



PATHWAY CONNECTIVITY

TIP OF THE MONTH:

eDIN #1007 DMX Merger

By Robert Bell

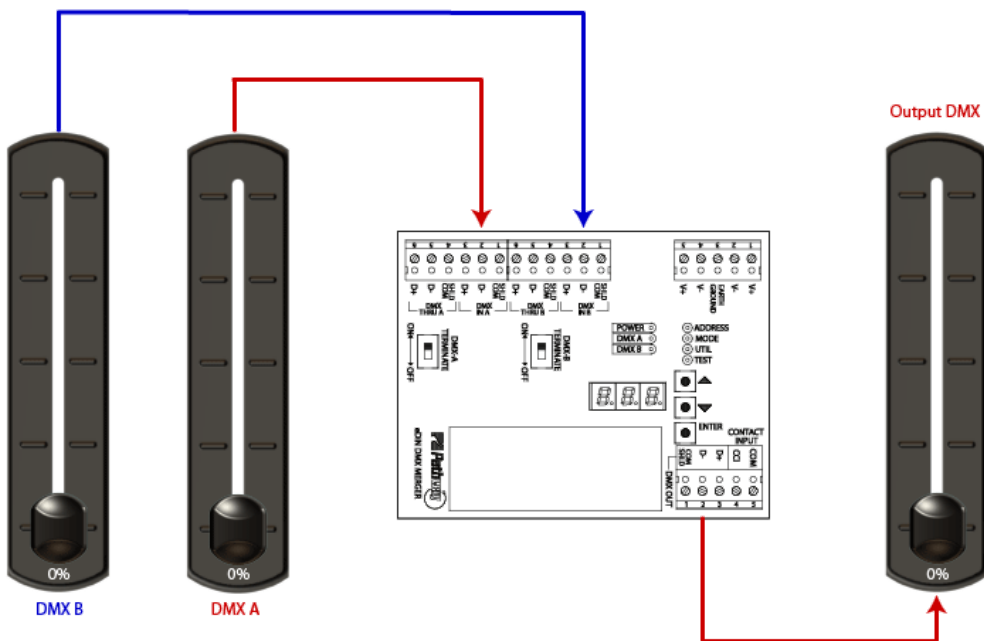
Director of Product Innovation

Pathway Connectivity Solutions

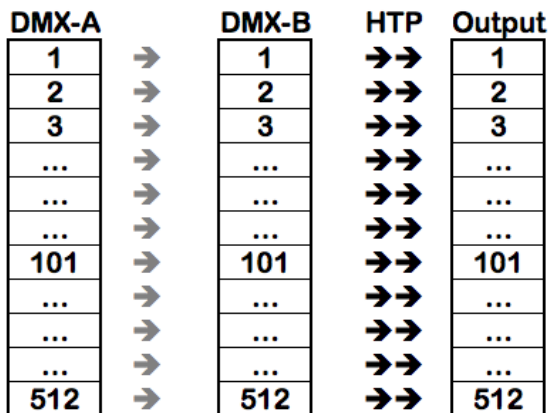
In smaller single universe applications where you don't want to employ Ethernet gateways, the eDIN #1007 Merger will combine two DMX streams in a number of different ways. There are three different modes: HTP Merge, Backup and Append, with each mode offering variants with different data loss hold times or methods of switching between data sources.

Highest Takes Precedence Merge

Modes 1 through 4 merge two universes into one output stream, on slot by slot basis. Modes 1 and 3 will hold the last DMX levels for 2 seconds, upon loss of data, whereas Modes 2 and 4 will hold signal for 5 minutes. HTP (Highest-Takes-Precedence) compares incoming levels and chooses the highest of the two to output as seen here:

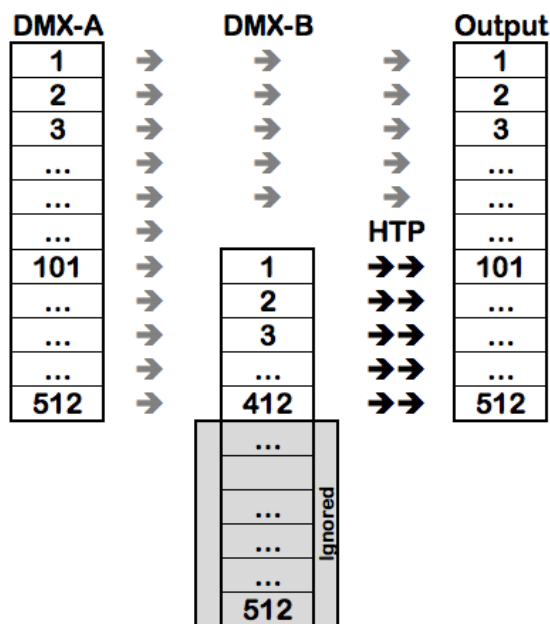


The start address of the Merger affects how the DMX-B data is used. If the address is set to 1, there is no offset of DMX-B. (i.e. Slot 1 of DMX-A and Slot 1 of DMX-B are HTP-merged and result is output to Slot 1 on the DMX OUT).



