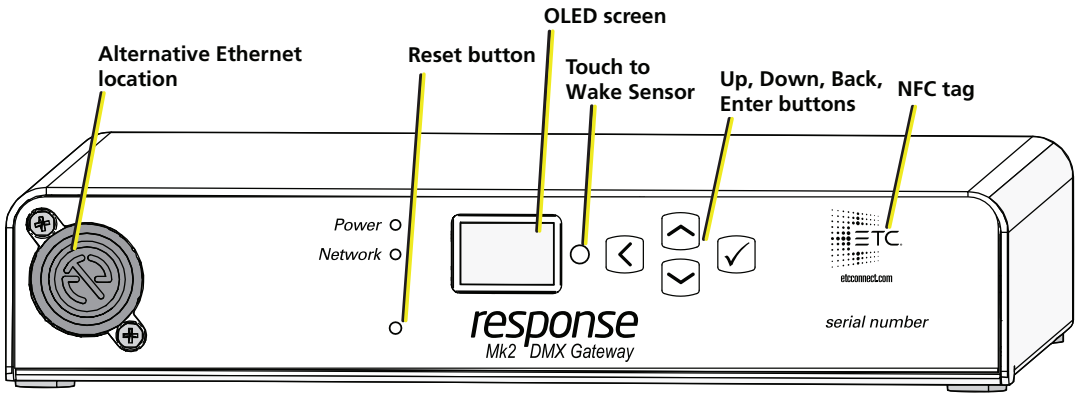
ETC Setup Guide

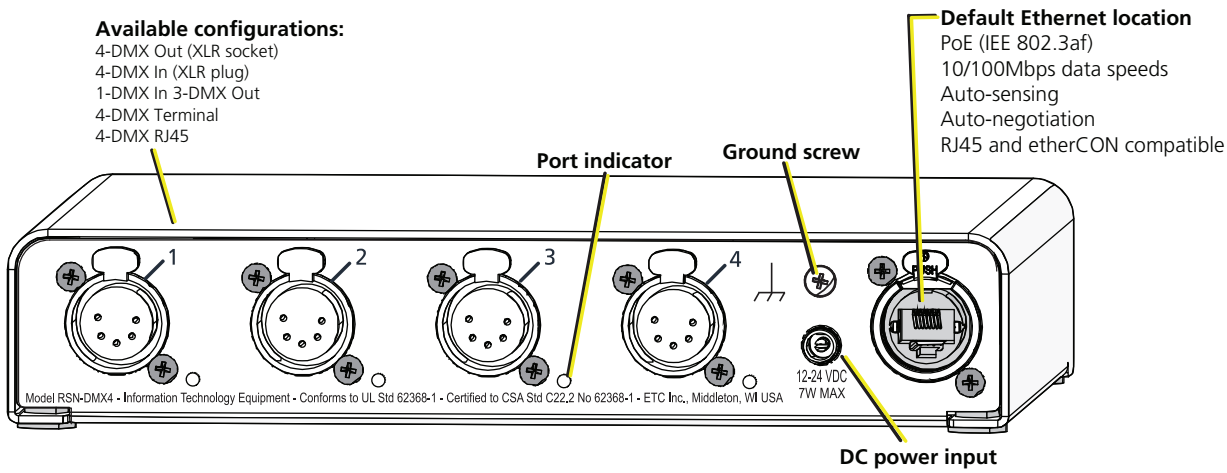
Response Mk2 Four-Port Gateway

This guide covers setup and installation of the Response Mk2 Four-Port Gateway. You can configure additional software features using ETC Concert software. Reference the Help system in Concert for more information. Concert software can be found at etcconnect.com/Concert.

Overview

The Four-Port Gateway can be used on a tabletop or be rack-, pipe- or bar-mounted using optional accessories (available separately).





Label Symbols

The Response Mk2 Gateways are conveniently labeled with relevant symbols for your safety. Refer to the product label to see which symbols apply to your product.

