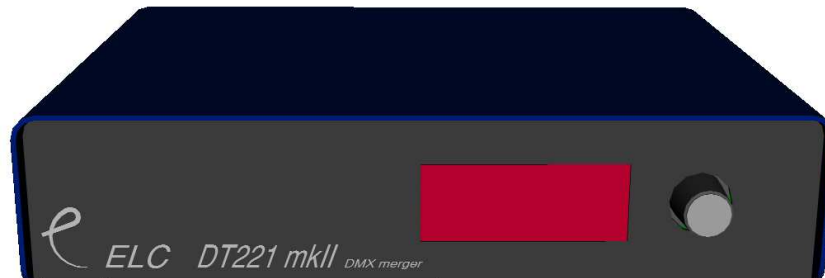# DT-221 mkII

Highspeed DMX merger (with RDM pass thru)
2 DMX input merger/backup

Users manual Software version: 1.01

Functional Overview

The DT221 mkII is a DMX merger to combine 2 DMX sources into one single DMX source. The two DMX sources are put together via one of the merging rules: HTP / LTP / Priority. The unit has 2 DMX inputs called DMX input A and DMX input B. DMX input A is the "main" / "master" input. This means that the input A is exactly replicated onto the DMX output, down to the signal timing. The delay between DMX input A and DMX output is only 50 micro-seconds (0,00005 sec). The bidirectional version of DMX (called RDM) is also handled correctly when passed thru DMX input A to the DMX output. DMX input B is the "insert" / "backup" input. This is the DMX signal that is to be merged with the DMX input A.

HTP merge (with offset):
  In HTP merge, channels are compared by taking the highest value of the two input channels. If Offset is set to 1, then DMX output channel 1 is the highest channel of DMX input A channel 1 and DMX input B channel 1, DMX output channel 2 is the highest channel of DMX input A channel 2 and DMX input B channel 2, and so on. Is the offset is set to (for example 101) then DMX output channel 1 is DMX input A channel 1, DMX output channel 101 is the highest channel of DMX input A channel 101 and DMX input B channel 1, and so on.

LTP merge (with offset):
 In LTP merge, channels are compared by the latest channel that changed. The offset functions like HTP described above.

Priority mode ("Prio"):
 In priority mode, the DMX output is the DMX signal from DMX input A (if that is a valid signal). Otherwise it will output the channel values from DMX input B (only if this has a valid DMX signal).

Connections

DMX input A and B
        XLR 5 pin (3 pin as option)
        Pin 1: Ground
        Pin 2: Data -
        Pin 3: Data +

DMX output
        XLR 5 pin (3 pin as option)
        Pin 1: Ground
        Pin 2: Data -
        Pin 3: Data +

USB (as standard)

Operation
  The unit has a 4 digit 7-segment LED display and a rotary/push encoder.
The main display shows 3 different pages of information (selectable by turning the encoder).
Page 1: DMX input information. This shows d1d2. the 1 is blinking if there is no valid signal on DMX input A. the 2 is blinking is there is no valid DMX signal on DMX input B.
Page 2: Merger mode (HTP / LTP / Prio(rity))
Page 3: Offset (o   1)

Press the small black button on the back next to the mains lead to show the software version number on the display.

To change the merger mode or the offset press the encoder. The display will now show HOLD. Keep the encoder pressed until HOLD disappears. Now it will briefly show "node" (Mode was meant, but cannot be displayed) and then the current mode. use the encoder to change the mode. Press the encoder to next select "offS" (offset) and then set the offset. Press the encoder again to go back to the mode setting. To exit and save the settings, do not touch the encoder for 5 seconds. "Stor" (storing) will show up in the display indicating that the new settings are stored and the unit goes back into normal operation.

Firmware Update

The device also has a USB connector and a small switch on the back (next to the mains lead). These are needed for Firmware Updates when these come available on the website (www.elclighting.com). A small program is needed to do the firmware update, also on the website. To force the unit into upgrade mode use the next steps:
- Power off the device
- Press and hold the switch on the back
- Power on the unit
- Plug in the USB cable
- Press "Update" in the update program and select the firmware
- After the update is successful, unplug the USB and do a power-cycle

General Information

CE – Product

The DT221mkII permits to the CE requirements set up by the European Community. This can be recognized by this label on the outside of the product.

$$C\epsilon$$

Technical Specifications:
Power: 85-264 VAC 47-440 Hz 10VA max
Dimensions 200 x 50 x 150 mm
Weight   1.5kg