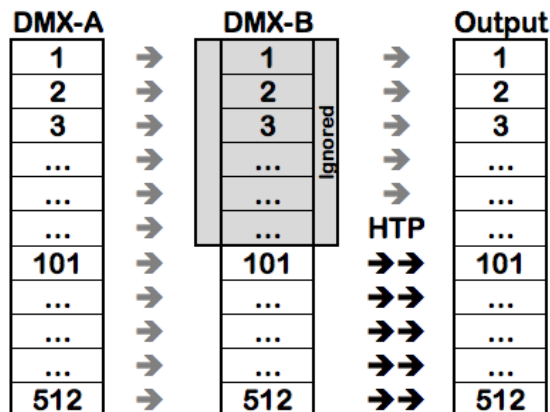
Mode 1 - 4 no offset

If you set the Merger's address to 101, in Modes 1 and 2, DMX level of slot 1 of DMX-B is merged with slot 101 of DMX-A and the result output as slot 101 on the DMX OUT. That implies that a number or trailing slots of the DMX-B input are lost (truncated).



Mode 1 & 2 with offset of 101

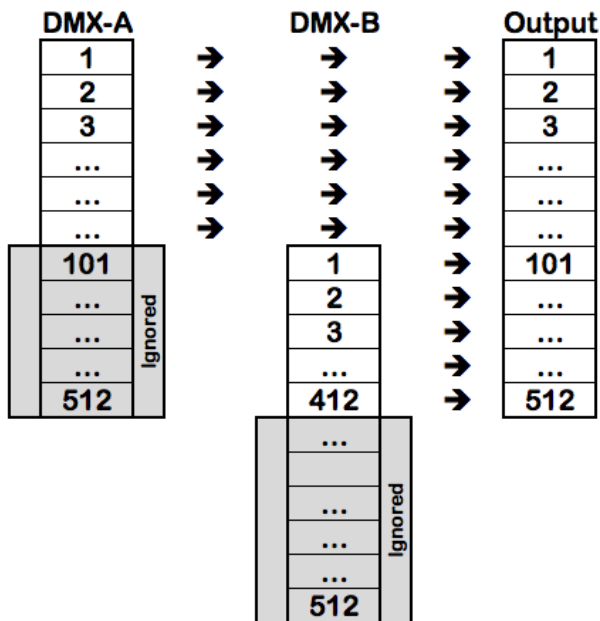
With the Merger's address set to 101, in Modes 3 and 4, DMX slot 1 from DMX-A goes out to slot 1, regardless of DMX-B's level (i.e. the first 100 address slots of DMX-B are ignored). At DMX slot 101, slot 101 from both A and B are merged HTP and output to slot 101 on the DMX OUT.



