

Adding Two Switchable Video Inputs to existing navigation screen to an XK8/R

Jaguar video displays (as most vehicles) use an RGB (separate Red, Green and Blue channels) interface with a separate sync signal. This is often referred to as RGBS.

Most aftermarket video sources are composite (NTSC in the US) video, which basically combines the image, colors and sync into one signal. This is all analog technology, no HDTV here, but on the 5.5 inch monitor in the Jag, it has acceptable resolution.

In order to interface the aftermarket composite signal to the Jag RGB video, a video converter is needed. There are a small number on the market. I chose one from Pacific Accessory Corp. (PAC) called the VCI-X.



DO NOT use PAC's other universal model, called the VCI-X2...thanks to Matt's (our moderator h20boy) trials and tribulations we have discovered that it does not generate adequate brightness for the Jag monitor. The best deal on the PAC VCI-X is usually at Amazon for about \$200, unless you are lucky like I was to find a good used one on ebay for about half that.

Unfortunately, no one makes a plug and play video converter for our cars, so a universal model must be spliced into the wiring harness. This can be done in the trunk near the navigation DVD player, or in front near the monitor. I chose to splice it in the front near the monitor, which is what I will describe.

Materials list-

- PAC VCI-X
- Cherry Electrical SRJ24A3HBBNN SPDT switch (see text)
- Qty 3, .187" blade quick-connect terminals, #18ga (if above switch is used)
- 10K ohm, ¼ watt resistor (see text)
- Heat shrink tubing (assorted sizes, but plenty of 3/8"-->3/16")
- Electronics grade solder (Eutectic)
- Electrical tape (I prefer fabric friction tape, it helps cushion potential rattles behind the dash)
- Plenty of ty-wraps (assorted sizes, but mostly 3"-4")
- Flat or semi-gloss black spray paint
- Open cell foam self adhesive weatherstrip.

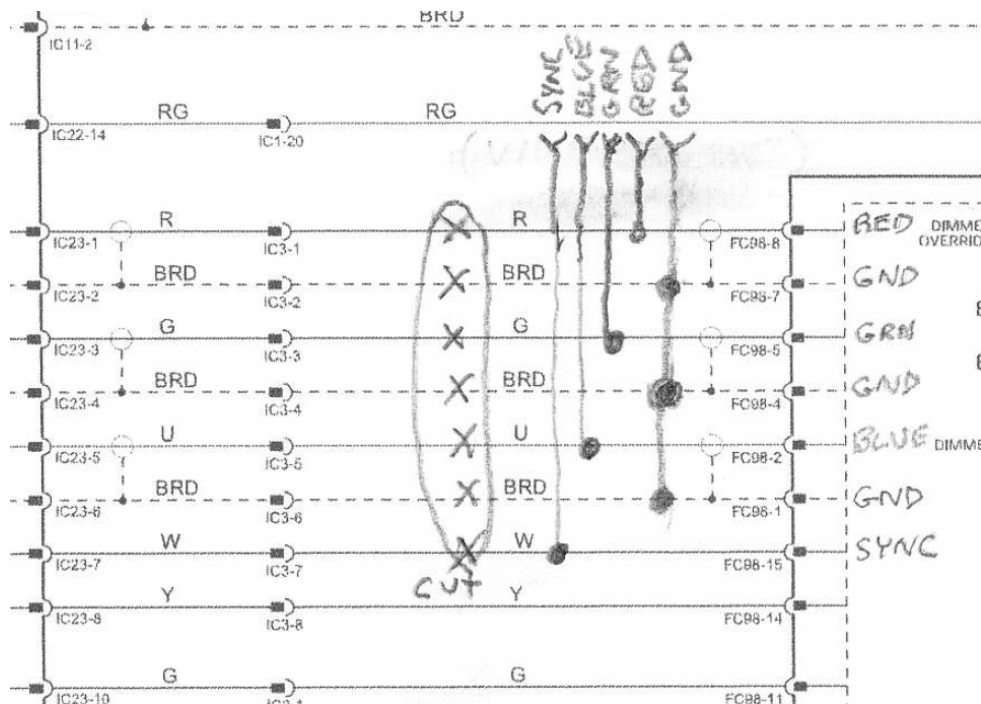
Following JTIS, remove the center console, radio and adjacent console button assemblies. Also remove the center wood panel and the monitor. (Note that Reverend Sam of Jagforum fame has a nice video on the forum on how to remove the wood panel: <http://www.jaguarforums.com/forum/showthread.php?t=47453&highlight=wood>).

