

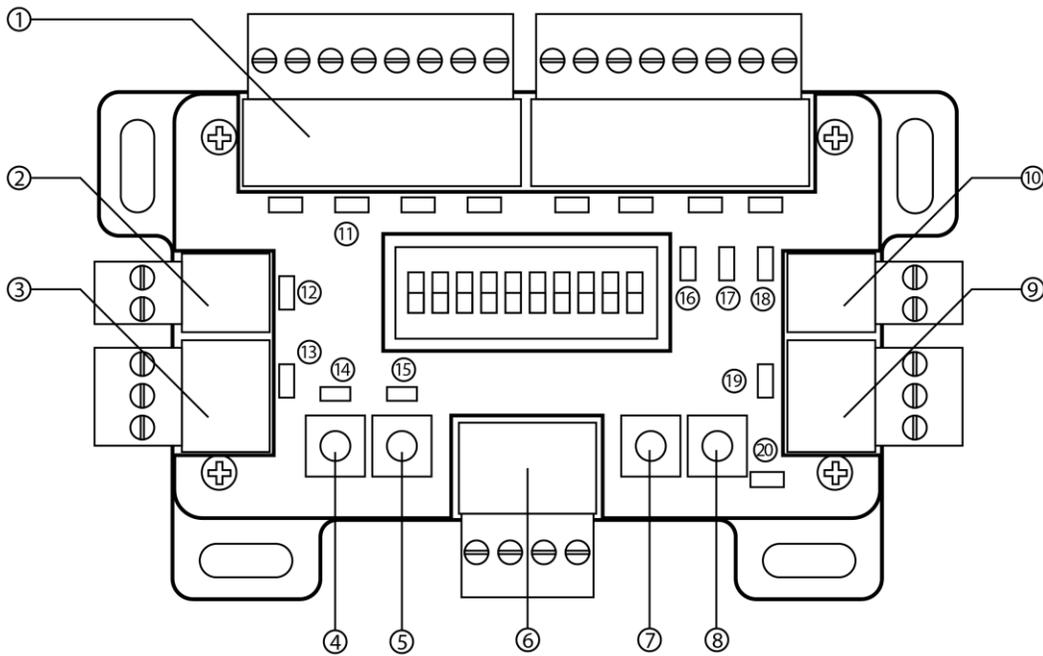
Gantom Lighting & Controls

DarkBox RePlay

Instructions for Operation

Part No: **DB41**

July 18, 2016



1. Output Port: 8 PWM output channels using discrete n-MOSFETs, rated for 500mA max current per channel.
2. Power Input: 9-30VDC input.
3. DMX Input
4. Trigger 1 Button, function identical to remote trigger input.
5. Trigger 2 Button, function identical to remote trigger input.
6. Remote Trigger Input: Optically isolated triggered input rated for 24V input.
7. Reset/Erase Button: in any mode if button is held down for 2 seconds, the device will perform a software reset. In recorder mode, if reset is held while T1 or T2 is momentarily pressed, the corresponding file will have its data erased.
8. Test Button: pressing the button will activate a chase sequence of the 8 channels to indicate a functioning device.
9. DMX Output: can be used to connect slave devices. Output signal is either a buffered repeated signal of the DMX input or a DMX playback signal read from the SD card. Important: please note the pinout of the output is a mirror image of the input; this is intended for simple straight through wiring of multiple devices.
10. Power Output: input power is directly passed through to the power output. Important: please note the pinout of the output is a mirror image of the input; this is intended for simple straight through wiring of multiple devices.
11. Output indicator LEDs
12. Power input indicator LED
13. DMX signal indicator LED: a green light will be on as long as there is an active signal on the DMX input.
14. Trigger 1 indicator LED: illuminates when either the Trigger 1 button is pressed or Trigger 1 is activated by remote signal.
15. Trigger 2 indicator LED: illuminates when either the Trigger 2 button is pressed or Trigger 2 is activated by remote signal.
16. File 1 Status LED
17. File 2 Status LED
18. Slave/Master indicator: illuminated when in slave mode, DMX input is passed through to the DMX output.
19. DMX Output LED: illuminated when active signal is on the DMX output.
20. SD Card Status LED: illuminated when SD card is being written to or read from.

The Gantom RePlay Controller is a full 512 channel universe DMX recorder/player with a built in 8 channel LED driver. The RePlay allows for standalone playback of its LEDs (and subsequent slave devices) from a recorded DMX sequence stored on its SD card. This controller benefits the user by providing a compact DMX player that can playback timeline based DMX events without the need of large show control devices after the initial recording. Triggered inputs allow the device to play from 2 distinct DMX stream files.

Full Power Test:

Simply set all positions on DIP Switch to OFF, all 8 channels will fully turn on, allowing full load testing of the device.

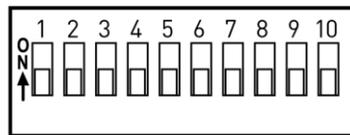


Figure 1 DIP Switch all OFF

DMX Recording:

1. Append Mode

- a. DIP Switch: Position 10 is ON, Position 1 is ON, all others OFF
- b. Momentarily pressing T1 or T2 will set the device ready to receive data for DMX file 1 or file 2, respectively. File 1 or File 2 status LED will turn on solid, indicating ready to receive data. Recording will begin as soon as a change in the DMX signal is detected. Once recording, the File 1 or File 2 status LED will quickly flash.
- c. Momentarily pressing T1 or T2 will stop the recording.
- d. Repeating steps b and c will continue to append data to the end of the file.
- e. To erase a file, hold down the erase/reset button while pressing the T1 or T2 button. The data in the corresponding file will be erased, the File 1 or File 2 status LED will quickly flash for 1 second and the device will automatically reset.