Mode 3 & 4 with offset of 101

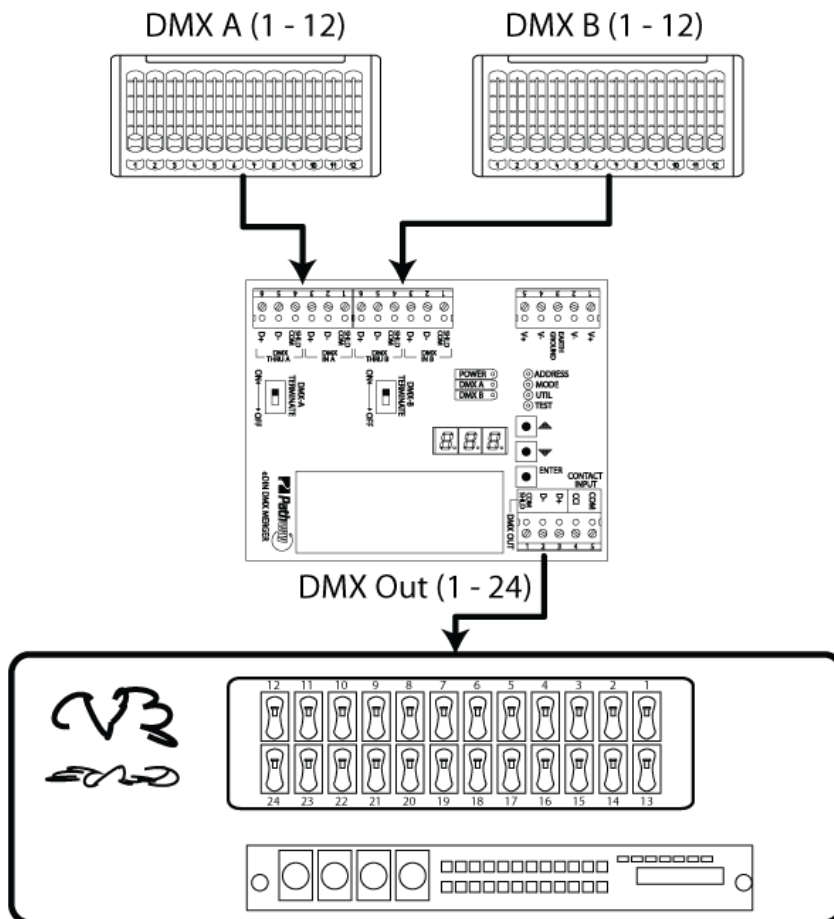
Append Modes

In Modes 9 and 10, the merge engine is not used and a non-001 start address, or offset, is necessary. The offset determines how much of DMX-A will be used before signal from DMX-B will inserted, or appended, to the DMX OUT..



Mode 9 & 10 with offset of 101

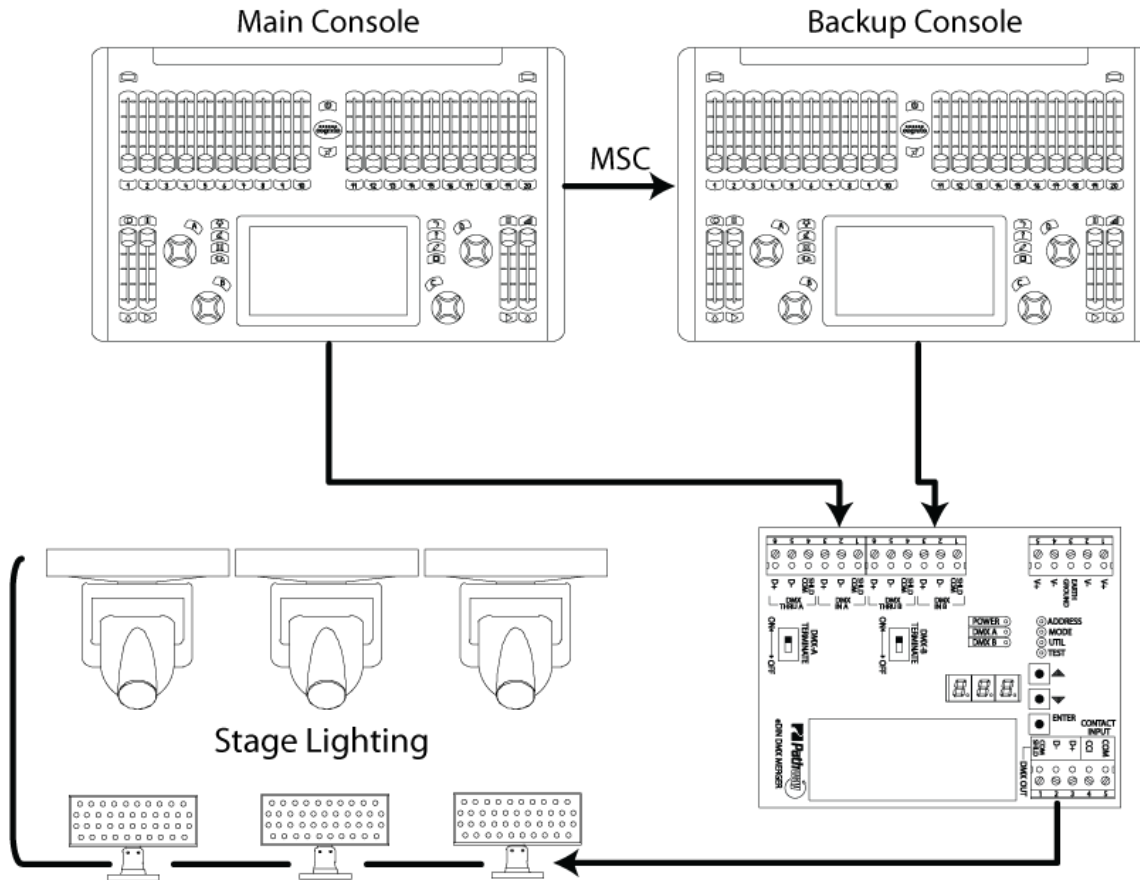
This mode would typically be used in an installation where one dimmer rack is shared between two rooms. In the example below, each room has a twelve channel console running half of the dimmer pack.



