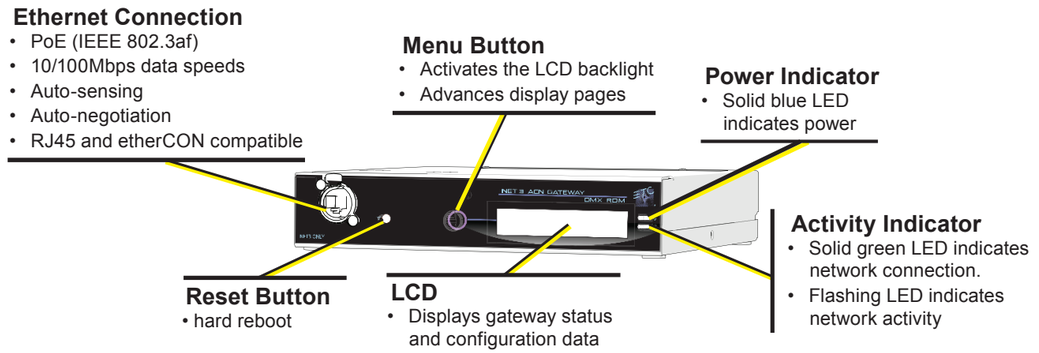
NET 3™

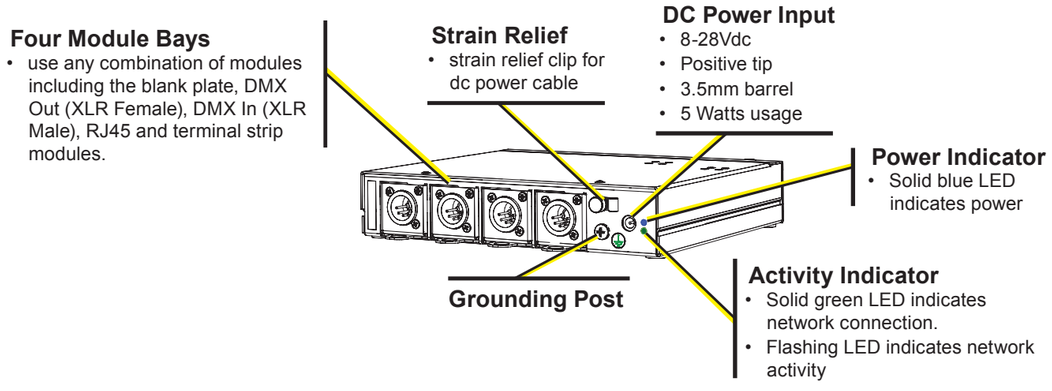
Four-Port Gateway Setup Guide

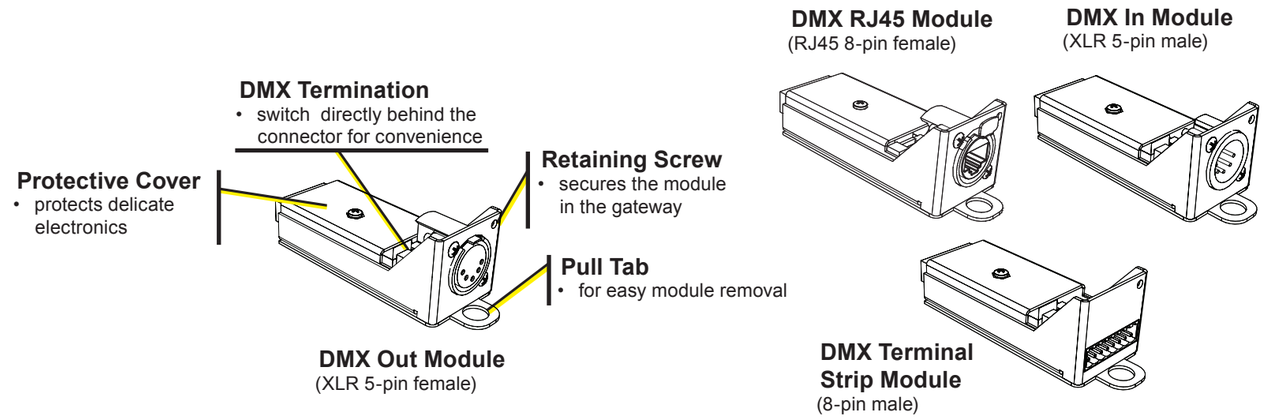
Overview

This Setup Guide will guide you through the setup of the Net3 Four-Port DMX/RDM gateway (version 5.x software and later) including hardware, electrical and data connections. Software configuration of your gateway is covered separately and relates specifically to the software versions that may be running in the gateways.

- For **Net3** configuration, please refer to the Gateway Configuration Editor (GCE) Online Help System.







DMX Gateway Modules

There are four different modules available for use in the Four-Port gateway: DMX Out (5-pin female), DMX In (5-pin male), RJ45 (8-pin female for input or output) and DMX Terminal Strip (8-pin Weidmuller for input or output).

- The terminal strip module comes with ETC's standard DMX termination preparation kit (part number 4100A012) which includes instructions and all parts required for installation. If you are connecting to Category 5 wire for DMX, request the DMX termination preparation kit with IDC connectors from ETC (part number 4100A1013).
- The DMX RJ45 module can use a standard Category 5 cable to transmit DMX512 to other devices utilizing the same connector.

NOTE: The DMX RJ45 module will not function as an Ethernet network port.

Any of these modules may be configured as DMX input or DMX output using configuration software. Additionally, there is a blanking plate for any unused module bay.

WARNING: RISK OF ELECTRIC SHOCK! Power must be removed from the gateway before removing any modules or covers to service the unit.

With power removed from the Gateway, you can move and swap DMX modules as needed for required configuration or replacement.

Help from ETC Technical Services

If you experience difficulty during setup or installation of the Net3 gateway, additional information is available from www.etcconnect.com, or by contacting ETC Technical Services at your local office listed on the bottom left side of this document.