	General warning	Avertissement général
	This product should not be discarded as unsorted waste but must be sent to separate collection facilities for recovery and recycling.	Ce produit ne doit pas être jeté avec les déchets ménagers mais doit être déposé dans une collecte de déchets électroniques ou dans un point de collecte.
	Protective earth (ground)	Protection Classe I Mise à la terre

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Product information and specifications subject to change. ETC intends this document to be provided in its entirety.
4268M2200 Rev G Released 2024-07

LED Indicators

- Power - Solid blue indicates that power is supplied
- Network - Solid green indicates network connection and blinking indicates network activity
- Port Indicator - Each port has an adjacent port indicator LED that provides information on the state of the port:
  - Output mode
    - Green (solid): Valid sACN sources on the port
    - Green (slow blinking): No valid sACN sources on the port. Note that the port can be in a Hold Last Look (HLL) state.
    - Green (fast blinking): Attempting to output but there are other DMX sources detected on the DMX line causing a collision
    - Amber (blink): RDM transaction in process
  - Input mode
    - Red (solid): Active DMX input on the port
    - Red (slow blinking): No active DMX input on the port
    - Red (fast blinking): DMX source is invalid
  - Input mode (CPU2)
    - Blue (solid): Active DMX input on the port
    - Blue (slow blinking): No active DMX input on the port
    - Blue (fast blinking): DMX source is invalid
  - Off: Port disabled or power off
  - Red-Green (alternating blinking): The port is updating a connected ETC device
  - Blue-Green (alternating blinking): The port is updating a connected ETC device (CPU2)
  - Amber-Green (alternating blinking): The port is in DMX test mode

Action Buttons

- Up, Down, Back – Allows you to return to the previous menu or option and the Up and Down buttons navigate between menu options
- Enter – Allows you to advance to the next menu option or commit a modified selection
- Reset – Provides a physical button to reset the gateway
- Touch to Wake Sensor - Cover the sensor with your hand to wake the display

Electrical Specifications

The gateways are powered by either Class 2 auxiliary power or Power over Ethernet (PoE).

- Auxiliary power input rated voltage of 12-24 VDC, 15 W Max, Polarity Independent
- 10/100Base-T, IEEE PoE 802.3af, Type1, PD class 2

For auxiliary power, the gateway uses an external DC power supply (available separately).

If you supply both PoE and auxiliary power, the gateway defaults to using auxiliary power. If auxiliary power is lost, the gateway will reboot and then begin using PoE.

Note: *Any external power supply must be rated at a maximum of 15 watts.*

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Connection Options

There are four different connector types available depending on your gateway:

- DMX Out (five-pin XLR socket)
- DMX In (five-pin XLR plug)
- DMX RJ45 (input or output)
- DMX Terminal header (three-pin terminal for input or output)

The Response Mk2 Gateways send and receive DMX-512 control signals. DMX cables must be acceptable for DMX data transmission and connections should follow the standard pinouts per the charts below. The optional secondary data pair is not used by the Response Mk2 Gateways.

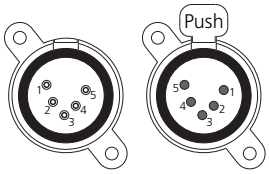
The DMX RJ45 variant can use a standard RJ45 Cat5e cable or better to transmit DMX-512 to other devices with the same connector.

The Four-Port Gateway is available in five variants of available connector types:

- 4 Out (XLR socket connectors)
- 4 In (XLR plug connectors)
- 3 Out (XLR socket) and 1 In (XLR plug)
- 4 Terminal connectors
- 4 RJ45 connectors

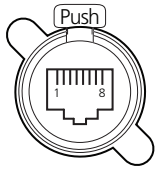
Note: *The DMX RJ45 connector does not function as an Ethernet network port.*

Pinouts



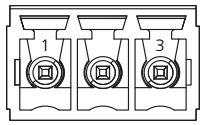
DMX-512 Pinout for five-pin XLR

Pin	Use
1	Common (shield)
2	Data -
3	Data +
4	not connected
5	not connected



DMX-512 Pinout for RJ45

Pin	Use	Wire Color
1	Data 1 +	w/orange
2	Data 1 -	orange
3	not used	w/green
4	not used	blue
5	not used	w/blue
6	not used	green
7	Signal Common	w/brown
8	Signal Common	brown



