

Yannick RGB – Install Process – Intellivision

Yannick’s RGB board is a wonderful RGB amplification board designed to help bring out the best video output for both Intellivision model 1 and model 2 systems. This guide is to provide you with the information you need for installing this and other similar Intellivision RGB boards on the model 1 Intellivision

NOTE: – *This guide requires experience using a soldering iron and understanding the basics of electronics and tools. I take no responsibility if you follow these instructions to modify your system as you do so at your own risk!*

Tools Needed:–

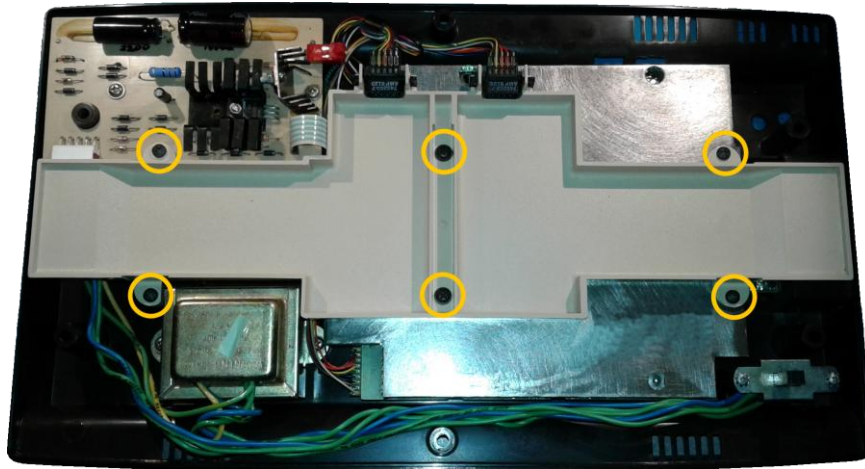
- Yannick RGB Intellivision board
- #2 Phillips screwdriver – for disassembly
- Tweezers or small needle nose pliers – To help with holding onto wiring
- Soldering iron – cause that solder isn’t going to attach itself
- Solder – the ‘glue’ of electronics
- De-solder braid/wick or de-soldering iron – That RF shield is a pain
- Lengths of small gauge wire – different colors make it easier for each connection
- Side/Flush cutters – keep things trimmed up
- Multi-meter – to verify continuity of connections and check for shorts

Disassembling the Intellivision:–

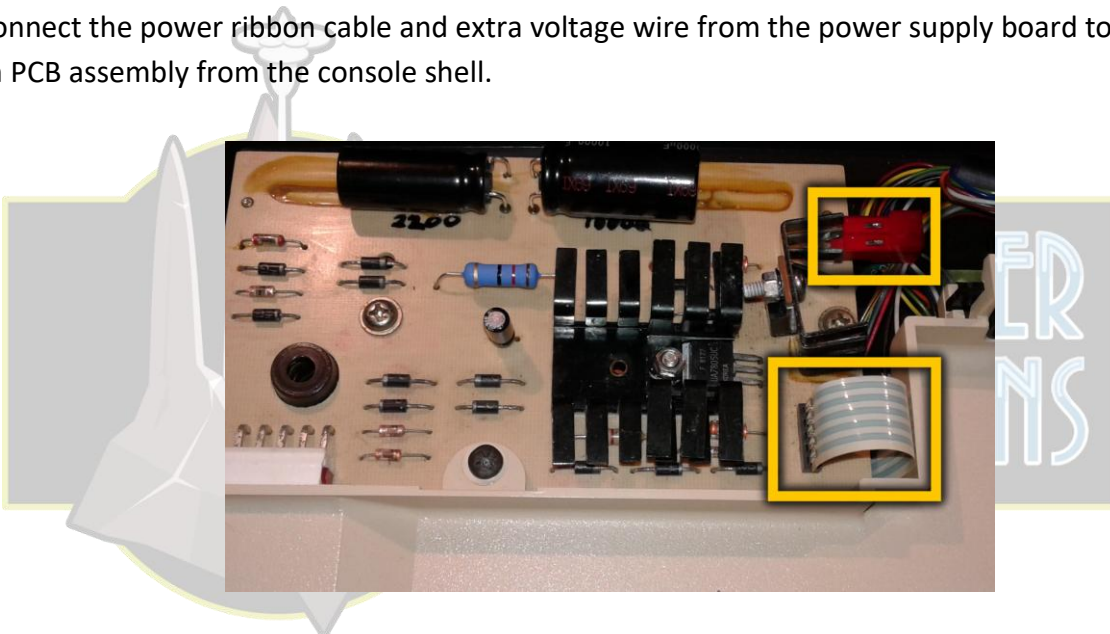
1. Start by removing the top cover from the Intellivision by removing the 6 screws along the bottom of the case. Refer to the yellow circles in the picture below for screw locations. You also have to pull up on the power switch to remove the cover button on the switch.