DMX Basics and Pin-Outs

The Net3 Four-Port gateway sends and receives DMX512 control signals. This unit can contain up to four DMX ports in any combination using 5-pin DMX input connectors, 5-pin DMX output connectors, RJ45 connectors, or terminal strip connectors. DMX cables must be acceptable for DMX data transmission (not microphone cable) and connections should follow the standard pinouts per the charts below. The optional secondary data pair is not used by the Net3 Four-Port gateway.

DMX512 Pinout for 5-pin XLR Connectors

Female (output)	Pin#	Use	Male (input)
Push	1	Common (shield)	
	2	Data -	
	3	Data +	
	4	unused	
	5	unused	

DMX512 Pinout for RJ45 Connectors

Female	Pin#	Use	Wire Color
Push	1	Data 1 +	White/Orange
	2	Data 1 -	Orange
	3	not used	White/Green
	4	not used	Blue
	5	not used	White/Blue
	6	not used	Green
	7	Signal Common	White/Brown
	8	Signal Common	Brown

DMX512 Pinout for Terminal Strip Connector

Female	Pin#	Use	Wire Color
	1	Common (shield)	Clear/Shield
	2	Data -	Black
	3	Data +	Red
	4	unused	
	5	unused	
	6	unused	
	7	unused	
	8	unused	

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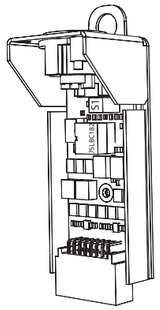
4260M2201 ■ Revision B ■ 2012-05 ■ ETC intends this document to be provided in its entirety.



DMX Termination

The DMX network supports up to 32 devices connected to each DMX line. Termination is required for all DMX networks and belongs at the source (beginning) of a DMX network line and at the last device physically connected in the line. A termination switch is located on each DMX module (yellow switch labeled Termination S1) to enable or disable DMX termination. This switch is factory defaulted to “On” for every module. The most common reason to disable termination is to support “touch and go” connections. “Touch and go” implies that you land DMX wiring on the input connector for the gateway and continue to another DMX device (daisy-chain). This practice is uncommon when using DMX gateways.