DMX-512 Pinouts for Terminal Header

Pin	Use	Typical Wire Color
1	Common (shield)	clear/shield
2	Data -	black
3	Data +	red

Wiring the Terminal Connector

The connector for the terminal header can be wired two different ways:

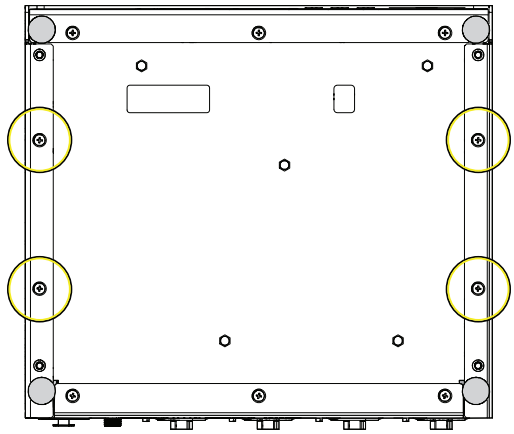
- DMX Cable (Belden 9729 or equivalent)
- Category Cable (Cat5e or better)

Follow the DMX termination kit instructions provided with the product to terminate the control wiring.

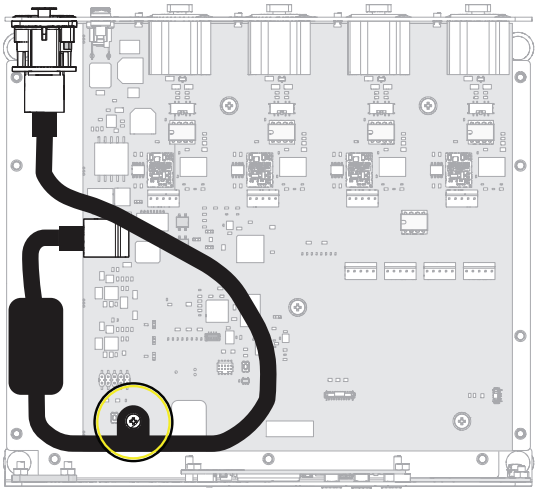
Switching the Network Port

The Response Mk2 Four-Port Gateway can have the Ethernet connector installed on the front or back of the unit. To switch the location, perform the following steps:

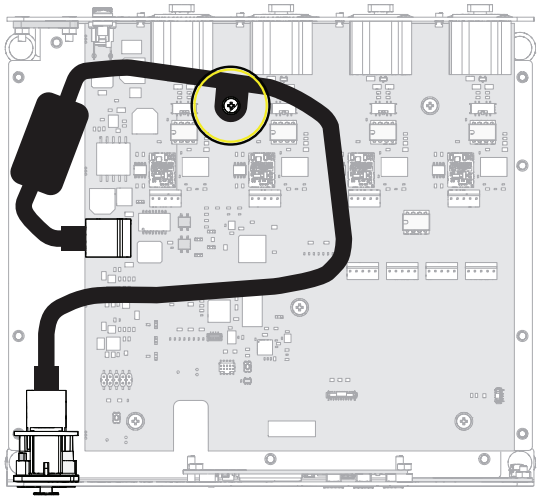
1. Using a Phillips screwdriver, remove the four screws on the bottom of the gateway and slide the cover off from front to back.
2. Using a Phillips screwdriver, remove the two screws from the nuts securing the blank plate to the gateway.
3. Remove the two screws securing the Ethernet connector to the gateway.
4. Using a Phillips screwdriver, remove the cable clamp from the current standoff and move it to the alternate location. This may require you to slide the cable clamp down the cable until it aligns with the standoff.
5. Move the Ethernet connector to the desired location on the gateway and secure with the two screws removed in step 3.
6. Secure the blank plate to the other location using the screws and nuts removed in step 2.
7. Slide the cover back on the gateway, from back to front and secure with the four screws you removed in step 1.