Automatic Backup

Modes 5 and 6 automatically switch to the DMX-B stream when data is not present on DMX-A. In Mode 5, when no DMX is present, the #1007 will hold the last look for 2 seconds before switching to DMX-B. In Mode 6 the #1007 will hold it for 5 minutes before switching

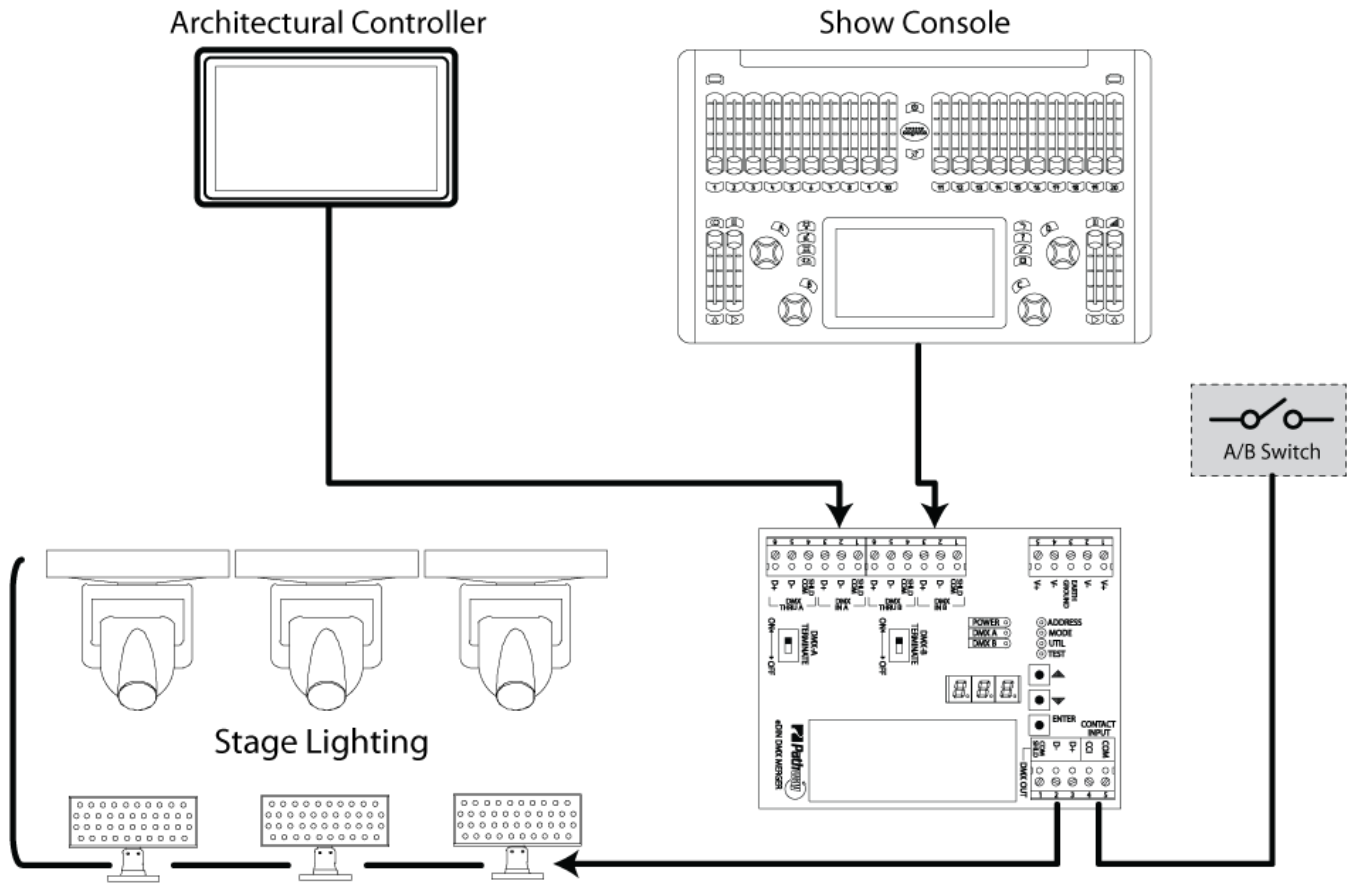
One application for this mode is when you have a backup console in case the main console goes down. In this drawing, the Main Console is feeding Go commands to the Backup Console with Midi Show Control (MSC), placing them in sync with both outputting the same levels. The Merger's output will always be from DMX-A, unless DMX-A dies. Then the #1007 will automatically take the signal from the Backup Console.



Another usage of this mode has the house light controller is plugged into the DMX-B side. As long as the show console is turned off, the house light controller has control of the house lights. But, if the show console is on (DMX present on the DMX-A side), the show console will have complete control of the whole output range.

Backup using a Switch

In the above example, the mere presence of DMX on the DMX-A port means that it wins. If more control is desired, use Mode 7 (2 second hold) or Mode 8 (5 minute hold). These modes use a the Contact Input terminals. When the terminal pins are closed (shorted together), using a dry contact closure, DMX-B wins. When the pins are open, DMX-A wins.



The switch between the two sources is immediate. If you require a crossfade between DMX-A and DMX-B, look into Pathports; they offer that functionality.