The instructions that come with the PAC VCI-X are in the document below:



The instructions are pretty clear, but the following additional information is needed to integrate in the XKR:

In the schematic section below, on the left is the original nav unit, and on the right is the monitor. The 'X's' I have penciled in show the wires to cut near the FC98 (16 pin) connector to the monitor. (The 12 pin connector connections are not modified). I have labeled the red, green and blue wires, the sync and the ground. The wires colors are correct as per their function, and the sync wire is white. 'BRD' stands for braid, which is actually brought out to separate white ground wires at the 16 pin connector. Note that the ground wires will need to be spliced together. Unfortunately, there is not a lot of slack in the harness, so this will be fairly tedious work. The cuts can be made roughly 1 to 1-1/2 inches from the FC98 monitor connector. Solder splice the wires per the PAC instructions and cover them with heat shrink tubing. Make sure you use electronics grade eutectic solder and a low wattage soldering iron (about 25 Watts).



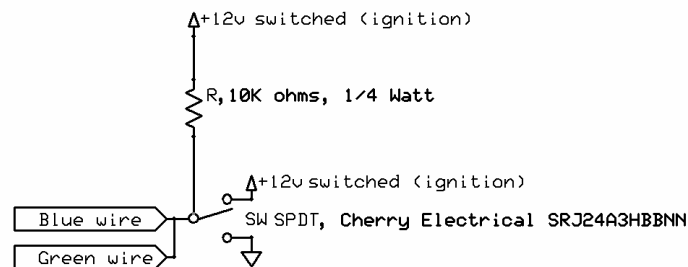
Also, before connecting the converter, definitely follow the advice in the instructions and test mate the two molex connectors that are spliced in the circuit to make sure your splices are done properly.

You can tap for switched +12v power at the cigarette lighter feed wires.

Note that the PAC VCI-X instructions are written for using the unit in an application where 'video 1' is disabled with the car in motion (for safety to keep people from watching videos while driving) and so 'video 2' switches in automatically for a backup camera.

For an application with navigation and/or XM radio on 'video 1' and the gauge display on 'video 2' we need a different approach. We simply want to switch on demand between 'video 1' and 'video 2' without regard to the car moving or backing up. I also wanted a way to preserve the leaper and clock display (or just the clock display on later models) when desired.

The solution is to use an SPDT center off switch and connected it as shown below:



The three positions of the switch are then video 1 (center to +12), original nav. video (center off) and video 2 (center to ground).

The 10K ohm, 1/4 watt resistor, can be picked up at Radio Shack for a few cents. (The exact value of the resistor is not critical, as long as it is reasonably close, 12K ohms for example would also work). The blue and green wires must be connected together to the center tap of the switch and to the resistor. The resistor is necessary for the switching to operate reliably. Without the resistor, the unconnected inputs hold a charge and do not necessarily switch spontaneously.

Also cut off the switch supplied with the PAC VCI-X with red and black wires and tape up the ends of the wires separately to avoid accidental shorts. These wires are not used in this configuration.

The switch chosen was this:

<http://www.alliedelec.com/search/productdetail.aspx?SKU=9080070#tab=Specs> .

Thanks again to h20boy for recommending this switch. With some careful cutting and filing of the plastic, it fits nicely in the square dummy vent next to the valet switch. You

can also paint the dummy vent flat or semi-gloss black to better match the valet switch look.



Finally the PAC VCI-X unit itself can be mounted against the inside of the carpet, on either side behind the radio wrapped in some open cell foam weatherstrip to prevent rattles and just allowed to rest against the inside of the carper behind the radio.