1.01 Electronic Silent Dimmer

A. General

1. The dimmer shall be the Source Four Dimmer Model ES750 as manufactured by Electronic Theatre Controls, Inc., or equal. Dimmer shall be a silent voltage reducing portable yoke mount dimmer which mounts directly to ETC Source Four luminaires.

2. The dimmer shall regulate incoming power to maximum 115V output. Dimmers that cannot provide regulated maximum output of 115V shall not be acceptable.

3. Acoustic specification replaces rise time specification. The combination of luminaire and dimmer shall not exceed 0dBA (0-20,000 Hz) acoustic noise at 0-100% dimmable range when measured from a distance of 1 meter and no more than 12dBA when measured at 6 inches. Dimmers that produce measurable noise above 0dbA at 1 meter distance shall not be acceptable. Lamp silencing effects of dimmers that use phase control as a means of silencing lamps are either load dependent or thermally dependent. Phase control dimmers shall not be acceptable.

4. The dimmer shall support up to 750W 115V lamps.

5. The dimmer shall be CE compliant, UL listed, and shall be so labeled

B. Mechanical

1. The dimmer shall be a self-contained unit, suitable for portable use. It shall be constructed of aircraft quality powder coated aluminum. Minimum thickness of heat sink to be 2.5mm and 2mm for aluminum enclosure.

2. The dimmer shall be convection cooled and shall operate without cooling fans or filters.

3. The dimmer shall have integrated bracket mounting hardware for versatility of yoke mounting to maintain vertical position of cooling fins and choice of connector orientation when mounting the fixture in under mount, over mount, or yoked out positions. Dimmers that cannot be cooled properly in yoked out position shall not be acceptable.

4. The dimmer shall be 187mm in length, 165mm high and 91mm wide and weigh no more than 4lbs.

C. Electrical

1. The dimmer shall be powered by a single phase PNE, 20A power cable feed.

2. The dimmer shall shut itself down electronically to prevent overload.

3. The dimmer shall use electronic silent dimming technique which results in rectified AC amplitude control to regulate voltage. Dimmers that use phase angle dimming generate undue noise and shall not be acceptable.

4. Lamp output shall not change more than 1V per 10V of change of input voltage.

5. Dimmer shall be capable of being powered from the output of another dimmer, phase angle or other, set to full. This shall not affect the performance of the Source Four Dimmer.

D. Control

1. The dimmer shall contain DMX512A Input and Through XLR5 connectors. The design shall allow up to 31 dimmers on one DMX line along with a DMX controller.

2. The dimmer shall support ANSI E1.20 Remote Device Management (RDM) for:

    a. Curve modification
        1) Modified Square law (default)
        2) Linear (control-vs.-voltage)
        3) Preheat (using modified square law)

    b. Error Notifications
        1) Over temp
        2) No load
        3) Overload

    c. Sensors
        1) Input voltage
        2) Input frequency
        3) Internal dimmer temperature

    d. Read/change DMX address

    e. Set local control level/clear local control

    f. Trigger software upgrade

3. Dimmer control electronics shall include the following indicators and controls:

    a. One status LED indicator: Power and Valid DMX

    b. 3 x 8 segment display

    c. 3 buttons including test for locally setting of level, up, and down