Screws for cover removal



A

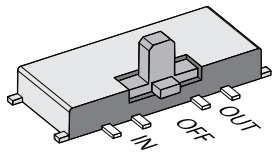


B

A: Network port installed on the back (standoff position circled)

B: Network port installed on the front (standoff position circled)

DMX Termination



Termination is required for all DMX systems and belongs at the source (beginning) of a DMX line and at the last device physically connected in the line. A termination switch is located internally for each input/output and can be configured for DMX termination (IN), No termination (OFF) or RDM termination (OUT). By default, the DMX termination switch is set to the appropriate position based on the port type (XLR socket, RJ45 and terminal set to OUT and XLR plug set to IN).

If you need to change the termination setting for the gateway, perform the following steps:

1. Disconnect your gateway from all power supplies.
2. Using a Phillips screwdriver, remove the four screws on the bottom of the gateway and slide the cover off from front to back. The termination switches are aligned with their associated port and located about 45 mm (1 3/4 in) from the back of the gateway.
3. Set the termination switch to the appropriate configuration.

About RDM

Remote Device Management (RDM, ANSI E1.20) is a protocol enhancement to DMX-512 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. Compliant DMX-512 and DMX-512-A devices (non-RDM devices) are fully functional when RDM is present. The Response Mk2 Gateway supports up to 255 total RDM devices across its ports using standard DMX system design practices.

Note: *RDM is currently only supported on DMX Output ports.*

RDM Basics

By default, RDM discovery is not enabled on the gateway. To enable RDM on the gateway, use the ETC Concert software or the user interface on the front of the gateway. Please see the Concert online help files for more information on activating RDM on your gateways or see *Configure RDM Settings on page 8*.

Installation

Note: *Installation must follow all national and local codes for electrical equipment.*

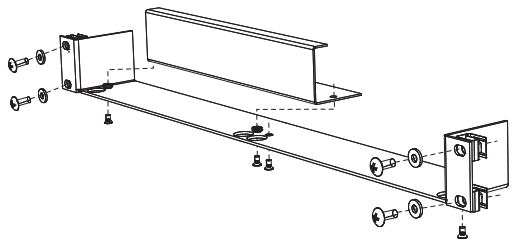
The Four-Port Gateway is designed for easy setup and can be set on a tabletop or mounted on a pipe, rack, or bar. For information about mounting to a pipe, rack, or bar, refer to *Optional Accessories below*.

Provide power to the gateway using PoE or an external power supply (available separately). Attach one end of a ground wire to the back of the gateway and the other to a suitable grounding point.

Optional Accessories

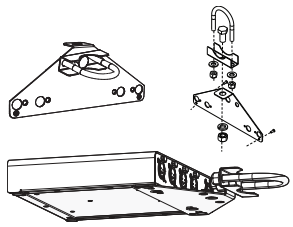
The following accessories are available for use with the Four-Port Gateway:

Rack Mount Kit



4260K1001: The Gateway Rack Mount kit is capable of holding up to two Four-Port 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.

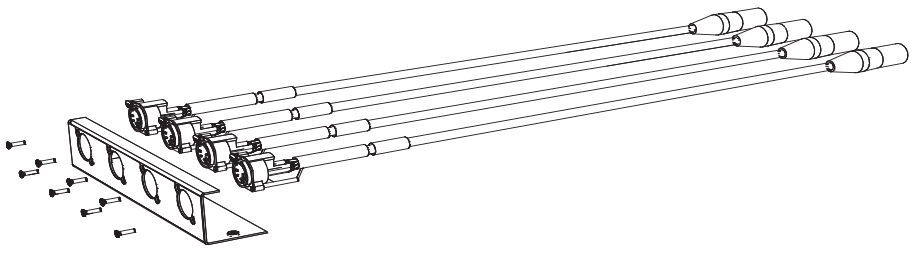
Hanging Hardware Kit



4260K1005: The Hanging Hardware Kit allows pipe mounting of a 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 Out Front Panel Kit

4260K1002 - DMX out: This kit provides front panel access to the DMX connectors on a Four- Port Gateway when installed in an equipment rack. You must use these kits in combination with one Response Four-Port Gateway and a Rack Mount Kit (4260K1001), not included.

