

DMD Chip Replacement Instructions: IT IS YOUR RESPONSIBILITY TO READ AND FOLLOW ALL INSTRUCTIONS!

Before you open the DMD/DLP chip please carefully read ALL of the following.

PLEASE NOTE: This is an expensive and extremely sensitive electronic component and is easily damaged by improper handling. Chips that have been damaged in handling may not be returned for refund or replacement!

- Unplug your TV and leave it unplugged for at least 10 minutes before you start
- This device is EXTREMELY STATIC SENSITIVE! Ground yourself in some manner, it is best to use a ESD wrist strap
- You will need to have the following tools handy: philips screwdriver, regular slotted (flat) small screwdriver, needle nose pliers
- You need to work in a clean and dust free environment!

Accessing the chip requires removal of the DMD/formatter circuit board

- Remove the DMD board from your TV. The chip will be secured in place with a screw mounted near it. Undo the locking screw and VERY carefully remove the chip. If you try to remove the chip without first undoing this lock you may damage the board or the chip. (you should carefully handle and save your old chip in case it is needed to troubleshoot the TV later).

Installing your new DMD chip

- When your current chip has been removed, inspect the new chip. **(NOTE: do not touch the pins or the glass display portion of the chip, handle it ONLY from the edges)**. Be sure the pins look straight and that there is no dust accumulation on the glass surface. This is a factory packaged item and was packaged in a clean room, so there should be no dust on the chip.
- Carefully insert the new chip into the socket. The chip should fit in without having to use any excess force. The chip should drop into the socket easily.
- Now you need to gently place a finger on each side of the chip (the metal part) and with gentle pressure push it into the socket. DO NOT apply excessive force at this time. If the chip does not seem to insert easily remove the chip and inspect it again, the pins should be straight. Be sure to lock the chip back in to the board with whatever you removed initially.

Now reinstall the DMD board into your TV

- Place the board back in to your TV and replace any cables you may have had to remove to take the board out. Be sure to connect the cables EXACTLY as you found them when removing the board. Put the back on the TV and secure it as it was before removal.

Power up your TV to see if the repair was properly made

- Your TV should now have a good picture without the dots caused by the old DMD chip. If you have different symptoms than you started with you may have to retry the installation, using EXTREME caution as you did on the first attempt. The different symptoms of a bad chip install may be one of the following: a black screen, black or white lines in the picture, dark bands running from side to side or random digital noise.
- IF AFTER A SECOND ATTEMPT YOU STILL HAVE DIFFERENT SYMPTOMS ON YOUR TV, IT IS ADVISABLE TO CALL A SERVICE TECHNICIAN TO REINSTALL THE CHIP.

Please see reverse side for return instructions

DMD/DLP Chip return policy

The DLP/DMD chip is a high precision optical device. It must be handled in accordance with the included instructions or the chip will be damaged.

Per the instructions included with the chip:

- Handle only in a static free and dust free environment
- Use a properly grounded ESD wrist strap when handling the device

You MUST obtain a return materials authorization number (RMA#) before returning a DMD chip as new/unused.

- New returns will incur a restocking charge, NO exceptions
- Before a refund will be issued the return will go through a thorough inspection process, including but not limited to:
 - Any chip found to have dust or fingerprints on the glass mirror will not be refunded and will be returned to the buyer
 - Any chip found to have bent or broken connector pins will not be refunded and will be returned to the buyer
 - Any chip glass/mirror that has been cleaned improperly will not be refunded and will be returned to the buyer

You must obtain a return materials authorization number (RMA#) before returning a DMD chip as defective.

- Due to the sensitive nature of these chips, no warranty refunds or replacements will be issued immediately. The DMD chip may be returned for a warranty refund, HOWEVER there is a process that will be initiated upon receipt of the suspected defective chip.
- All suspected defective chips will be returned to the factory for testing. If the chip is deemed defective a warranty refund or replacement will be issued. If the chip is deemed to have been damaged in handling, NO REFUND or replacement will be given.
- All chips will be inspected to ensure it was shipped by Ness Electronics

Call Ness Electronics at 800-331-7617 for assistance

Over to see instructions

DMD-Replacement Guide

276P595010 - DMD-CHIP:IC-1910-6143W

Notes/Hints:

- This is a guide and not a step by step instruction.
- Recommended tools: Phillips hand driver, small sized flat head driver, ESD wrist strap, mirror or live video camera, pliers.
- Use masking tape and a marker to mark the original position of the Formatter board.
- Open engine in as dust free environment as possible, once the Formatter board is removed cover the engine block with a clean microfiber cloth.
- For best results adjust electronic geometry before you remove the engine. This will give a better guide when setting the Formatter position.
- Make a note of which type screws are used in which locations.
- Do not let engine run with DMD fan removed for longer than 10minutes.
- V43, V45 and V47 adjustment can be made with the rear shield installed. Just loosen the adjustment screws through the shield holes.

Cleaning

Cleaning of the DMD device is not recommended. If however it becomes necessary please take the following precautions:

- Always use a new section of a Microfiber Optical Cleaning Cloth, Optical Cleaning Pad, or Cotton Swab, when cleaning the DMD glass. Using the same section of the Cloth (or Swab) has the potential of dragging particles and or adding contaminants to the glass surface which may scratch the glass. Scratches are permanent and can cause projected image artifacts.
- Follow standard ESD guidelines.
- Dust and light oils can be cleaned off with a Microfiber Cleaning Cloth or Pad.



ESD and Handling Cautions



The DMD IC is sensitive to static discharge. Please take the proper precautions when handling the device.