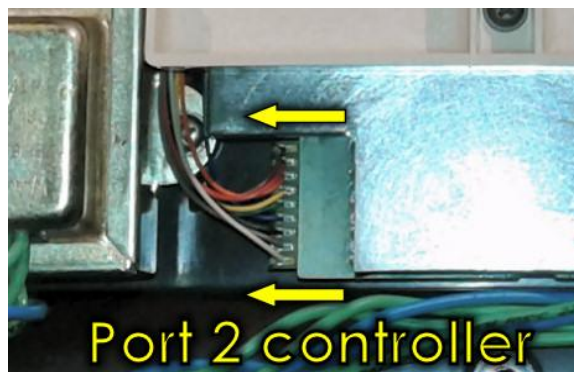
2. Remove the controller tray assembly by removing the 6 screws as shown below.



3. Disconnect the power ribbon cable and extra voltage wire from the power supply board to remove the main PCB assembly from the console shell.



4. Remove the controller cable harnesses from the main PCB by carefully pulling the Molex style connectors away from the controller header pins on the PCB. **NOTE:- Wiring faces upward from the connector when installed.**



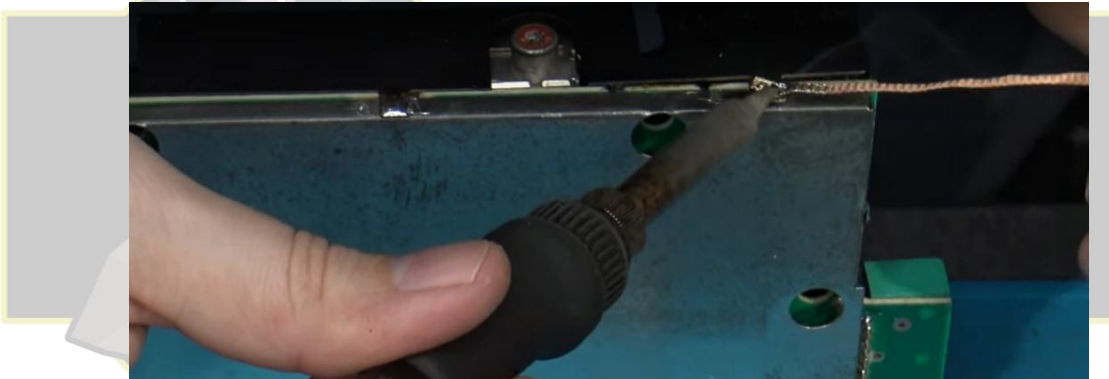
Main board preparations -

RF Shield Removal: - Kind of a Pain

The larger section of the two halves of the RF shield will need to be removed for this installation. If you plan to attach your wiring on the solder side of the PCB, then you will need to remove both RF shielding sections that sandwich the main board PCB between them.

NOTE:- As the RF shield is a bit a challenge to remove, you do NOT have to reattach it if you don't want. I only reattach the shiny and smaller half of the RF shield to protect the solder side of the PCB.

1. Start by setting your soldering iron to a pretty high temperature as the shielding will draw quite a bit of heat away when you try and remove the solder from the tabs.
2. Use de-solder braid/wick or a de-soldering pump to try and remove as much solder as you can from on top and around the tabs that surround the PCB. There are 3 tabs on each of the long sides with 2 tabs on each end. The smaller RF shield has a large tab soldered to center section of the cartridge slot pins that has to be separated if you need to remove that RF shield as well.



