

CTS-1 MODIFICATION FOR NEW GAMES

The purpose of this modification is to enable the CTS-1 test fixture to be used with all existing games and all new games including those utilizing the new X-Y Monitors.

This will all be made possible by the installation of the new Audio/Regulator Board and its associated components.

PROCEDURE:

1. The first step will be to install the Atari Audio/Regulator Board which will supply the necessary 5VDC for all new Atari game boards which do not include on board regulation, and for the audio section which will replace the existing Atari dual audio amplifier board.

Where the board is mounted will depend upon the CTS unit you are using. In the older models the only space for this board is directly behind the T.V. monitor. In the new models this board may be mounted to the right side of the fixture. When you have decided where the board should mount on your particular set, the next step will be to drill the mounting holes;

2. Using a 1/8" drill bit, drill the four holes into the upper and lower chassis bar on the inside of the unit. Be sure to space these holes so they match up with the four holes on the top corners of the Audio/Regulator Board.
3. Using the four #6 screws and plastic standoffs, (supplied) mount the board with the heatsink facing inward to the cross-beams of the CTS-Frame, wherever convenient. (be sure the cables will reach their final destinations. See diagram.
4. You may now insert the harness plugs into their appropriate sockets on the board; First unplug the old Dual Audio Amp. board and remove it. The harness that came with the New Audio/Regulator Board is equipped with a 10 pin Molex connector that plugs into the connector that formerly mated with the dual audio board.
5. Loosen (do not remove) the two screws on the aux. supply filter capacitor and install the two fork terminals, tighten.
NOTE: Some models incorporate ring lugs and it will be necessary to remove the screws. (BE SURE TO OBSERVE CORRECT

POLARITY AS INDICATED!!!). REFER TO DIAGRAM.

6. Next insert the Cannon terminals into their appropriate designated locations in Cannon connector "C" (program plug). You are now ready to install the new Power Transformer for high current use;
1. First remove the wires from the old RT-20X transformer mounted on the back of CTS. (See diagram). Cut or unsolder as close to the transformer as possible all wires so there will be enough slack to do the following;
2. Remove the old transformer and mount the new one using the mounting brackets supplied with the mod. kit. On some units these will already be installed on the transformer, if not use the hardware from the old transformer and install the brackets supplied with the kit. You'll find it necessary to drill at least 3 new holes. To do this use a 15/64" drill bit. Line up the transformer for proper fit and install.
3. To wire in the new transformer, first replace the old 2 Amp circuit breaker with the new 5A unit. (See diagram).
4. Connect the yellow/black and brown/black wires to the top side of the circuit breaker (5A). (See diagram).
5. Solder the white/black wire to the wire that terminates at lug #4 on the terminal strip. (See diagram).
6. The two orange wires terminate at the two anodes of the diodes. (See diagram).
7. The violet wire is run to the negative (-) side of the filter capacitor wherever this connection is convenient. (See diagram).
8. The two red and violet/white wires are marked for their proper locations in the "B" Program connector. (See diagram). This completes the power supply modification. The next description is for the X-Y mod. and is as follows;
1. Insert the Cannon pins into their appropriate termination points in "B" program plug connector. (See diagram).
2. Insert the nine pin Molex connector into the mating connector on the back of the X-Y monitor cabinet.

NOTE: All power to the X-Y monitor is controlled by this new power supply, hence it can be turned on or off via the MAIN power switch on older CTS units by the AUXILLIARY power switch on the new fixtures or by the breakers on many older units.

NOTE: As with any modification, after completing this, be certain to test all voltages to be sure they are nominal. (Refer to Program Plug Listing). The sense lines should be momentarily shorted to their respective output lines to check for 5VDC, if this voltage is too high or low then a touch-up adjustment should be performed using the control pot. on the Audio/Regulator Board).

1. Install the two audio pots and the audio enable switch on the front monitor panel.

THIS COMPLETES THE ENTIRE MODIFICATION.

MODIFIED PROGRAM PLUG LISTING CTS-1

BE SURE TO TEST THESE POINTS FOR PROPER LEVELS BEFORE OPERATION OF BOARD!!!!!!

- BK-5 -TRANSFORMER 18VAC
- BJ-5, BJ-6 -TRANSFORMER CENTER TAP
- BK-6 -TRANSFORMER 18VAC
- CH-1 -AUDIO DISABLE*
- CH-2 --+5VDC OUT
- CH-3 --+5VDC OUT
- CG-5 - -5V SENSE
- CG-6 - +5V SENSE
- CH-4 - GROUND
- CH-5 - GROUND
- BJ-1 - SIGNAL GROUND (COMMON TO ALL OUTPUTS)
- BJ-2 - Z (INTENSITY) OUTPUT
- BJ-3 - Y (HORIZONTAL) OUTPUT
- BJ-4 - X (VERTICAL) OUTPUT

*This is the switch located on the Audio/Regulator Board. This controls the audio enable circuits. This switch allows for use with Game Boards with or without audio squelch circuits, by manually disabling the control pin CH-1.