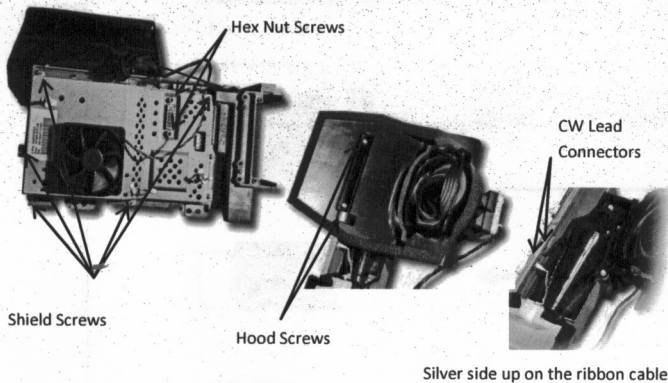
- Use properly grounded ESD wrist strap when handling the device.
- Do not place tape, labels or marking on the DMD glass or on the back gold contacts of the DMD.
- Always hold the DMD with 2 hands away from the body and with a firm grip. Handle gently.
- Do not allow any object to come in contact with the glass or the pins of the DMD device.
- Handle only in a static and dust free environment.
- Do not touch the leads or contacts. Handle the DMD device by the package edges only.
- Clothing other than approved conductive or static-dissipative garments shall not be allowed within 12 inches of any DMD which is not protected in an appropriate conductive container.

1. 1st try Forced Ionized Air. Air must be clean and filtered.
2. Next use a Microfiber cloth and start in the center of the DMD glass window, wipe lightly toward the outer edge with one continuous stroke. Rotate the DMD 180 degrees and obtain a clean area of the cloth. Again, start in the center of the DMD and wipe towards the outer edge with one stroke.
3. If 1 and 2 do not clean the IC, then an Optical Cleaning Pad that uses Isopropyl Alcohol with prepackaged DI water can be used. As with the above step, start in the center and wipe toward the outer edge with one stroke.

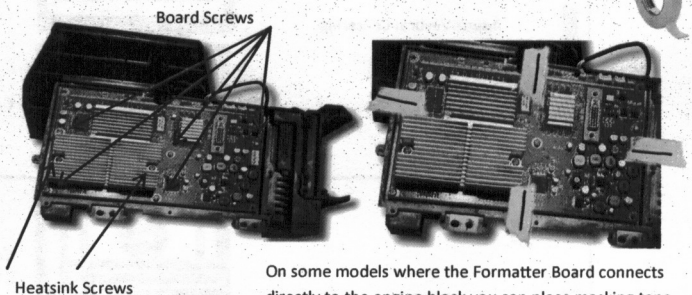
Disassembly

NOTE: Each model is different, but the same basic principal below applies to all.

Remove shield, hood and color wheel lead-connectors.

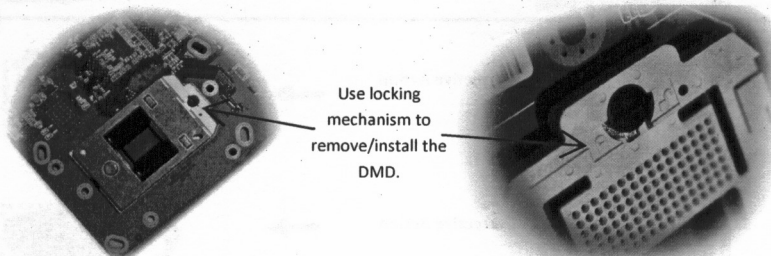


Remove Formatter board screws.



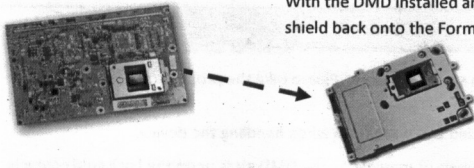
On some models where the Formatter Board connects directly to the engine block you can place masking tape from the board to the block on 4 sides. Use a marker to draw a straight line and then cut with a razor. After new DMD is installed, match the lines on the tape.

DMD Installation

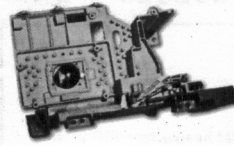


The most common error during installation is not seating or locking the DMD IC properly.

DMD-Replacement Guide

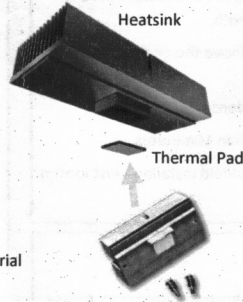


With the DMD installed and locked, reinstall the shield back onto the Formatter Board.



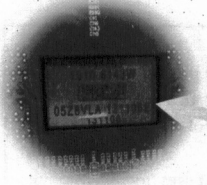
The screws that connect the board to the engine block will have some position variance. This position will effect the video geometry.

Add new Thermal Pad (included) between heatsink and DMD IC.



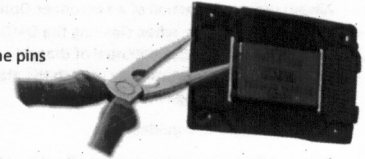
Connect the heat sink before doing adjustment. Make sure not to over-tighten the screws. Position of the heat sink will not effect geometry unless over-tightened.

If doing replacement for Mitsubishi concession (involves warranty claim), write down the serial number of the defective (original DMD IC in the unit).



Serial number is 15 characters including a space in the middle.

Destroy the original DMD IC by bending the pins with a pair of pliers.



Formatter Adjustment

Position the Formatter board for best geometry. Minor movements in position can create large movements on the screen. **For best results** partially tighten the adjustment or board screws before making the adjustment. Board movement is opposite of on-screen movement.

1	Adjust Vertical Centering		Corrective Action →	
			Corrective Action →	
2	Adjust Horizontal Centering		Corrective Action →	
			Corrective Action →	
3	Adjust Rotation		Corrective Action →	
			Corrective Action →	