

Model: PRE10QUATRO Operations Manual



Doug Fleenor Design, Inc.
396 Corbett Canyon Road
Arroyo Grande, CA 93420
(805) 481-9599 Voice and FAX

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PRODUCT OVERVIEW

PRE10QUATRO is a wall station that works in conjunction with a DMX512 lighting console, and DMX512 controlled luminaries. Venues that require control of DMX512 luminaries in the absence of a lighting console, or light console operator, can adjust lighting levels using the buttons on the wall station. Ten static snapshots are available to save and recall, for systems using up to four universes of DMX512.

Venues requiring multiple stations can utilize the PRE10QUATRO's Main and Remote feature to recall the same looks from different locations in the building. These features are compatible with the existing PRE10-A and ES2 products.

The back of the PRE10QUATRO provides a 2-pin power connection, for use with a doorbell transformer or DC supply, as well as four 3-pin DMX512 connections. The four DMX512 connections are all individually isolated to provide protection to the connected equipment. Touch and go wiring on all four universes preserves the use of RDM when installed with an RDM capable console. A wired assembly will fit most two gang electrical boxes. Mating connectors are provided.

Commissioning of the wall station is achieved by generating a desired look on a light board, or other source of DMX512, and recording the light levels into the wall station. Once the light board is removed, the PRE10QUATRO will begin transmitting the commissioned snapshots, and fade between them as buttons are pressed on the front of the face plate.

The PRE10QUATRO was designed, assembled, and tested in the U.S.A. with high quality components, including a black anodized aluminum faceplate with laser engraved nomenclature, LED illuminated buttons to indicate preset playback, and recessed LEDs and buttons that provide a simple and discreet commissioning process.

SPECIFICATIONS

Connectors

Phoenix Contact MSTB series 3 position, and 2 position, pluggable terminal block
3 Pin Model: MTSB 2,5/3-ST-5,08 (for DMX512)
2 Pin Model: MTSB 2,5/2-ST-5,08 (for Power)

Transceivers

(4) Isolated EIA-485 receivers with 15KV ESD and ± 42 VDC protection (ADM2795)

Power Input

Input: 9 - 15 Volts (AC or DC), 350mA

Environmental

Operating temperature: 0-40° C (32-104° F)
Operating humidity: 10-90% non-condensing
Indoor use only

Color

Faceplate: Black anodized with laser engraved nomenclature

Size and Weight

Faceplate: 4.5"H x 0.2"D x 4.6"W
Faceplate rear inset: 4.15"H x 0.1"D x 4.25"W
Electrical box minimum inside dimensions: 2.9"H x 1.5"D x 3.6"W

Indicators

Ten illuminated preset button caps (Green)
Time fade LED (Yellow)
Lockout / record LED (Red)

User Controls

Ten preset selection buttons
Recessed TIME and RECORD buttons
Six configuration jumpers (on rear)

Option Jumpers

JP#	INSTALLED	REMOVED
JP1	RECORDING ENABLED	RECORDING DISABLED
JP2	MAIN/SINGLE STATION	REMOTE STATION
JP3	RESERVED	RESERVED
JP4	SINGLE STATION	MULTISTATION
JP5	NORMAL	TROUBLESHOOT (RX ONLY)
JP6	RADIO BUTTON MODE	PUSH ON PUSH OFF BUTTON MODE (POPO)

JP1 RECORD: Removal prevents the station from writing preset looks and fade times into the internal memory.

JP2 REMOTE: This jumper is used with MULTISTATION systems (see JP4). Remove this jumper to configure a REMOTE. Leave installed for non-REMOTE stations.

JP3 RESERVED: Reserved.