Replacing the DMX Transceiver Chip

Occasionally a DMX device can encounter an electrical surge that causes the DMX transceiver chip to fail. This DMX chip (mfg# 75LBC182 / ETC# Z1458-F) is located under the cover next to the termination switch. As needed, you can replace this DMX chip with another. It is best to remove this chip with an IC puller, if the tool is available to you.

RDM Basics

Net3 gateway software supports Remote Device Management (RDM) protocol. By default, RDM discovery is not enabled on Net3 gateways. To enable RDM on the Net3 Four-Port gateway, use ETC’s Net3 Gateway Configuration Editor (GCE) software. Please see the GCE online help files for more information on activating RDM on your Net3 gateways.

About RDM

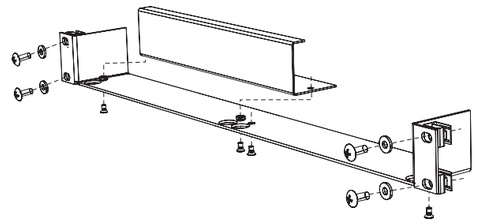
Remote Device Management (RDM) is a protocol enhancement to DMX512 that allows bidirectional communication between a lighting system controller and attached RDM-compliant responder devices over a standard DMX line. This protocol allows configuration, status monitoring, and management of these devices.

An RDM Controller is the device that initiates communication with one or more RDM Responder devices. Examples of responders are RDM-enabled edge devices such as color scrollers, dimmers, moving lights, and LED fixtures. RDM supports 32 RDM devices per-port, just like DMX. Compliant DMX512 and DMX512-A devices (non-RDM devices) are fully functional when RDM is present. RDM was developed by ESTA Technical Standards and can also be referenced as ANSI E1.20.

Optional Accessories

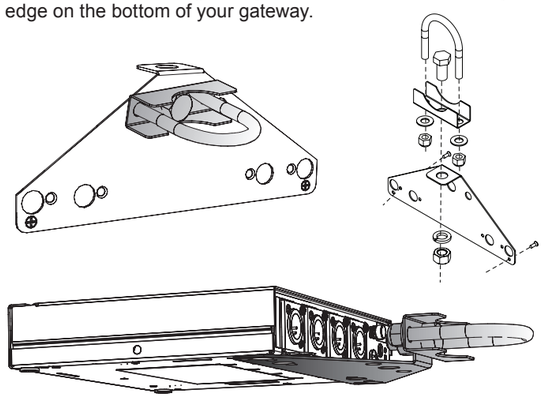
Rack Mount Kit (4260K1001)

The Net3 Gateway Rack Mount kit is capable of holding up to two Net3 Gateways for mounting into a standard 19” rack enclosure. If you only need to mount one unit, a blanking plate is provided with the kit. This blanking plate can be installed on either side of the rack mount bracket.



Hanging Hardware Kit (4260K1005)

The Net3 Hanging Hardware kit allows pipe mounting of a Net3 Gateway in a variety of orientations. You can vary the way the U-bolt (or c-clamp) attaches to the bracket and the way the bracket mounts to the gateway. The bracket attaches to any edge on the bottom of your gateway.

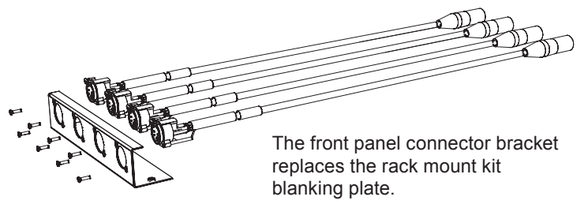


DMX Front Panel Kits

4260K1002 - DMX out / 4260K1003 - 2 DMX in / 2 DMX out

These kits provides front panel access to the DMX connectors on a Net3 Four-Port Gateway when installed in an equipment rack. You must use these kits in combination with one Net3 Four-Port gateway and a Rack Mount Kit (4260K1001), not included.

