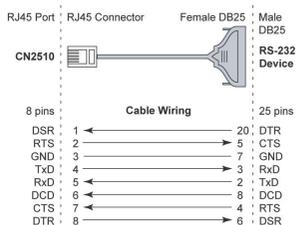
#### CBL-RJ45F9-150



#### CBL-RJ45M25-150



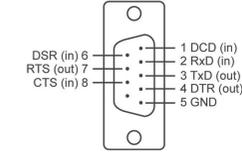
#### CBL-RJ45F25-150



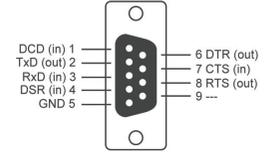
### DB9 and DB25 connector pinouts:

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.

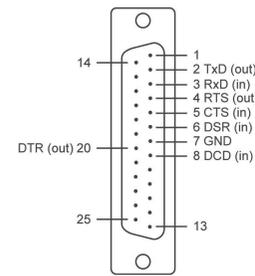
#### DB9 Male Connector



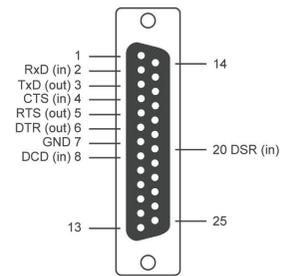
#### DB9 Female Connector



#### 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

CN2510-8/16 235 mA for 100 V, 145 mA for 240 V

CN2510-8/16-48V 250 mA (at 48 V max.)

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

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