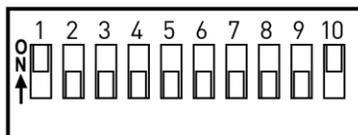


Figure 2 - Pos 1 and Pos 10 in ON for Append Recording Mode

2. Rewrite Mode

- a. DIP Switch: Position 10 is ON, Position 2 is ON, all others OFF
- b. Momentarily pressing T1 or T2 will set the device ready to receive data for DMX file 1 or file 2, respectively. File 1 or File 2 status LED will turn on solid, indicating ready to receive data. Recording will begin as soon as a change in the DMX signal is detected. Once recording, the File 1 or File 2 status LED will quickly flash.
- c. Momentarily pressing T1 or T2 will stop the recording.
- d. Repeating steps b and c will OVERWRITE the original file.
- e. To erase a file, hold down the erase/reset button while pressing the T1 or T2 button. The data in the corresponding file will be erased, the File 1 or File 2 status LED will quickly flash for 1 second and the device will automatically reset.

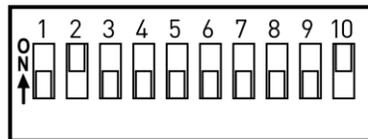


Figure 3 - Pos 2 and Pos 10 ON for Rewrite Recording Mode

DMX Playback and LED Driving:

1. **Configuration 1: Play DMX and drive outputs- single unit**
 - a. SD card should be in-place w/recorded data
 - b. Set DIP switch to desired DMX start address
 - c. Apply power to unit
 - d. T1 and T2 will trigger the playback of its corresponding file.
 - e. If T1 or T2 is held down (or trigger signal is high) after the corresponding file has finished playing, the file will start over from the beginning for another cycle.
 - f. Playback can be interrupted at any time by another triggered action; the corresponding file will then immediately start playing from the beginning.

2. **Configuration 2: Slave LED driver only**
 - a. Unit is configured as a slave LED driver when no SD card is installed. Signal from DMX in will be passed to DMX out
 - b. If SD card is installed, a triggered action will immediately turn unit into master (Configuration 1)
 - c. Set DIP switch to desired DMX start address (1-512)
 - d. Unit will drive its LED outputs according to DMX data received

3. **Configuration 3: Play DMX and drive outputs- two or more units connected in daisy-chain fashion**
 - a. Configure one unit as the master (configuration 1 above).
 - b. Configure subsequent units as slaves (configuration 2 above)
 - c. Set DIP switch to desired DMX start address on all units
 - d. Apply power to all units via daisy chain or directly to ea. from power supply (see "Notes and limitations" below regarding max. allowable current for daisy-chain configuration)
 - e. Initiate playback of desired show sequence across all units via triggers (see Configuration 1 steps d, e, f)

NOTE 1: If LED outputs are not being utilized on the master unit, the output indicators can be used to monitor any group of 8 DMX channels being played downstream. Set dip-switches to the desired start-address of channel-group to be monitored.

NOTE 2: In master mode, a unit may be configured to automatically loop a sequence upon startup by jumping the input power to a corresponding trigger input. For example, to loop file 1 on startup, one would connect the V+ (power input) to the T1+ input terminal and GND to the T1- input terminal.

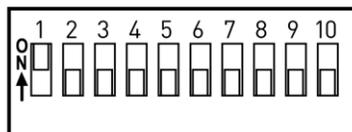


Figure 4 DMX Address 1

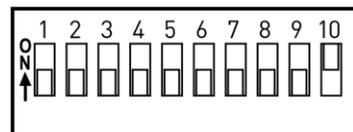


Figure 5 DMX Address 512

Notes and limitations:

1. In order to trigger the RePlay, the optically isolated trigger input must complete a closed circuit. That is, Trig1+ and Trig1- must have a voltage difference of 5V or more in order to activate. One simple way is to attach Trig1- to ground and Trig1+ to the activation signal.
2. If multiple RePlay controllers are to be daisy chained together, the user should pay attention to the maximum current that will be passed through the system. No more than 4A should be passed through any controller. If higher total power requirements are needed, it is recommended that each RePlay controller receives its own dedicated power source, instead of receiving power from another RePlay controller.
3. Do not remove SD card during reading or writing operations as it may halt the device and disrupt the file system structure in the SD card. A reformat of the SD card and restarting of the device may be required if this occurs.
4. It is recommended to add or remove the SD card only when device is off.
5. Device should be used in a dry environment only. If needed for outdoor operation, an enclosure is needed to protect the device from moisture and condensation.
6. The DMX output is not electrically connected to the DMX input as in many slave devices (which allows pass through signal even with device is off); instead the output is logically driven to replicate the DMX input in slave mode. This means for the signal DMX input to pass through to subsequent devices via the DMX output, the RePlay controller must be powered.