

SECTION 16580
THEATRICAL LIGHTING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Theatrical lighting units.
- B. Lamps.
- C. Dimmers and control units.
- D. Accessories.

1.2 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Shop Drawings: Indicate layout of rack-mounted equipment and details and diagrams of interconnecting wiring.
- C. Product Data: Provide for each item of equipment, showing sizes and ratings.
- D. Manufacturer's Installation Instructions: Indicate handling and installation methods.

1.3 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Section 01700.
- B. Accurately record locations of dimmer outlets and circuiting arrangements.

1.4 OPERATION AND MAINTENANCE DATA

- A. Submit under provisions of Section 01700.
- B. Operation Data: Include the following:
 - 1. Instructions for operating lighting control system.
 - 2. Instructions for operating system under unusual conditions when emergency life safety conditions exist.
 - 3. Operating limits which may result in hazardous or unsafe conditions, or in equipment damage.
 - 4. Document ratings of system and of each major component.
- C. Maintenance Data: Include the following:
 - 1. Routine preventive maintenance schedule.
 - 2. List special tools, maintenance materials, and replacement parts.
 - 3. Repair instructions for procedures to check, repair, and test equipment during typical malfunctions.
 - 4. Recommended cleaning methods, frequency, and materials.

1.5 EXTRA MATERIALS

- A. Furnish under provisions of Section 01700.
- B. Provide two of each size and type lamp.
- C. Provide two of each size dimmer.
- D. Provide two of each size filter holder.
- E. Provide two of each size, type and color filter.
- F. Provide minimum of four sq ft of gel material of each color.
- G. Provide two of each size and type patch connectors.

PART 2 PRODUCTS

2.1 THEATRICAL LIGHTING SYSTEM

- A. Description: Lighting dimming and control system for stage area and house lighting.

B. Configuration:

1. Electronic Memory system with minimum of two-scene control.
2. Dimmers: Cabinet mounted.
3. Lighting Circuit Connections: Permanently connected to dedicated dimmers.

C. Ratings:

1. Number of Control Channels: Minimum of 16.
2. Number of Dimming Circuits: Minimum of 24.
3. Number of State Lighting Circuits: Minimum of 36.
4. Number of House Lighting Circuits: Minimum of 4.

2.2 DIMMERS

A. Description: Provide portable dimming unit suitable for mounting at lighting unit or modular dimming unit (as shown on the drawings) suitable for mounting in standard electronic rack.

B. Ratings:

1. Voltage: As noted on the drawings.
2. Capacity: As noted on the drawings.
3. Duty Cycle: Continuous.

C. Include integral circuit breaker in each dimmer.

D. Provide adequate forced air ventilation.

E. Emergency lighting that has been dimmed during normal operation shall automatically activate at full brilliance in case of a power failure or during an emergency alarm mode of the fire alarm system.

2.3 PATCH PANEL

A. Description: Retractable cord or overhead cross connection system for hot, cold, or patch.

2.4 CONTROL CONSOLE

A. Description: Fixed or portable control console with integral dimmers and/or for remote control of dimmers.

B. Controls:

1. Grand master.
2. Independent master with bump switch for each scene.
3. Split scene faders with automatic cross fading.
4. Independent Master Timed Fade: Adjustable 0 to 100 seconds.
5. House light faders.
6. Channel faders.
7. Blackout switch.

C. Provide flexible disk drive for mass memory.

2.5 LIGHTING UNITS AND ACCESSORIES

A. Provide lighting units, with lamps, as scheduled.

B. Floor Pockets:

1. Gangs: As indicated.
2. Receptacle: 20-amp stage pin, grounded type. (USITT 5T20)
3. Enclosure: Steel.
4. Cover Plate: Cast aluminum.

C. Provide a safety cable with spring clip for each theatrical lighting fixture.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install equipment in accordance with manufacturer's instructions.

3.2 MANUFACTURER'S FIELD SERVICES

A. Prepare and start systems under provisions of Section 01400.

3.3 DEMONSTRATION

A. Provide systems demonstration to satisfaction of the Owner.

END OF SECTION