3. Use a flat blade screwdriver or something similar to get under the tabs to help pull them away from the PCB edges as you apply your soldering iron onto the tabs to loosen the remaining solder holding the tab down in place.

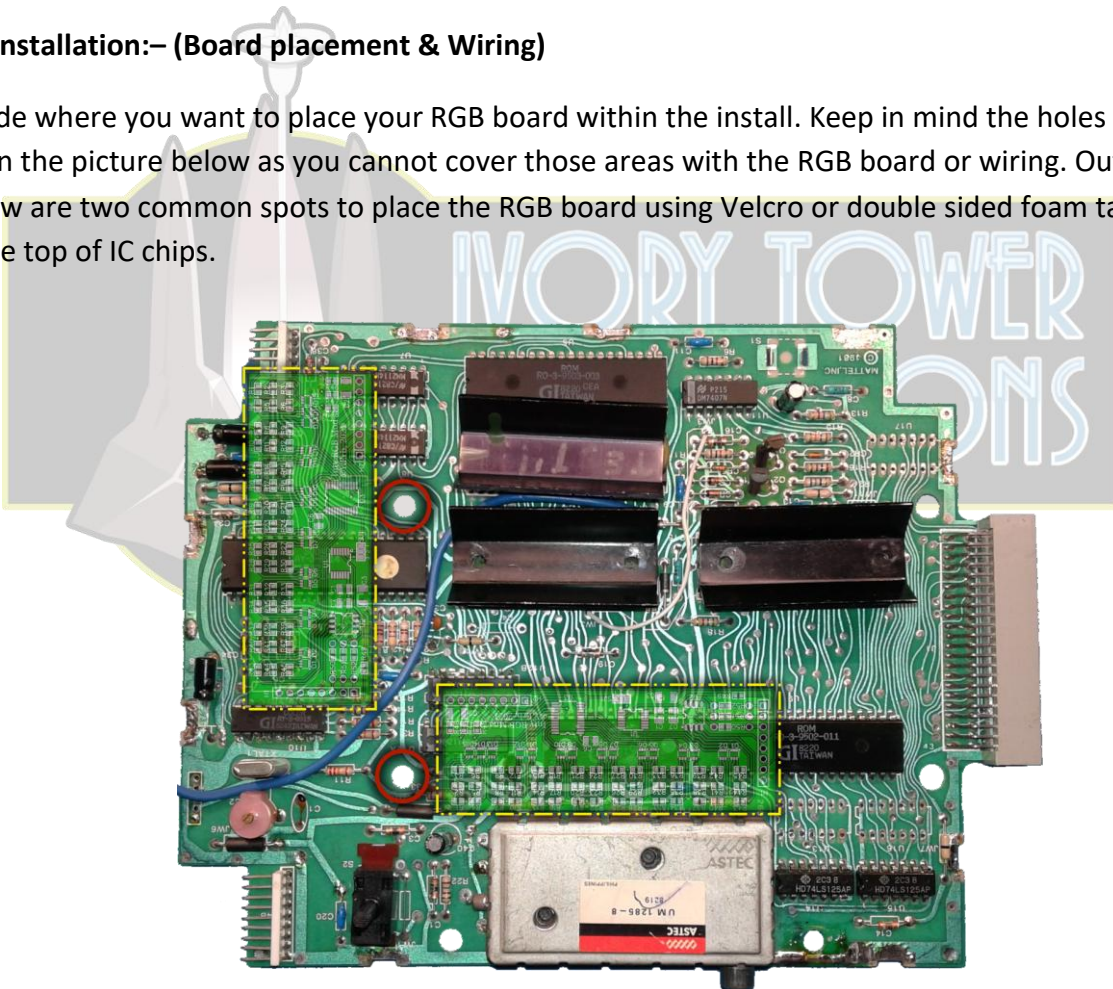


- Once all the tabs appear to be loose, use a flat bladed screwdriver to wedge between the shielding and the mainboard to gently pry the shields halves away from each other and the main board PCB.



RGB board installation:- (Board placement & Wiring)

Decide where you want to place your RGB board within the install. Keep in mind the holes circled in red in the picture below as you cannot cover those areas with the RGB board or wiring. Outlined in yellow are two common spots to place the RGB board using Velcro or double sided foam tape attached to the top of IC chips.

