



THYRISTOR DIMMERS

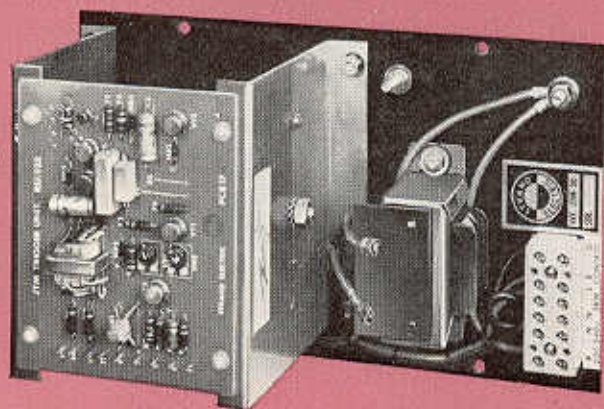
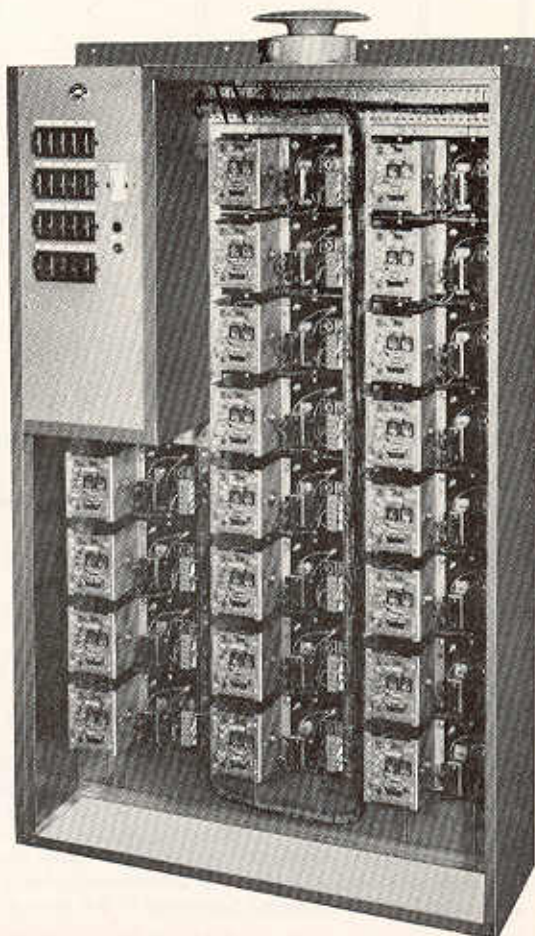


Type JTM Dimmers & Racks

2000W; 1000W; 5000W max.
200/250v 50Hz.

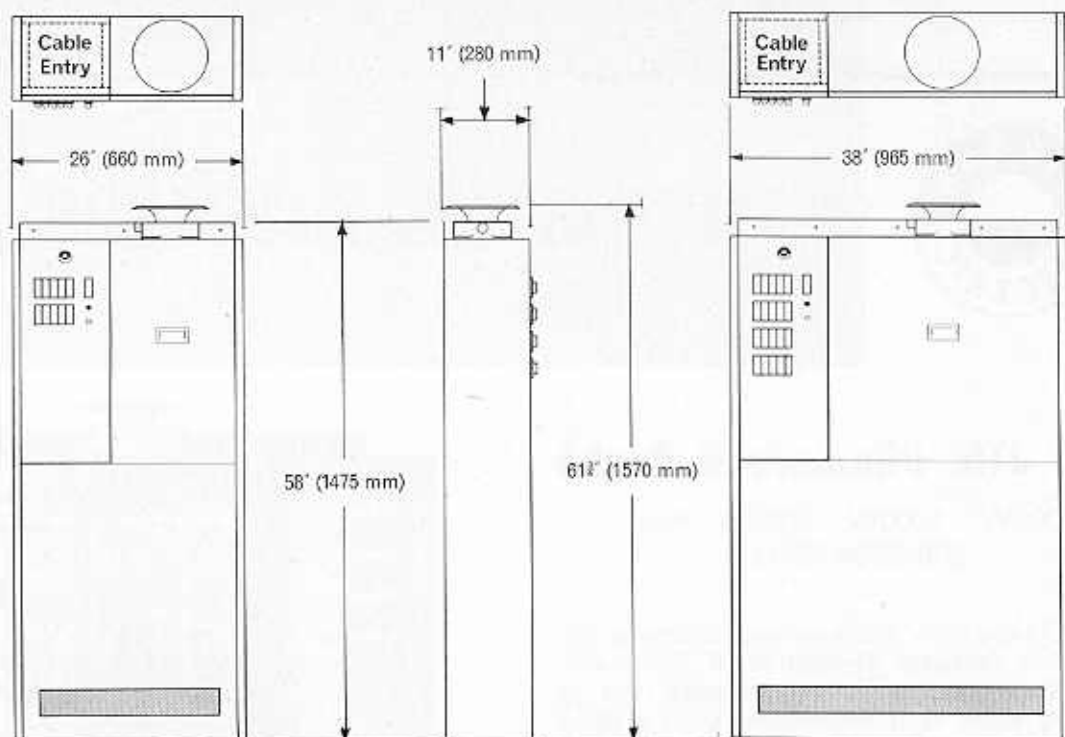
These inexpensive variable-load dimmers are housed in compact 20-channel or 10-channel racks. Each rack is totally enclosed and is internally wired to a distribution point located behind the hinged panel which is fitted with shrouded-contact, colour-coded H.R.C. fuses. Each dimmer is a self-contained unit complete with inductive filter. The pair of Thyristors (controlled rectifiers) will control any single or combination of tungsten filament lamp loads between 60-watt and the maximum rating of the dimmer. Response to the minute remote control signal is immediate and therefore the functions of dimming and switching are combined and depend only on the rate of change of the control signal.