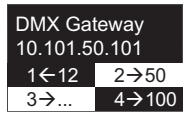


Gateway User Interface and Configuration

The following sections provide information on basic tasks and configuration that you can perform from the user interface of the gateway. These tasks and additional configuration can all be performed using the ETC Concert application, available from etcconnect.com/Concert. Additionally, you can use NFC and the Set Light mobile app to configure some gateway properties.

Home Screen Information

The initial screen that your gateway displays is the Home screen, which provides the name of the gateway, the IP address and some basic port information. This image is what a typical home screen might look like on a four-port gateway, where the gateway name is DMX Gateway and IP address is 10.101.50.101. Additionally, the port information provides the following:



- Port 1 is *actively* (black background) *receiving* (left-facing arrow) DMX input and sending it to universe 12.
- Port 2 is *not actively* (white background) *outputting* (right-facing arrow) DMX from universe 50. If an inactive port is in data-loss behavior, such as holding, the port number is appended with an asterisk.
- Port 3 is not actively outputting DMX and *either has a universe above 999 or is split* . The ellipsis (...) indicates additional information that can be viewed from the About screen.
- Port 4 is actively outputting DMX from universe 100.
- Additionally, **DD** indicates a dimmer-doubled port, **AIP** indicates Advanced Input Patch, **^** indicates a port in downloader mode, and **X** indicates a disabled port.

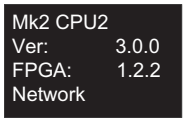
Pressing the **Enter** button from the Home screen brings up three selectable menu options (**About**, **Setup**, **Operations**) from which you can access other information or configuration options.

If you receive a **User Interface Locked** message when accessing the **Setup** or **Operations** options, the gateway UI is locked. To unlock the UI, you must use the ETC Concert software or the Set Light mobile application.

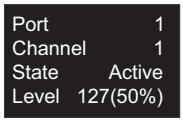
View Device Information

To view information specific to your gateway, select the **About** menu option from the Home screen. From the About screen, you can select one of the following four options and then view the information specific to that option:

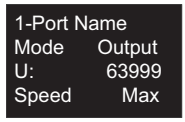
General



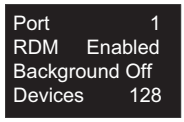
View Levels



Port Info



RDM Info



Configure Network Settings

1. From the Home screen, select **Setup** > **Network**.
2. From the Mode screen, use the **Up** and **Down** buttons to select **Manual**, **Link Local** or **Automatic**.

- **Automatic** attempts to automatically configure the IP Address, IP Subnet and IP Gateway for your device via DHCP.
- If you select **Manual**, you must configure the IP Address, IP Subnet and IP Gateway screens and then select **OK** from the Apply/Reboot? screen.
- If you select **Link Local**, the gateway self-assigns an IP address that is valid for the local network in the link-local address range. Select **OK** from the Apply/Reboot? screen.

Configure Port Settings

1. From the Home screen, select **Setup** > **Ports**.
2. Use the **Enter** button to move from the menu options on the left to the values on the right side of the screen. Use the **Up** and **Down** buttons to change the values and press **Enter** again to confirm the change. Using these controls, configure the fields on screen:

- **Port** - Select the port for which the following values apply:
- **Mode** - Select the port mode. This can be set to Input, Output or Disabled.
- **Universe** - Select the Universe of the port (1-63999).
- **Speed** - Select the speed at which DMX is transmitted. This can be set to Slow, Medium, Fast, and Max.

Note: *For detailed DMX speed timings, visit: https://support.etcconnect.com/ETC/FAQ/DMX_Speed.*

Configure RDM Settings

1. From the Home screen, select **Setup** > **RDM**.
2. Use the **Enter** button to move from the menu options on the left to the values on the right side of the screen. Use the **Up** and **Down** buttons to change the values and press **Enter** again to confirm the change. Using these controls, configure the fields on screen:

- **Port** - Select the port for which the following values apply:
- **RDM** - Select whether RDM is enabled or disabled on the port.
- **Background** - Select whether background discovery and polling of RDM is on or off.