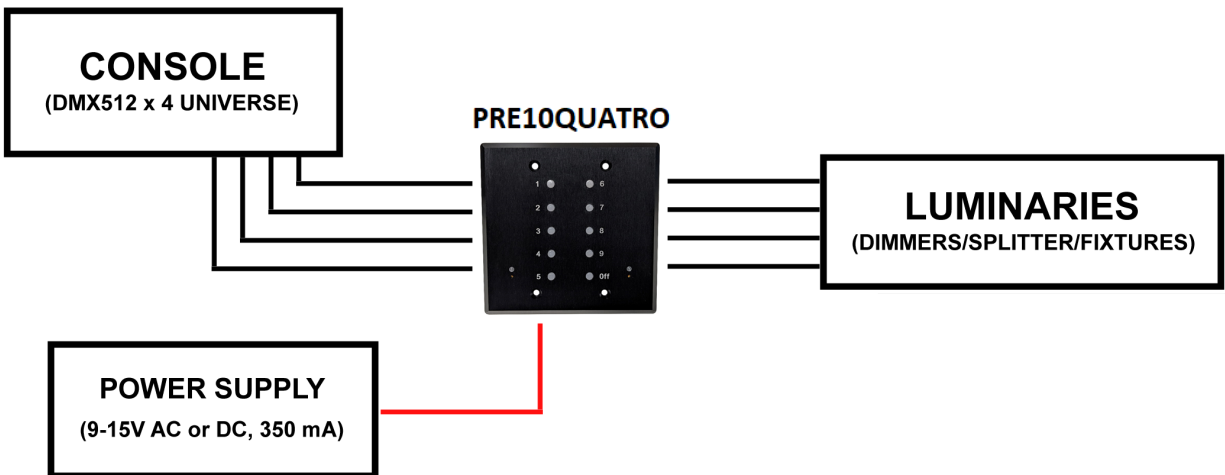
JP4 MULTISTATION: Leave ON for systems with a SINGLE station. Remove for systems using MULTISTATION (see JP2 for MAIN/REMOTE).

JP5 TROUBLESHOOT: This jumper sets the device to troubleshoot mode while receiving DMX512 from a console.

JP6 BUTTON MODE: With the jumper installed, the station will cross fade from one preset to another. Removal sets the station to pile on each look, with each preset button press enabling or disabling the pile on of the look stored in the corresponding preset.

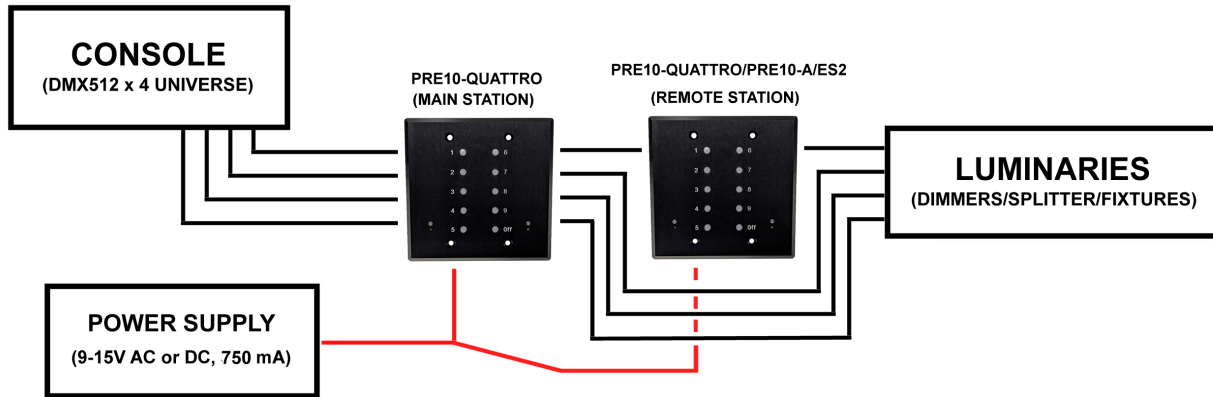
SYSTEM TOPOLOGY – SINGLE STATION

A basic PRE10QUATRO system will operate in single station mode, using only one wall panel. Typical systems will have all configuration jumpers in the ON position, which is how the product is configured from the factory. The DMX512 daisy chain begins at the CONSOLE, and most systems will have the PRE10QUATRO as the next device along the DMX512 daisy chain. While the CONSOLE is transmitting, the PRE10QUATRO will act as a receiving device, and when the CONSOLE is not transmitting, the PRE10QUATRO will transmit and play back its stored looks.

