Section III

Calibration, Adjustment, and Maintenance

The Kliegpac 9 is constructed for rough service, so extensive maintenance is not required. However, simple adjustments will ensure satisfactory service and extend the life of the equipment.

All screw terminal connections should be checked and tightened, if necessary, at least twice a year. Any broken component should be replaced immediately. And the units should be kept clean and free of foreign materials that may interfere with normal operation.

The power pack has a number of controls that are factory set and should not require further adjustment when the system is installed. The controls should no be tampered with unless adjustment is necessary, and only a slight adjustment should ever be required. If a large change in any control setting appears necessary to obtain proper operation of the system, Check for a malfunction on the dimmer circuitry.

Adjustment, if required, should be made with a narrow blade screwdriver and should be performed in sequence.

NOTE: To measure the dimmer output, an RMS-responding AC voltmeter, such as those with iron vane or dynamometer movements, is required. Other types of AC meters, such as vacuum-tube voltmeters of digital voltmeters, may not correctly read the clipped waveforms characteristic of SCR circuits such as those in the Kliegpac 9. Measurements of resistance and DC voltages may be made with a standard voltohmeter (VOM) having a rating of 20,000 ohms per volt. An oscilloscope may be useful, but us not absolutely necessary.

The control voltage (the signal input to the dimmer from the control console) can be measured conveniently at the dimmer control terminals or the control console terminals. The dimmer output can be measured at the dimmer load terminal. This signal can also be measured at the cross connect panel or at the output receptacle. but the allowance must be made for a voltage drop of up to several volts between the dimmer bank and the load.

To adjust the dimmer (for "square law" curve):

1. Low end (bias).
Load the dimmer to full rated load, and set the control voltage at 1 Vdc. Adjust the dimmer for an output between 18 and 22 Vrms using R5

2. Top end.
Set the control voltage to 10Vdc. The output voltage should be no more than 5VAC less than the line voltage. If the output voltage is too low, readjust R8. This will

produce a corresponding increase in the midrange voltage.

Since the adjustment controls interact, repeat steps 1 and 2 until all conditions are met.

The control console has three controls that are tested and calibrated at the factory. In rare cases, the controls may drift and require the following adjustment:

1. R21
This control sets the output of the channel potentiometer between 0 and 10 Vdc. To calibrate, set potentiometer X1 to maximum and adjust R11 until the voltage between P1-1 and p1-11 is +10Vdc as measured on a dc voltmeter.

2. R13
This control calibrates the up-down fade time. To adjust, set the fader time to about half scale, initiate a fade, and adjust R until both travel meters are moving at the same speed.

3. R40, R47.
These controls are used to calibrate the "high" and "mid range" of the time scale. These adjustments may be made with the help of a chronometer.