

MX 10 Luminance Key Modification

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(LEVEL6 Note: Original was <http://x.sysx.org/vsv/MX10mod.html>. All further notes from me are in this color.)

With analogue video, a luminance Key is the combination of 3 signals: background source, key source (the signal that "cuts the hole"), and insert source (the signal that "fills the hole"). Often the key source and the insert source are the same signal. The Panasonic MX10 luminance keyer allows you to cut a hole with video from source 1, Source 2, or the external camera input, but only allows you to fill it with the background colour video. This modification allows video from Source 1, or Source 2 to be used as the fill video, producing a full luminance key between two video sources.

In the above paragraph, we would be talking about the "SUPERIMPOSE EFFECT" and "BACK COLOR" sections of the WJ-MX12.

- The *background source* would be the main video picture you are superimposing over. This is the original input signal (whichever you select from the VIDEO 1 or VIDEO 2 buttons).
- The *key source* (the "hole-cutting" signal) would be determined from your adjustments of the "KEY LEVEL" (Lower and Upper) sliders.
- The *insert source* would be determined by your adjustment of the "BACK COLOR" knobs, assuming your "COLOR SELECT" keys are set to "BACK COLOR" and not "WHITE".

Parts needed: One SPDT switch and a bit of wire.

Caution! This modification involves soldering onto surface mount components and should not be performed by anyone who is not experienced in this kind of work.

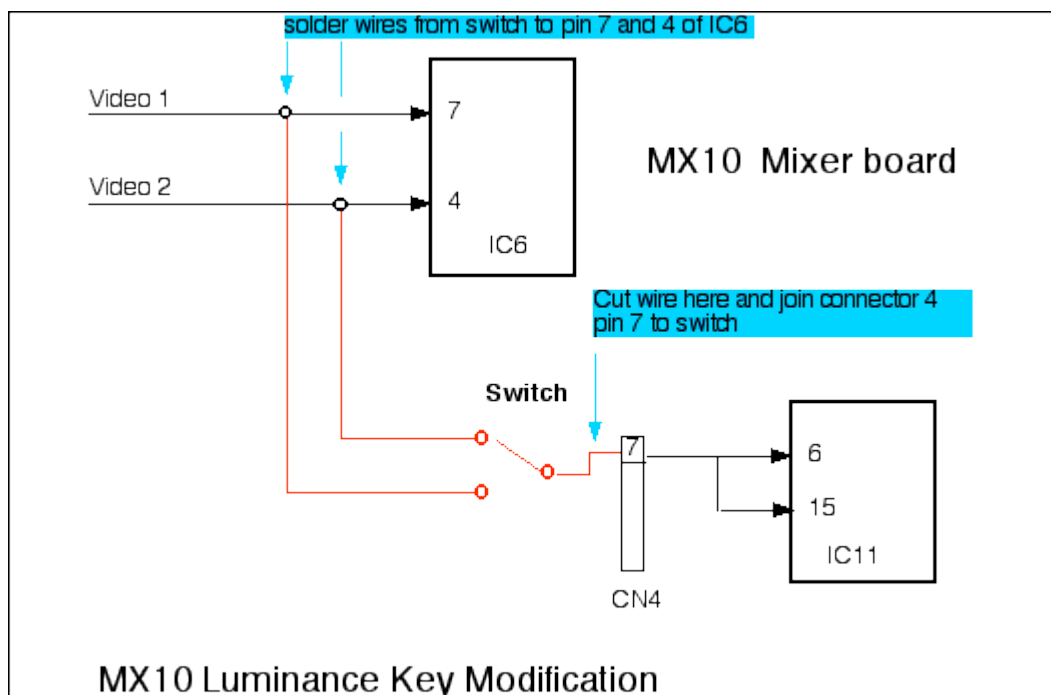
Not only that, but it involves surface-mounted chips, which are the most difficult due to their pin spacing. There are plenty of tutorials online. I HIGHLY recomend that you go grab some \$0.25 trashed-out circuits from your local swap shop and practice. I'd also recommend a pick set and the sharpest, thinnest soldering tip you can find. Surface-mount pads are lifted very easily, making even the best of us have to run tracewire repairs. NEVER apply the heat for too long.

This simple mod is acheived by disconnecting the video from the white background video generator and substituting the video signal from source 1 and source 2, via a switch. The "White" button in the colour select section of the keyer then becomes the selector for the luminance key (you will loose your white background option, but this doesn't matter as white can still be selected as one of

the background colours via the background colour selector). The purpose of the switch is to be able to switch the insert source (or fill video) between source 1 and source 2 independently of the key source (hole cutter). This allows the possibility of 8 different combinations of keying when used in conjunction with the source select buttons and the bus switches. It is even possible to select the same input for background, key source and insert source, which, when used with the title effect options, produces a wierd outline effect.

Unfortunately (but, fortunately?) losing the ability to quickly switch back to white does matter to me. I am going to attempt a solution which will not force a loss of that function. It will take another switch and some more wire. Stay tuned... I am going to find my manual and scan some diagrams in in the next week or so. When I start opening it up, I'll get snapshots, as well..

If you have ANYthing to contribute to this effort, please email me at level6@leper.org...



Instructions:

1. Dissassemble the MX10 by removing all the screws on the bottom that have arrow markers, and loosening the 5 case screws at the back. Don't remove any other screws.
2. The MX10 should come apart in two sections: the top and the bottom. The top section is the one we are interested in. It has a number of boards. The one on top with the small silver metal shield, and without the plastic cover is the mixer board. The space between the mixer board and the meter board (between the meter and the keying section of the control panel) is the best place to mount the switch.
3. After mounting the switch, cut the grey wire that runs to connector 4 - pin 7, on the mixer board,

leaving enough length to run it from the connector to the centre pin of the switch.

4. Run wires from the other two pins of the switch to pins 4 and 7 of IC6 on the mixer board.