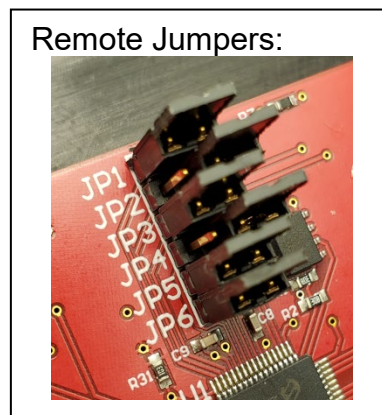
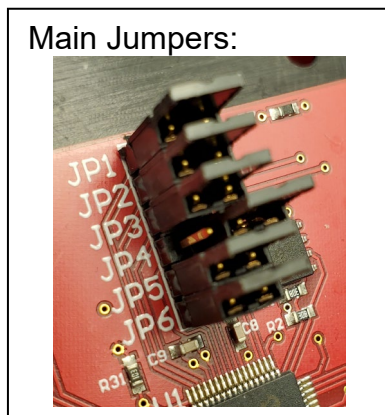


SYSTEM TOPOLOGY – MULTISTATION (MAIN/REMOTE)*

Systems that require multiple wall stations will typically operate on the DMX512 daisy chain between the CONSOLE and the LUMINARIES. These stations will require options set on the jumpers JP4 and JP2 (photos below). The remote station only utilizes the DMX512 MAIN/REMOTE connection on the rear panel. Remotes may be any of the following products: PRE10QUATTRO, PRE10-A, and ES2.

