

Installation Instructions for GiantDOTS™ replacement DMD

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For In-machine GiantDOTS Display

Revision: 1

Generic Notes:

- These instructions contain an overview of the installation, pictures shown are from different machines, but represent the overall install, your machine may be slightly different.
- A few machines have features on the original display panel (such as The Addams Family, THING, lamps) that do not fit on our new display panel, so these features will not be used.
- Since we have not verified installation on every machine, if you encounter a problem not described in these instructions, please contact us at support@bostonpinballcompany.com, provide details and pictures if needed so we can resolve the problem. Or if you find something you think we should add to the instructions, just let us know.
- Never unplug any connectors in your machine with the power on. Also be aware that some machines have AC power wiring that can be exposed when removing covers or panels, if you are unsure, unplug your machine while performing maintenance.

Tools Needed:

- Screw drivers, nut drivers or socket set, 5/16" wrench

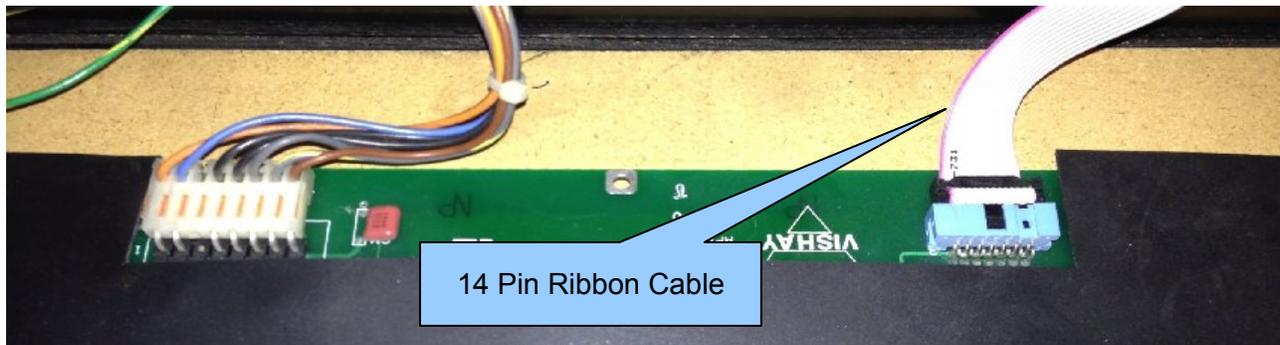
- Example of Hardware Included with Kit



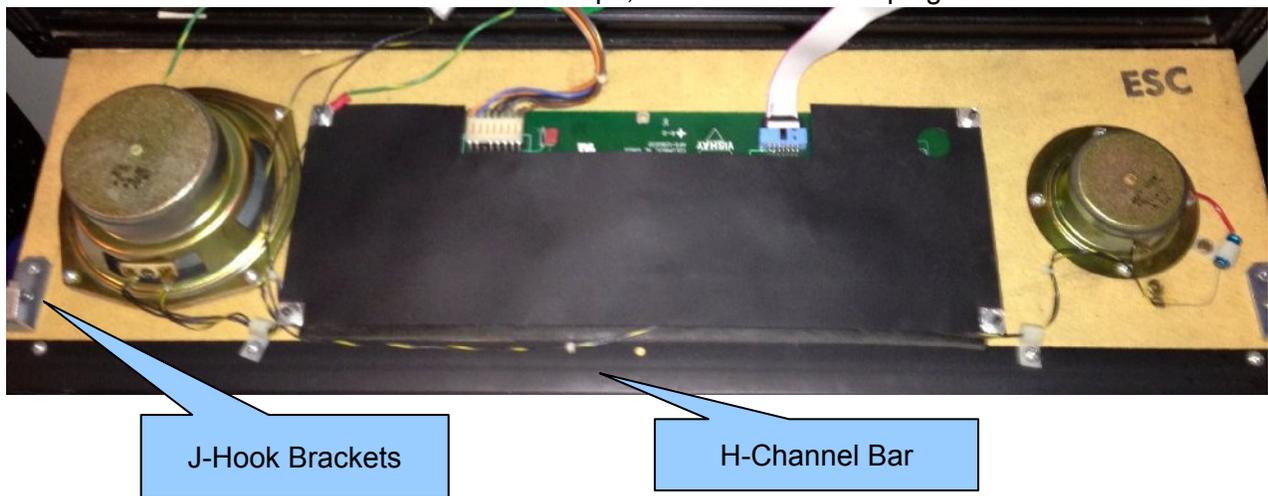
Installation Instructions:

- Make sure machine power is off.
- Remove the upper backglass
- Lift up and tilt back the DMD panel display

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- (8-Pin Power connector on left, 14-Pin control ribbon cable on right)
 - Disconnect the 2 connectors and any ground wires on the plasma DMD display
 - On the 14 pin ribbon cable, please note the orientation of pin 1 in reference to the existing plasma display board, we have found on some machines that the connector does not have a key tab or that the red stripe on the ribbon cable is not pin one, take note at this point to verify it. (The above pic shows the correct cable with notch and red stripe on correct side)
 - Remove the speakers from the panel
 - Remove the two J-hooks for the panel
 - not required on late model Williams/Bally machines
 - Remove the top H-Channel bar from the panel (some of these are screwed on)
 - not required on late model Williams/Bally machines
 - If there are other features such as lamps, remove them or unplug the connectors.

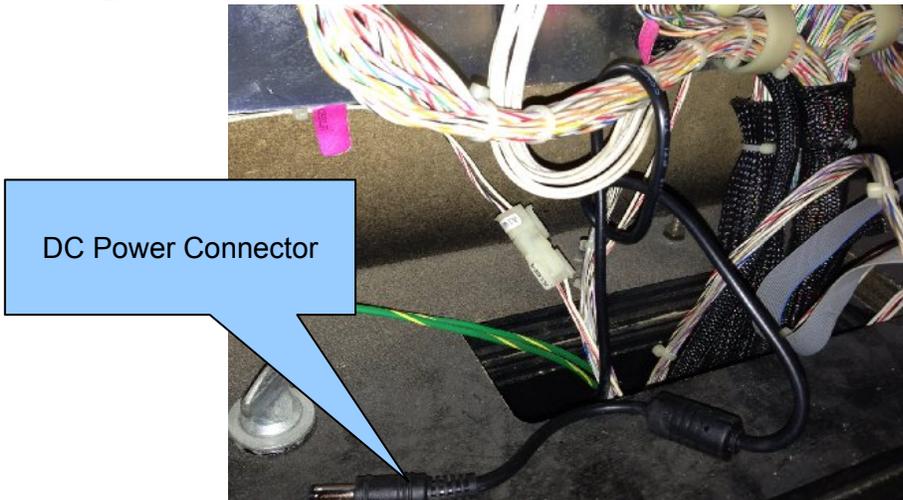


- Remove the DMD mounting panel and front graphic panel (if installed) from the machine
- Install the small L-brackets with the supplied #6-32x3/8" machine screw and lock nuts onto the speakers. Position the speakers near the edges of the backbox approximately as shown in the picture and attach to cabinet with #6x1/2" wood screws. The speaker should be as far back as possible without touching any boards that maybe installed in the back box.

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- (Speaker mounted in new location in backbox)
- For this step, remove the playfield glass and lift the playfield. Open the coin door and locate the service outlet. Install the power supply by lowering it into the opening at the bottom of the backbox, tie the DC connector end so that it does not fall into the bottom of the cabinet.



- (DC power supply connector end looped around cable bundle to keep it from falling down into the cabinet)