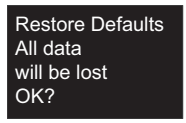
Configure Data Loss Settings

1. From the Home screen, select Setup > Data Loss.
2. Use the Enter button to move from the menu options on the left to the values on the right side of the screen. Use the Up and Down buttons to change the values and press Enter again to confirm the change. Using these controls, configure the fields on screen:

- **Port** - Select the port for which the following values apply:
- **HLLF** - Select whether Hold Last Look Forever (HLLF) is on or off. Selecting **On** enables Hold Last Look Forever. Additional configuration options for hold last look are available in Concert.

Restore Default Settings

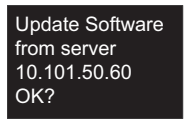
To restore the factory defaults for your device, select the Operations menu from the home screen and choose the **Restore Defaults** option. This returns the gateway to its out-of-the-box settings.



Update Software

The recommended method of updating the gateway is through UpdaterAtor. The UpdaterAtor application is available for download at etcconnect.com/UpdaterAtor.

There is also an option to update the software from the gateway using a TFTP server like Conductor. To upgrade the software, select the Operations menu from the home screen and choose the **Update Software** option. If you do choose to update directly from the gateway, the bootloader runs and the latest software is downloaded from the server indicated by the <#.#.#.#> IP address on the Update Software screen. If you need to modify this IP address, you can configure it in the Concert application using the **Update Server** property.

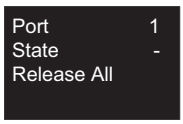


Note: *Regardless of whether you update from UpdaterAtor or directly from the gateway, the device must be on the network.*

Test Port Output

You can test DMX outputs by selecting **Operations** > **Test Output** from the Home screen.

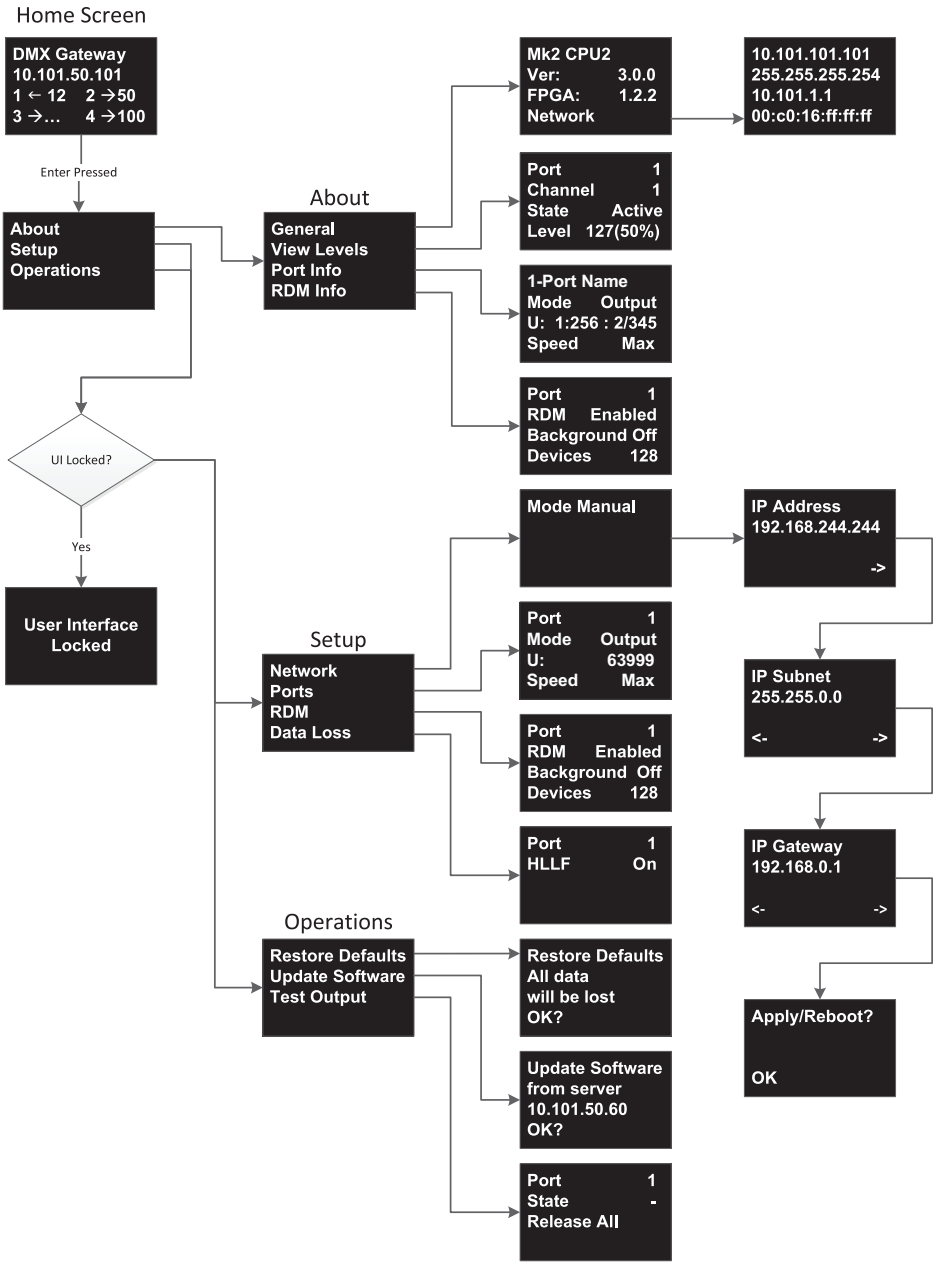
CAUTION: ***Testing outputs drives all DMX levels to full. Use with caution in a show situation or when controlling high current devices.***