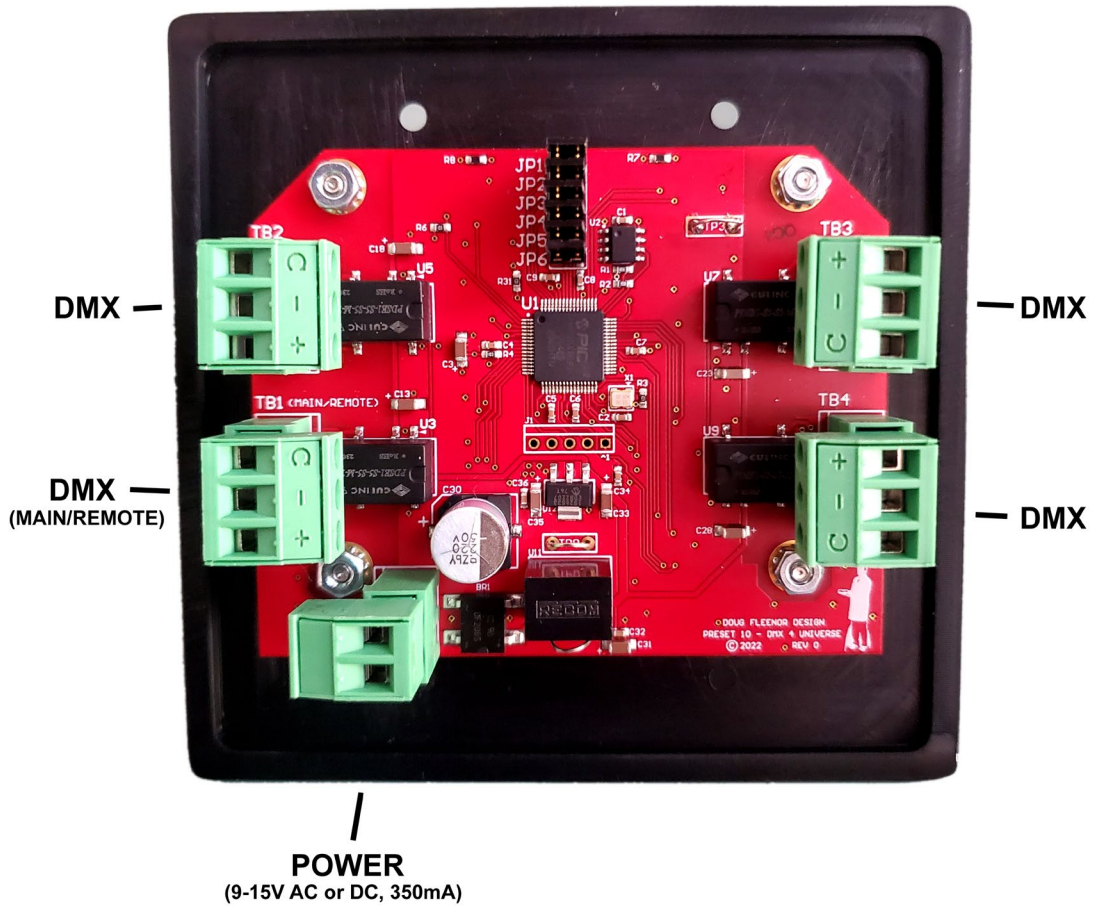


***NOTE:** Systems with non-compliant DMX512 receivers, such as those that flicker when receiving RDM, may flicker when connected to a system using the MULTISTATION system topology. A device such as the DMXDECELERATOR may be required to allow the non-compliant DMX512 receivers to function properly.



INSTALLATION

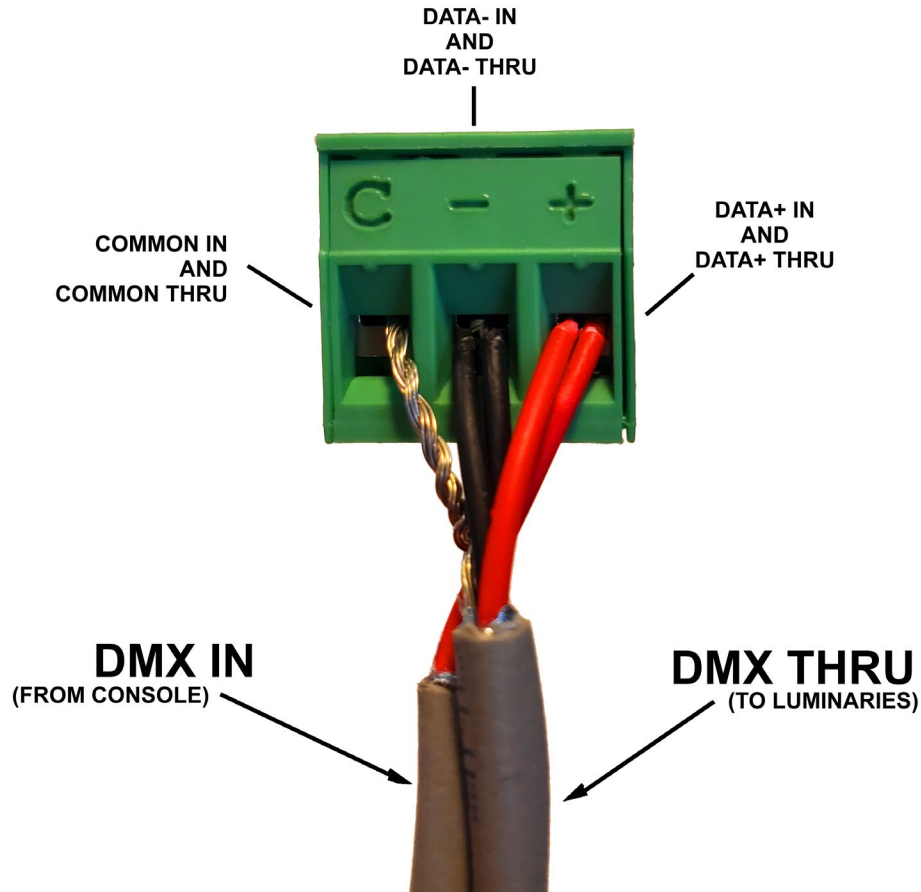
PRE10QUATRO installs in a 2-gang wall box. Four screws are included to attach the faceplate to the wall box. Wire connections for POWER and one or more DMX512 connections are required inside the box. The terminal blocks for these connections are shown below:



MULTISTATION systems will need to connect a MAIN with one or more REMOTE stations using the DMX(MAIN/REMOTE) connection on the TB1 connector.

DMX512 Wiring Requirements:

Cable suited for RS-485 (or otherwise suitable for DMX512) must be used for all DMX512 connections. DMX512 data cable connects each universe using touch and go wiring on the three pin connectors. Touch and go wiring connects DMX IN and DMX THRU wires using a single connector. A connector wired in this way is shown below:



Power Wiring Requirements:

Polarity is not marked on the power connector. The power input is not sensitive to polarity. The power cable must allow for 350mA per station. Data cable is not recommended to carry power for the wall station.

SETUP AND OPERATION

JUMPER SETTINGS

The jumpers on the circuit board provide various options (see above). The desired options should be reviewed and set with no power applied to the station.

RECORDING PRESETS*

To record a preset, the PRE10QUATRO must be connected to one or more DMX512 sources.

1. Using the primary DMX512 console, set a “look” to be recorded. The red LED on the station will illuminate when receiving a signal from the console.
2. Using a small blunt object (e.g. paper clip) momentarily depress the recessed RECORD button located to the right of button ‘Off’. The red LED will begin to blink. If you decide after depressing the RECORD button that you do not wish to make an edit, depress the RECORD button a second time. The red LED will stop blinking and no changes will have been made.
3. Depress the PRESET SELECT button of the preset you wish to record. The button will illuminate as you depress the button. The red LED will stop blinking.

***Notes**

- *Recording while DMX512 levels are changing will produce unexpected results*
- *Recording may not be done from a REMOTE station*
- *Recording will fail if DATA+ and DATA- lines are swapped*
- *Presets cannot be recorded while the Record Lockout jumper (JP1) is removed*

TRANSMITTING PRESETS

Preset transmission begins when no incoming DMX512 appears on any of the PRE10QUATRO's DMX512 connections. This requires unplugging or powering down the lighting console. Whenever a preset button is illuminated the PRE10QUATRO transmits the associated look that has been recorded into memory. As different buttons are pressed, crossfades between all DMX512 levels occur in the fade time associated with the most recent button pressed.

SETTING FADE TIMES

A crossfade is a fade where the new preset levels entirely replace the previous levels. Each of the ten presets can have its own unique crossfade time. Crossfade times default to two seconds.

To enter a crossfade time*:

1. Disconnect the PRE10QUATRO from all DMX512 sources.
2. Turn on the preset you wish to edit. The button will illuminate. (If push-on-push-off mode is selected, turn off all other presets).
3. Using a small blunt object (e.g. paper clip), depress the recessed TIME button located to the left of button 5. The yellow time LED, along with the selected preset button, will begin to blink. You will have ten seconds to set the crossfade time. If you decide after depressing the TIME button that you do not wish to make an edit, simply wait ten seconds or depress the TIME button a second time. No changes will have been made.
4. Enter the time in seconds using the PRESET SELECT buttons. Use the 'Off' button to enter a zero (e.g. 120 seconds is entered by pressing PRESET SELECT button 1 followed by 2 then Off). Selecting your desired time is completed by one of three methods:
 - a. Enter a three-digit time. The TIME SETTING MODE will exit upon the entry of the third digit. The green preset indicator LED will illuminate steadily and the yellow time LED will go off, indicating success. A one or two digit time may be entered with leading zeros, for example five seconds as 005 (Off, Off, 5).
 - b. Enter a one or two digit time followed by pressing the TIME SETTING MODE button. The green preset indicator LED will illuminate steadily and the yellow LED will go off, indicating success.
 - c. Enter a one or two digit time and wait for ten seconds for the time setting mode to exit automatically. The green preset indicator LED will illuminate steadily and the yellow time LED will go off, indicating success.