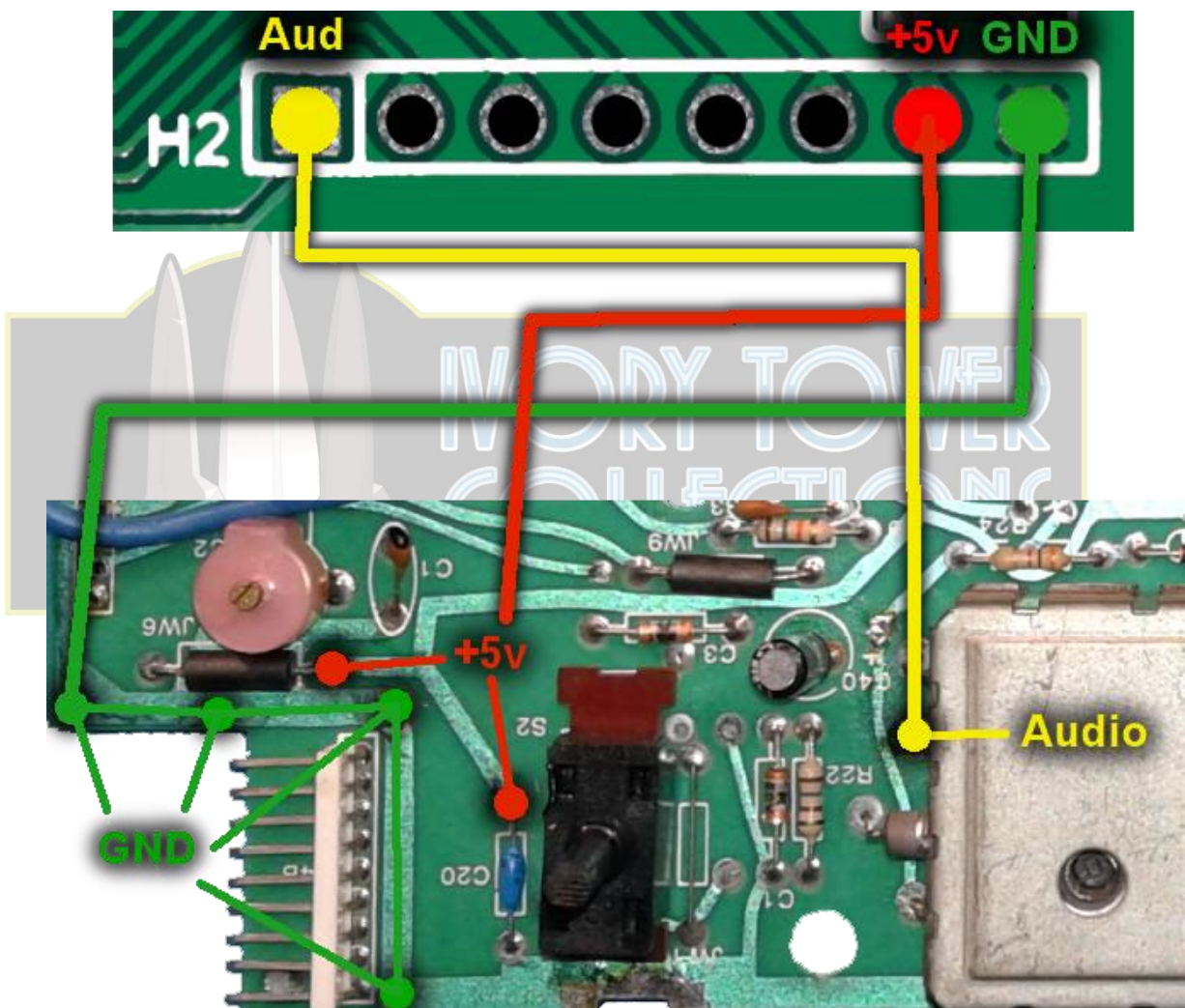


Note:- Remember that where ever you install the RGB board, you want logical access for your wire runs from both the input and output sides of the board.