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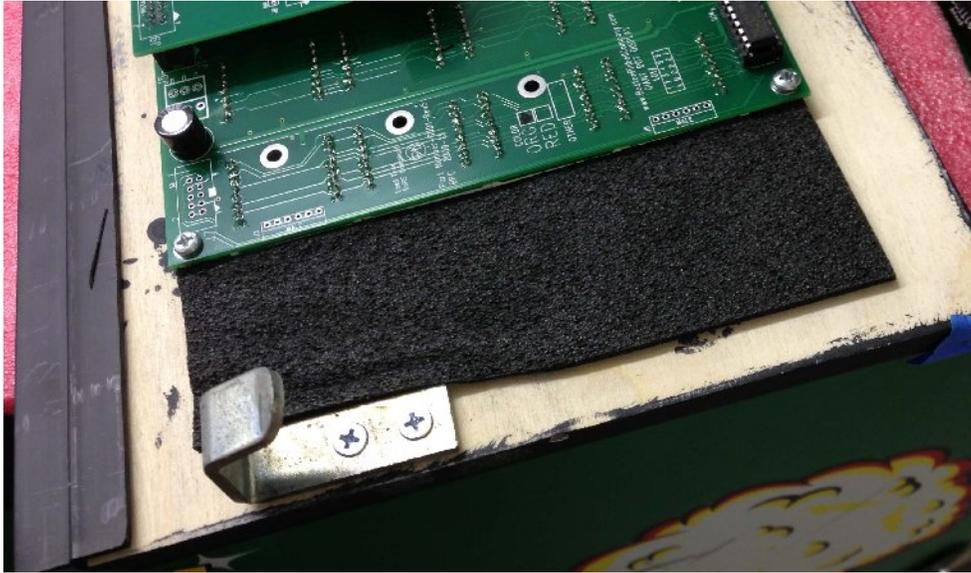
- (Service Outlet example on Gottlieb machines)



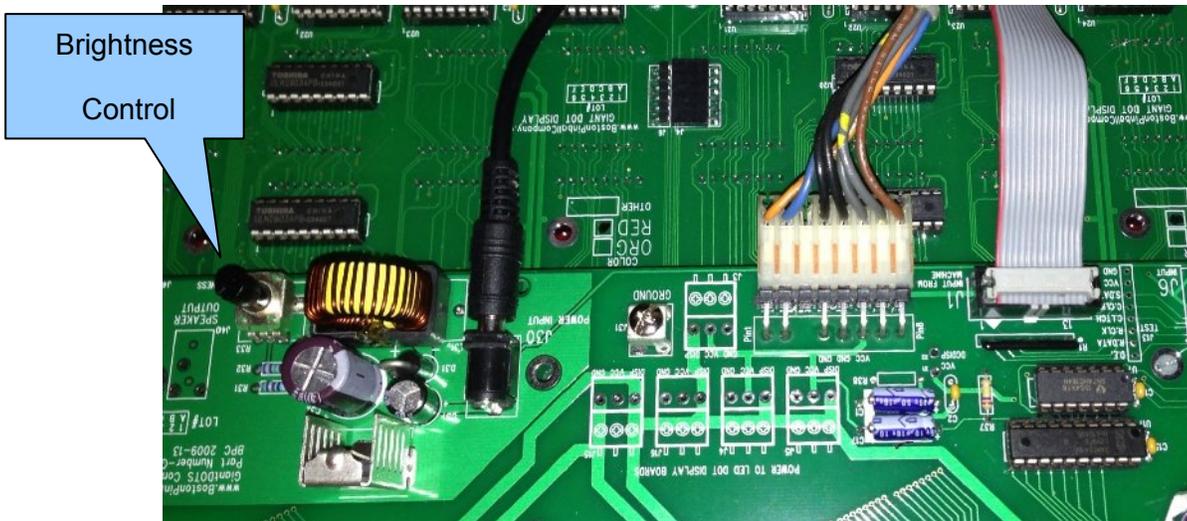
- (Service Outlet example on Williams machine)
- You need to route the AC power cord to the service outlet near the front of the machine. Make sure the power supply box is not located near any large transformers in the cabinet, and will not get caught on any playfield features or when lifting the playfield.
- Take the GiantDOTS display panel:
 - (For late model Williams/Bally Machines, your kit contains a new U & J-Channel, skip to the next section for installation instructions)
 - (For early Stern machines see the next section and the additional section below about installing display control board)
 - Generic:
 - Install the J-hooks using the supplied #8x3/8" Flat head screws
 - Install the foam gasket over the speaker holes, align the edge against the pcb assy, this is to prevent any light from the backglass area shining through

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- Attach the 2 existing connectors from the machine to the circuit board. Noting the key tab on the 14 pin ribbon cable. [Note; we have found that some of the 14 pin connectors do not have a key tab, be sure the connector is installed correctly by noting pin 1 as described above]
- On the 8 pin power connector, there should be a key plug at pin 3, if not, then pin 3 should have no wire in it, be sure to line pin 3 with the key on the display circuit board.



- (Connector layout of GiantDOTS display, shown in the flip down position installed on the pinball machine)
- Now connect the DC power connector from the power supply, also noting the location of the brightness control on the circuit board, it is initially set counterclockwise and set to its dimmest setting.
- Install the display panel into the U-channel on the back box.
- Check the fit of the panel in the U-channel, this is to verify the position of the J-brackets.