***Note:**

Crossfade times range from a minimum of 0 seconds to a maximum of 999 seconds (16 minutes and 39 seconds).

Crossfade times cannot be set while the PRE10QUATRO is locked out (red LED is illuminated).

Crossfade times cannot be set while the Record Lockout jumper (JP1) is removed

TROUBLESHOOTING

DMX512 INPUT ISSUES:

JP5 helps to indicate problems with DMX512 wiring and provides information about the input to the wall station. With the lighting console on and transmitting DMX512 to the PRE10QUATRO, remove power from the system and remove JP5. Re-apply power and observe the illuminated buttons on the front panel. Preset indicators 1, 5, 6, and *Off* indicate a full length DMX512 frame has been received on the corresponding DMX512 connector. This means the DMX512 Data+ and Data- connections on the back of the panel directly behind that button are likely correct (not swapped) between the console and the PRE10QUATRO. If buttons 2, 4, 7, or 9 are illuminated it means the PRE10QUATRO is seeing data on the corresponding connector, but no full frames of DMX512. This could indicate swapped wiring (Data+ and Data- are reversed), short packets, or some other line issue, such as noise.

Preset indicators 1 and 2 correspond to TB3, 1 good, 2 questionable.

Preset indicators 4 and 5 correspond to TB4, 5 good, 4 questionable.

Preset indicators 6 and 7 correspond to TB2, 6 good, 7 questionable.

Preset indicators 9 and *Off* correspond to TB1, *Off* good, 9 questionable.

DMX512 OUTPUT ISSUES:

Output occurs when the PRE10QUATRO detects no data on all four of the DMX512 connections. This occurs when the attached console is powered down or unplugged. If the PRE10QUATRO follows button presses (button presses are not ignored), the PRE10QUATRO is transmitting. Broken wires, swapped wires, and noisy, or improperly designed receiving devices can interfere with the transmitted signal. Troubleshooting often begins with simplifying the system to a single DMX512 receiver to verify transmission.

Some noncompliant fixtures misinterpret Main/Remote communication as lighting data. Noncompliant fixtures may blink or flicker when the MAIN station has JP4 removed. These fixture compliance issues can be verified by temporarily installing JP4 on the MAIN station. If the flickering stops, the fixture will need to be placed somewhere in the system where it does not receive the Main/Remote information, such as downstream from the output of a DMXDECELERATOR.

Limited Manufacturer's Warranty

Products manufactured by Doug Fleenor Design (DFD) carry a five-year parts and labor warranty against manufacturing defects. It is the customer's responsibility to return the product to DFD at the customer's expense. If covered under warranty, DFD will repair the unit and pay for return ground shipping. If a trip is necessary to the customer's site to solve a problem, the expenses of the trip must be paid by the customer.

This warranty covers manufacturing defects. It does not cover damage due to abuse, misuse, negligence, accident, alteration, or repair by other than by Doug Fleenor Design.

Most non-warranty repairs are made for a fixed \$50.00 fee, plus shipping.

Doug Fleenor Design, Inc.

396 Corbett Canyon Road
Arroyo Grande, CA 93420
(805) 481-9599 voice and FAX
(888) 4-DMX512 toll free (888) 436-9512
web site: <http://www.dfd.com>
e-mail: info@dfd.com