This screen allows you to test the output for any port on your gateway.

- **Port** - Press the **Enter** button to select and then use the **Up** and **Down** buttons to cycle through the ports of your gateway. Press **Enter** again to select the port.
- **State** - Press **Enter** to select and then use the **Up** and **Down** buttons to cycle through the test state options. If the port is an input, this field displays either Input or Disabled. If the port is an output, you can select either Released (--), Full or All Zero.
- **Release All** - Press the **Enter** button to release the test state on all ports. Once outputs are set into a test state they can be released from this menu, from Concert or by rebooting the gateway.

UI Flowchart



Note: *This product uses licensed software provided by third parties. Please visit http://www.etcconnect.com/licenses/ for licensing information.*

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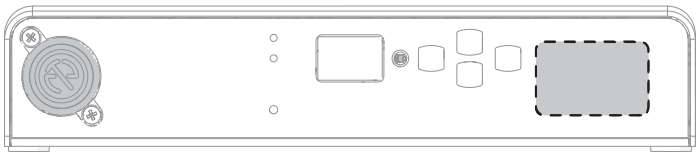
Configure Gateways Using the Set Light App

Download the Set Light app to a smartphone with NFC functionality, use the app to set gatway properties, and then tap the smartphone to the NFC tag on the gateway to configure it wirelessly – even when the gateway is not powered on. Visit https://apps.etcconnect.com/setlight or scan the code for more information about the Set Light app.

You can configure the following properties using the Set Light mobile app.

- Gateway Name
- IP Mode
- UI Lockout
- Port properties (Name, Mode, Universe, Starting Address, Length, RDM Enable, Background Enable)



The dashed rectangle indicates the NFC tag location

FCC Compliance

Response Mk2 Gateways

(For any FCC matters):

Electronic Theatre Controls, Inc.
3031 Pleasant View Road
Middleton, WI 53562
+1 (608) 831-4116
etcconnect.com

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received; including interference that may cause undesired operation. Visit etcconnect.com/products for current and complete compliance information including FCC compliance.

Note: *This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Any modifications or changes to this product not expressly approved by Electronic Theatre Controls, Inc. could void the user's authority to operate the product. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at their own expense.*