A connector blanking plate (4260A3013) is required to cover an unused connector opening when fewer than four DMX connectors are required on the front panel.



The front panel connector bracket replaces the rack mount kit blanking plate.

Power Up Using DC Power

When using an external power supply, the gateway must be connected to a network before being powered. Using PoE and dc power simultanously is not supported.

Menu Structure

The Net3 Four-Port gateway has only a one button interface. Pressing the **[Menu]** button repeatedly cycles through the menu, displaying mostly informational data. On certain menu items you are prompted to press and hold the **[Menu]** button for a period of five seconds to change a state or switch between operating modes. The Net3 menu structure is displayed below for your convenience.

Net3 v5.1.x Menu

My DMX Gateway
999→ ...← X DD

- DMX universe numbers up to 999 are displayed on the front panel. Universes that are higher than 999, or flexibly patched outputs, are indicated by “...” (you must go to the port screen to see full details).
- The unit displays either the “gateway name” or the “IP Address” as well as each port and its port status.
- Port Status includes:
  - -- arrow directed toward the number indicates an input (999←)
  - -- arrow directed away from the number indicates an output (999→)
  - -- an X indicates the universe port is disabled, no universe number is shown (X)
  - -- a dimmer doubled port displays only “DD” (you must go to the port screen to see full details)
  - -- when a port is set to download mode, “DNLD” displays.
  - -- AIP inputs are indicated as “AIP”
  - -- a port will blink on the display when it does not have DMX connected (input) or has no valid source data (outputs).

Port 1 Output
sACN 3/4:511

- displays the port priority mode (either “Output”, “Input Pri ***”, where *** indicates the port is set with per-address priority, or “Input Pri 100” (where 100 is the priority value for that port). Displays either “Input” or “Output”.
- displays the patch information formatted as “universe”, “universe/address”, “universe/address:length”, “universe:length” or “Custom (AIP)”.

Port 1 RDM Enabled
Discovery On #12

- displays the port RDM status (either “Enabled”, “Disabled”, or “Standby”). Can be enabled or disabled at the gateway only if the port is set to “Output” mode by holding the **[Menu]** button for 5 seconds.
- displays discovery status (either “Fast”, “On”, or “Off”).

Port 2 Input Pri*
Custom (AIP)

Port 2 RDM Disabled

Port 3 Input Pri 100
sACN 2:512

Port 3 RDM Disabled

Port 4 Output
sACN 1

Port 4 RDM Enabled
Discovery Off #0

Static IP Address
10.101.50.107

- displays either “Static” or “Dynamic” IP Address.
- displays the current IP address of the gateway.

IP Subnet Mask
255.255.0.0

- displays the current Subnet Mask of the gateway.

IP Gateway
10.101.50.101

- displays the current IP address for a network router (or the gateway’s own IP address).

TFTP Server
10.101.50.43

- displays the current Trivial File Transfer Protocol (TFTP) server IP address for the gateway. The TFTP server is typically an ETC console or computer running Gateway Configuration Editor (GCE) software.

ACN Gateway Version
3.0.0.0.0.40

- displays the version number of the software currently running on this device.

Hold button 5 sec to
Reset Dynamic IP

- if the IP mode is set in Gateway Configuration Editor (GCE) to Static, “Switch to Dynamic IP” displays. If the IP mode is Dynamic, “Reset Dynamic IP” displays. Resetting the Dynamic IP erases the current IP from memory and requests an IP from the DHCP address service after reboot.

Hold button 5 sec to
Download Software

- software is retrieved from the current TFTP update server .

Hold button 5 sec to
Restore Defaults

- restoring defaults will cause the gateway to reset all settings to the factory defaults.

Mac Address
00:C0:16:00:00:1A