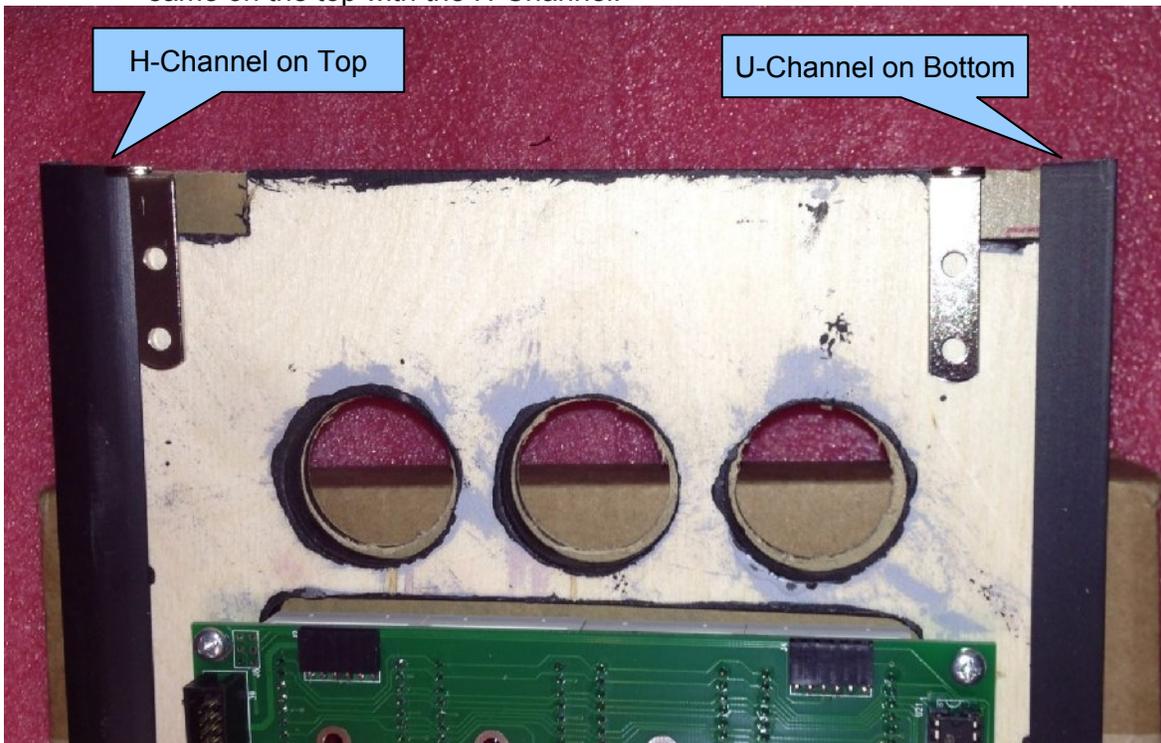
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- Take the front acrylic panel, remove the protective film, install the 6 vented hole plugs. Install this in front of the display panel, also in the U-channel. (Lift the display panel slightly to install the acrylic front panel)
 - Install the H-Channel on the top of the panel.
- Display Panel Installation for late model Williams/Bally:
- Take the front acrylic panel, remove the protective film, install the 6 vented hole plugs. Install this in front of the display panel.



- (Acrylic panel on bottom (protective film not removed in this example))
- Now slide the U-Channel on the bottom edge over the panel and acrylic panel, do the same on the top with the H-Channel.