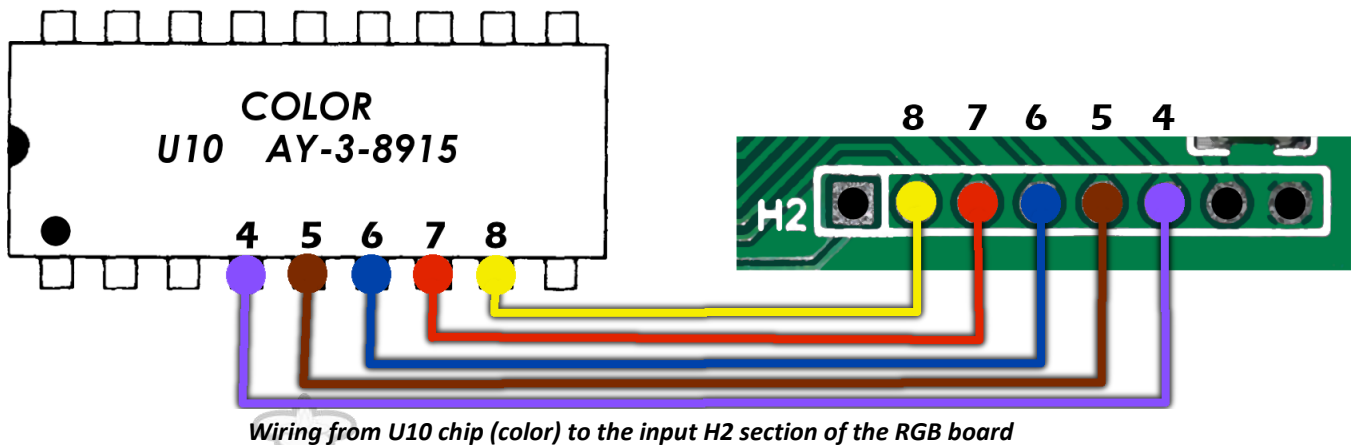
Wiring up the RGB board:- Input wiring connections

Note:- Pay attention to the diagrams in this section as the RGB board doesn't currently have any labels on the input or output vias. Use the 'square' shaped via to orientate.

1. Solder in the wires for your **+5v**, **GND**, and **Audio** to the input pins (**H2**) section first. +5v can be found near the ferrite bead labeled as JW6 or capacitor C20 near the channel select switch. Ground can be had from anywhere along the larger outer trace on the main board but a few spots have been shown in the picture. Audio can be had from the 2nd pin/wire on the RF modulator or from the south leg of C31 near the lower right of the sound IC chip.



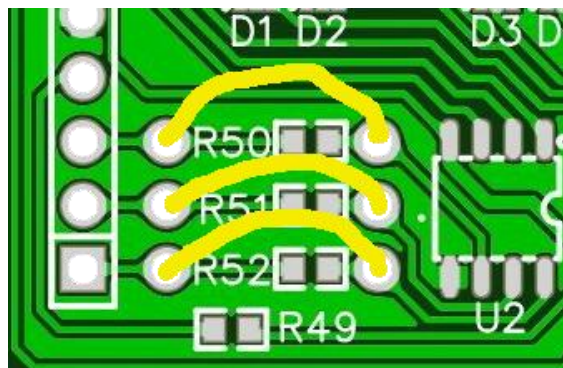
- Solder in the wire to the rest of the input section from pins off of the Color IC chip (U10). Remember that if you solder to the pins on the bottom of the PCB, make sure you are connecting to the correct locations. Different colored wire for each isn't required but helps to keep this organized.



