



Date: 20/08/1999

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## HP Dimmer Power Supply Inductance

Higher than normal supply cable inductance can change the characteristics of the mains power source as presented to a thyristor dimming unit. This characteristic can affect the normal operation of dimmer output devices when these are turned on each half cycle. Higher than normal supply cable inductance can cause lamps connected to a HP dimmer rack fed from such a supply to pulse.

This Tech Note describes how to modify a HP Series Dimmer Rack to reduce the effect of high cable inductance on normal dimmer performance.

### **PRODUCTS AFFECTED:**

HP12-TR rack-mount and wall-mount dimmers  
HP12-SC rack-mount and wall-mount dimmers  
HP6-SC dimmers

### **Modification #1:**

The following circuit modification improves the power filtering by approximately 6dB at 1kHz:

1. Turn dimmer power off.
2. Remove the dimmer lid.
3. On the CPU card near the DIP switch locate three 10K resistors R17, R20, and R21. Solder a 47nF 50V capacitor across each of the three resistors.
4. Turn DIP switch #1 on.
5. Replace the lid and check for correct operation.

Refer to the diagram on page 2.

### **Modification #2**

In addition the dimmer can be made more tolerant of mains borne interference of this type by disabling the voltage compensation software. To disable the voltage compensation feature:

1. Turn dimmer power on.
2. Press the Mode button.
3. Using the wheel select VCOM.
4. Press the Enter button.
5. Using the wheel select OFF.
6. Press the Enter button.