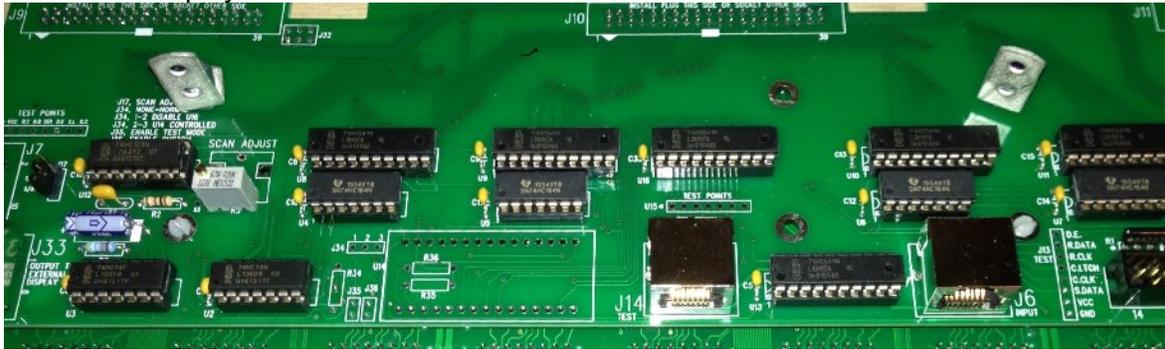
- (Late model Williams/Bally panel installation)
- Now position the brackets as shown in the picture. The top bracket should have about 1/2" space below it for the notch. The bottom bracket should have 3/8" space below it for the notch. Screw the brackets in with #6x3/8" sheetmetal screws.
- Check the fit of the panel into the backbox, onto the side pins.
- Attach the 2 existing connectors from the machine to the circuit board. Noting the key tab on the 14 pin ribbon cable. [Note; we have found that some of the 14 pin

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connectors do not have a key tab, be sure the connector is installed correctly by noting pin 1 as described above] (also see picture above)

- On the 8 pin power connector, there should be a key plug at pin 3, if not, then pin 3 should have no wire in it, be sure to line pin 3 with the key on the display circuit board.
 - Now connect the DC power connector from the power supply, also noting the location of the brightness control on the circuit board, it is initially set counterclockwise and set to its dimmest setting.
- Additional notes for early Stern machines with display control board mounted to display panel
- Install the supplied brackets on to the 2 brackets already installed on the GiantDOTS display



- (Picture showing 2 L-brackets on GiantDOTS display)



- (Picture of small L-bracket installed with 6-32x3/8" screw and lock nut)

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- (Picture of bracket installed on top side of board, top board is Stern display board, using 6-32x3/8" machine screw and plastic washer)



- (Picture showing tall bracket installed on bottom side of Stern display control board, then attached to GiantDOTS panel with #6x3/8" sheetmetal screws.

- Before re-installing the backglass, power the machine ON. The GiantDOTS display should come on. Adjust the brightness to your desired level. If you cannot reach in the brightness control, lift the display panel and tilt it slightly forward, then adjust the brightness.

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- Now, watch the display for a few moments and check for any overlap on the bottom row of the LEDs. If any is noticed, first try adjusting the brightness a little higher, if it goes away, then the following scan adjustment is not needed, if there is still a overlap on the bottom row, then adjust the scan below, otherwise ignore this section.
- Move jumper J17 to the S/A ON position, the dial is set to near end of the counterclockwise position. The display may go blank when the jumper is moved, if so start turning the screw clockwise about a ¼ turn at a time until the “jumping” stops. The pot is a 20 turn version and does not have end stop stops.

(Due to different display programs and timing schemes across the different manufactures, this adjustment may be necessary.)



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Common Installation Problems

- ⤴ Display does not come on:
 - Check for proper orientation of the 14 pin ribbon connector, verify pin 1
 - Note, these are not the most reliable connectors, be gentle when removing it, as they can be easily damaged.
 - Check for proper orientation of the 8 pin connector, verify key pin #3
 - Check that the service outlet is working, check the fuse. Verify the outlet works by checking it with a DVM. Or plug in something like a desk lamp the check it.
 - Check to make sure the DC connector did not come loose when the display panel was installed.
 - Remove the display from the machine, tilt it back and and rest it on the machine, check the connectors again, see if the display works now. If so, check for wiring or grounds that may have come in contact with the display.
- ⤴ Not so Common Problems
 - Check that the power supply is working. Check it with a DVM. It should be putting out about 19VDC. If not E-mail us for a new one.
 - If the power supply seems to be working, plug it in to the display, then check with a DVM from “GROUND” to the back of J30 where it is plugged in. If the voltage is much less than 19VDC, then the power supply could be bad. E-mail us for a new one.
 - Check with a DVM from “GROUND” to one of the points marked VCC. This should read 5VDC, it comes from the machine. Verify that the 5V from the machine is good, maybe the fuse blew. Or the machine power supply may have an adjustment for the 5 Volts.