These Strand dimmers, together with preset control systems providing operational facilities suitable for the size of the installation, are already in daily use in hundreds of professional, amateur and college theatres. The 2000W and 5000W sizes are now also available for small television studios.



The pair of load-carrying Thyristors, one for the positive half-cycle and one for the negative half-cycle of the supply are mounted on generous heat sinks and are both in series with a substantial iron-cored filter. The Thyristors are rated for the full tungsten filament lamp surge current. Each dimmer generates its own power supplies for the printed circuit trigger unit which has trimming adjustments for blackout and full-on. To simplify the provision of the essential pre-setting and mastering control facilities the control signal input to the trigger unit is completely isolated from the load circuit.

Single Thyristor dimmers, in individual wall-mounting boxes, are also available for the control of auditorium, presentation and display lighting.



10 - CHANNEL WEIGHT 80 lb. (36.2 kilos)

20 - CHANNEL WEIGHT 120 lb (55 kilos)

SPECIFICATION

DIMMER RACKS

Each dimmer rack shall be for a 3-phase 4-wire or single phase and neutral 50Hz supply as specified. Each channel shall be provided with a type JTM.20 2000-watt maximum 200/250 volt dimmer except where type JTM.10 1000-watt maximum, or JTM.50 5000-watt maximum 200/250 volt dimmers are specified. 10-channel racks will be provided only when numerically necessary, unless otherwise specified. Dimmers on 3-phase 4-wire racks will be connected in phase sequence unless otherwise specified at the time of order.

The wall-mounting rack shall be totally enclosed and be constructed of preformed aluminium sections finished two-tone hammer grey outside. It shall be possible for two 20-channel or two 10-channel racks to be mounted back to back to form a free-standing unit. A removable plate to facilitate cable entry shall be provided over the separate compartment for all external connections. Access to this compartment for installation shall be hinging open the fuse panel. Separate front covers shall be provided over the dimmer area.

The rack shall be factory-wired for 2000-watt dimmers, except where 5000-watt dimmers are specified, and all external load and control connections brought to labelled pressure-pad terminal blocks behind the fuse panel. An earth/ground terminal shall be provided for each channel. A shrouded-contact fuse shall be provided for each dimmer channel and the colour-coded fuse bridge shall be fitted with a quick-acting HRC fuse to give full load fault protection.

The total heat dissipated by the dimmers shall not exceed 2% of either the maximum supply capacity or the maximum load capacity, whichever is the smaller. Each rack shall be fitted with a fan to disperse this heat, but, if necessary, external means should be provided to ensure that the ambient temperature does not exceed 95°F (35°C).

The phase to neutral voltage should be stated at the time of order.

DIMMERS

Each dimmer shall be a self-contained unit with a pressure-pad terminal block for all control and power connections. All terminals shall be labelled.

The regulation of the tungsten filament lamp load shall be wholly by a pair of thyristors (controlled rectifiers) and these shall be of a type which will allow the full tungsten surge current to flow. The output shall be AC with a waveform which is completely symmetrical with respect to the zero voltage and current. An inductive filter network shall be included to reduce the rise time of the output waveform to not less than 300 micro-seconds at the 90° conduction point in the power cycle at full load. The noise power, defined as all harmonics in the load waveform between 200Hz and 16 Hz, shall be reduced by 3dB (a factor of 2 to 1) compared with an unfiltered channel at full load. This value of noise power shall not be exceeded when the dimmer loading is varied. The maximum output of the dimmer (including filter) shall not be less than 99% of the supply voltage.

The output voltage to any load between the minimum of 60-watt and the maximum rating of the dimmer shall follow the control signal in less than 1/2 second without oscillation or any other form of transient disturbance. A 60-watt lamp load shall have the same dimming curve characteristics as the maximum load rating and the addition of load to a partially loaded dimmer shall not alter these characteristics. There shall be no restriction whatsoever on the addition of load to a partially loaded dimmer provided the total load does not then exceed the maximum rating.

Each dimmer shall generate its own power supplies for the printed circuit trigger unit which shall include trimming adjustments for full-on and blackout. The control signal input shall be completely isolated from the load circuit and the control signal shall not need to be related to the phase of the load circuit. The control signal shall not exceed 24V 2mA and there shall be no limitation on the length of the control cable.

VARIATIONS available at time of manufacture.
C-filters providing 600 micro-second risetime and noise power reduction 8dB (ratio 7:1) for television applications. Siemens Zed type fuses can be substituted.
Equipment for 200/250V 60 cycle supplies is available. Similar equipment is available for 110/120V 60Hz supplies.