Wiring up the RGB board – Output via wiring

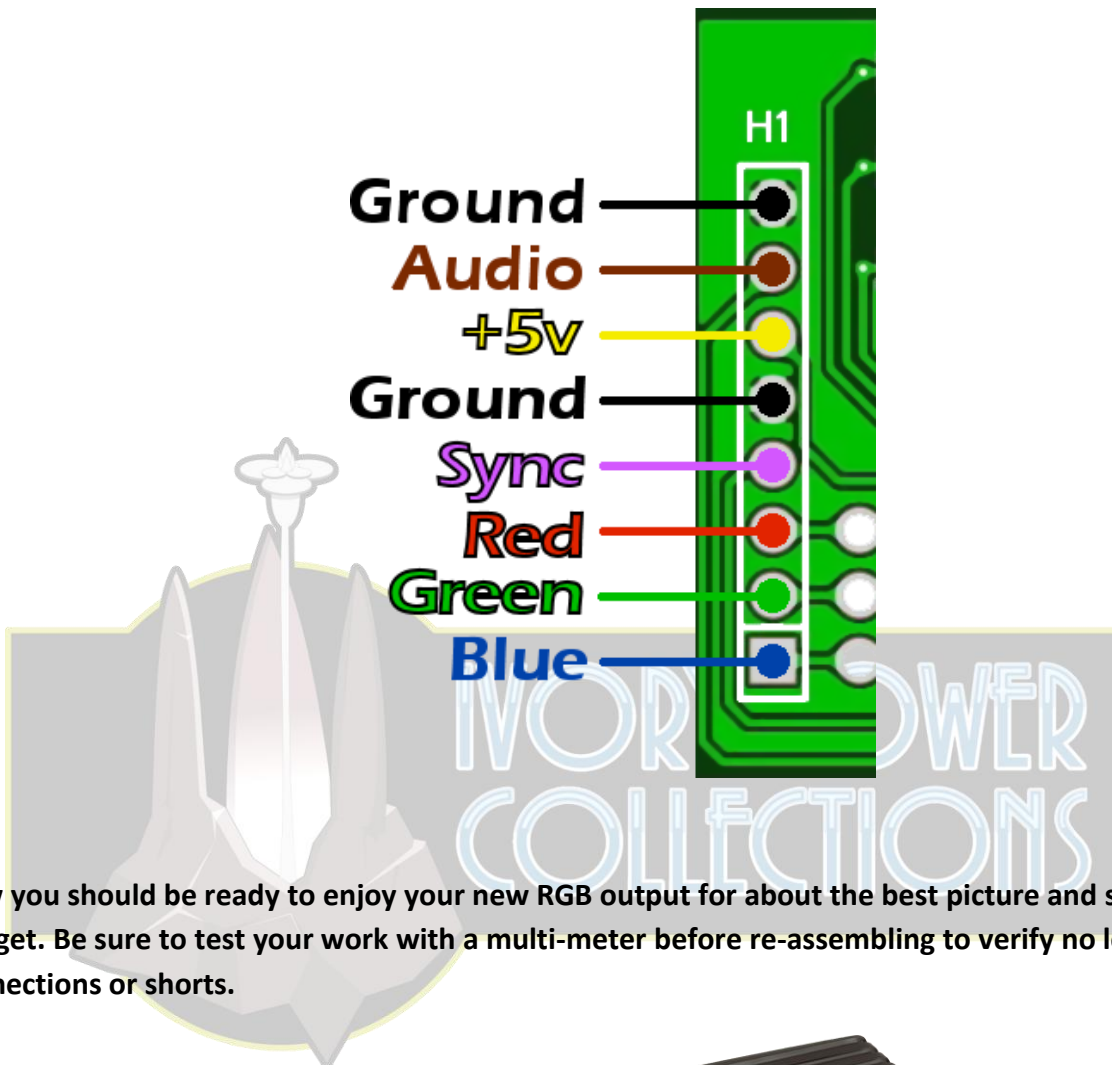
Note:- Pay attention to the diagrams in this section as the RGB board doesn't currently have any labels on the input or output vias. Use the 'square' shaped via to orientate.

- 75Ω output resistors are located near the output section labeled as R50, R51, and R52. If you find that the output video is too dark, install jumper wires on the vias in front & behind the resistors to bypass. If you find the picture to be too bright, then you can add additional resistors in series from the vias between the resistors and the output pads and then attach your R,G, & B wires from the other ends of the resistors instead of the output vias.



Ex. Jumper wire used to bypass resistors

As there are many different kinds of output methods for RGB, I can only present you with a diagram that labels what vias provide what on the output (H1) section of the RGB board. Whichever RGB output jack you decide to use will likely require most of these output connections.



Now you should be ready to enjoy your new RGB output for about the best picture and sound you can get. Be sure to test your work with a multi-meter before re-assembling to verify no loose wire connections or shorts.

