
Technical Bulletin

Re: Video Input Module (VIM) Modifications For Improved Performance

Applies to: Marquee 8000/9000/8110/8500/8500LC/9500LC projectors manufactured before October 1995.

Symptoms/Cause: This bulletin covers modifications suggested to correct two problems. The first problem is a by-product of changes to the Horizontal Deflection Module (HDM) associated with recent modifications made to increase the image width. The recently modified HDM may introduce more electrical “noise” into the projector’s systems when the image is very wide (HSIZE greater than 85 as set by the HSIZE control) and the horizontal scan frequency is high (greater than 50 kHz). The second problem may be observed in instances where the projector is ceiling mounted in an environment with an elevated room temperature (greater than 35 C). The two problems can be described as follows.

1) When adjusting the BRIGHTNESS control, the CONTRAST setting may appear to change suddenly even though no adjustment to the CONTRAST control has been made and the CONTRAST control slider reports no change. If the CONTRAST control is then adjusted, the CONTRAST setting will appear to “snap” back into place. Interaction of this nature may be observed between any of the following controls; CONTRAST, BRIGHTNESS, VOLUME, RED_DRIVE, GREEN_DRIVE and BLUE_DRIVE. The last three are adjustments accessible through the service menu only but will change when a single colour or a new colour temperature is selected. **Since the CONTRAST setting is updated periodically even when no user adjustments are made, the projected image may become dark (due to a CONTRAST, BRIGHTNESS or DRIVE setting change) at any time! Selecting a different source (with its associated different CONTRAST setting), converging the image (including green convergence), enabling only one colour or any action that changes the above stated controls may cause the image to suddenly become dark!** Pressing the CONTRAST key followed by the “UP” key (up arrow) will generally restore the picture for normal viewing.

2) The projected image cycles on and off as the high voltage can be observed (by listening for static electricity crackling noises) to cycle on and off. The contrast must be set very high (greater than 90) and the projected image must have a very high content of either red, green or blue. The problem stops if the contrast is turned down.

Action: Qualified service personnel are welcome to perform the following modifications to the Video Input Module (VIM). **These modifications and above symptoms apply only to printed circuit boards labeled 50-2035-02P.** The VIM is located at the rear of the projector. The module can be removed from the projector by

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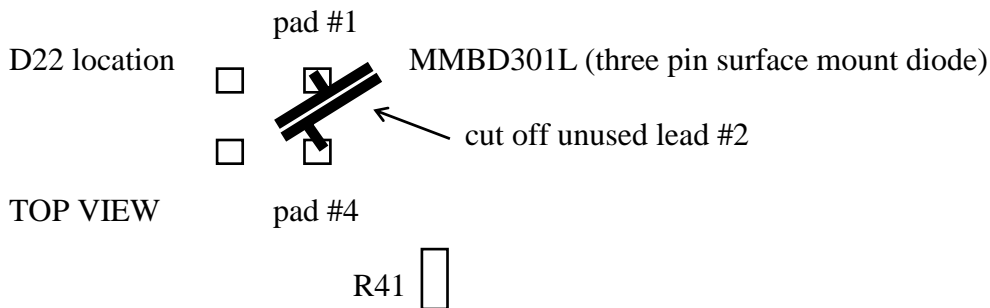
unscrewing the thumbscrew on the right of the 5 built-in BNC's and the Philips head screw on the left of the 5 built-in BNC's.

For symptom 1 (above):

- (a) Solder a 100pF capacitor (Electrohome part no. 85-191323-01P) from U10 pin 17 to U10 pin 6.
- (b) Solder a 100pF capacitor (Electrohome part no. 85-191323-01P) from U10 pin 20 to U10 pin 6 (use the lead of the capacitor soldered to pin 6 in step (a) above to make the connection easier).

For symptom 2 (above):

- (a) Carefully remove D22 (unsolder it).
- (b) Solder a MMBD301L (Electrohome part no. 72-000533-06P) surface mount diode in the D22 location. See drawing below for details:



Although only one of the above symptoms may be observed, it is recommended that all of the above modifications be performed. Check to see which modifications may already have been done at the factory before proceeding.

Note: **The above modifications require delicate soldering work on electronic components and should be performed by qualified service personnel only.** Please use proper Electrostatic Discharge (ESD) procedures. If you are uncomfortable with performing these modifications, they can be done for you at an authorized Electrohome service depot.