SECTION 11 61 00 – BROADCAST, THEATER, AND STAGE EQUIPMENT

TBOX RECESSED LIGHTING POSITION

PART 1 – GENERAL

1.1 SUMMARY

The Tbox Recessed Lighting Position is a recessed ceiling-mounted lighting position designed for spaces with suspended ceilings. The unit provides a secure location for temporary or permanent mounting of lighting fixtures and related equipment while maintaining the appearance and function of the surrounding ceiling.

The Tbox is supported by the building structure above the ceiling and is not designed to be supported by the suspended ceiling grid itself.

Section Includes:

- Tbox recessed mounting box/frame.
- Suspension cables and associated suspension hardware.
- Fixture-mounting pipe or strut.
- Power and control connectors and associated wiring provisions where specified.
- Custom ceiling-grid configurations and suspension arrangements where required.
- Related accessories and hardware necessary for a complete installation.

1.2 PROPRIETARY AND PATENTED PRODUCT

Basis of Design: Tbox Recessed Lighting Position manufactured by Productions Unlimited, Inc., Roebuck, South Carolina.

The Tbox Recessed Lighting Position is protected by U.S. Patent No. 11,306,480 B2.

This is a closed proprietary specification. Substitutions are not permitted unless specifically authorized in writing by the Owner and accepted by Productions Unlimited, Inc.

1.3 PRODUCT DESCRIPTION

Tbox provides a recessed mounting apparatus that fits within a suspended ceiling grid and provides an attachment point for lighting and other temporary equipment. The recessed mounting frame is supported independently from the ceiling grid by suspension members connected to the building structure above.

The Tbox is intended to provide a clean, recessed equipment position that is substantially unobtrusive when equipment is not installed while allowing lighting fixtures and related equipment to be mounted when required.

The system may incorporate electrical power and data/control connections within or adjacent to the recessed mounting position, allowing equipment connections to remain concealed above the ceiling except at the recessed position.

1.4 STANDARD AND CUSTOM CONFIGURATIONS

- Standard ceiling-grid configurations, using 15/16” wide T channel: 2 feet by 2 feet and 2 feet by 4 feet.
- Custom sizes are available for larger or smaller ceiling-grid modules.
- Where narrow T channels are in use, the addition of a cosmetic frame, of the same finish as the Tbox, is available as needed.

Custom solutions are available for hard ceilings and other ceiling conditions where a standard suspended ceiling configuration is not applicable.

- Suspension arrangements are selected based on the distance between the building structure and the ceiling plane.
- Custom suspension solutions are available where standard suspension cable arrangements are not suitable.

1.5 PERFORMANCE REQUIREMENTS

- The Tbox shall be independently supported from the building structure above the ceiling.
- The suspended ceiling grid shall not be used as the sole structural support for the Tbox or equipment mounted to it.
- Suspension members and attachment hardware appropriate to the building structure and the installed Tbox configuration shall be provided.
- The Manufacturer's published capacity for the Tbox configuration or any fixture-mounting component will not be exceeded.
- Building-structure attachment will be coordinated with the responsible structural engineer where required by the project or existing structural conditions.
- Electrical and control components compatible with the specified equipment and applicable electrical requirements will be provided.

1.6 SUBMITTALS

- Manufacturer's current product data.
- Manufacturer's installation instructions.
- Tbox configuration information identifying dimensions, finish, number of circuits, power connector type, control connector type, connector location, fixture-mounting component, and suspension range.
- Product data for power and control connectors when requested.
- Shop drawings for custom-size units, hard-ceiling applications, custom suspension arrangements, or other project-specific configurations.
- Structural attachment information for connection to the building structure where required by the project.

1.7 QUALITY ASSURANCE

- Manufacturer: Productions Unlimited, Inc., Roebuck, South Carolina.
- Tbox units shall be genuine products manufactured by Productions Unlimited, Inc.
- Installation shall be performed by qualified personnel experienced with suspended ceiling systems, theatrical lighting equipment, and the applicable building and electrical requirements.
- Electrical connections shall be performed by personnel qualified and authorized to perform the work in accordance with applicable codes and the requirements of the Authority Having Jurisdiction.

1.8 COORDINATION

- Coordinate Tbox locations with the reflected ceiling plan, ceiling grid, lighting layout, building structure, electrical distribution, and other ceiling-mounted systems.
- Coordinate the Tbox with existing structural elements above the ceiling before installation.
- Where existing structural conditions are inadequate for the specified installation, coordinate required reinforcement or alternate attachment methods with the responsible structural engineer.
- Coordinate power, DMX, and other control connections with Division 26 and the applicable electrical design.

1.9 WARRANTY

- Provide the Manufacturer's standard written warranty applicable to Tbox products in effect at the time of purchase.
- Warranty coverage is subject to the Manufacturer's published terms and conditions.
- Warranty does not cover misuse, abuse, unauthorized modification, improper structural attachment, improper electrical work, use beyond published limitations, or damage caused by others.
- Use of unauthorized components or modifications may void applicable warranty coverage.

PART 2 – PRODUCTS

2.1 MANUFACTURER

- Productions Unlimited, Inc., Roebuck, South Carolina.

2.2 TBOX RECESSED LIGHTING POSITION

Provide Tbox as a complete recessed lighting position, including recessed mounting frame, suspension components, fixture-mounting components, and specified power/control provisions.

- Recessed Mounting Frame: Proprietary framed enclosure sized to fit the specified ceiling-grid opening or custom ceiling condition.
- Suspension System: Adjustable suspension cables and associated attachment hardware sized and configured for the distance between the building structure and the ceiling plane. Other suspension solutions may be provided for custom conditions.
- Fixture Mounting: Provide either 1-5/8-inch 12-gauge strut or 1-1/2-inch Schedule 40 steel pipe, as selected for the specified configuration.
- Power Circuits: Provide one or two circuits as specified.
- Power Connectors: Provide specified connector type, including Stage Pin, Duplex Edison, PowerCON, PowerCON Out and Thru, Twistlock, or Twistlock Out and Thru, as applicable to the selected configuration.
- Control Connectors: Provide DMX Out or DMX Out and Thru where specified.
- Connector Location: Locate connectors at the top or side of the Tbox as specified.
- Finish: Standard powder coat colors are white and black. Other colors, including custom RAL colors, are available.

2.3 ELECTRICAL COMPONENTS

- Provide electrical boxes, receptacles, connectors, wiring, and control components appropriate to the specified Tbox configuration.
- Provide power and control connections as indicated in the Contract Documents and selected product configuration.
- Electrical components shall be compatible with the connected equipment and shall be installed in accordance with applicable electrical codes.
- Where a throughput connector is specified, provide both output and throughput functions as identified by the Manufacturer.

2.4 FIXTURE-MOUNTING COMPONENTS

Provide fixture-mounting components selected from the Manufacturer's available options and compatible with the intended lighting equipment.

- 1-5/8-inch 12-gauge strut.
- 1-1/2-inch Schedule 40 steel pipe.
- Other custom fixture-mounting solutions when required and approved by the Manufacturer.

2.5 SUSPENSION COMPONENTS

Provide adjustable suspension cables and associated attachment hardware appropriate for the distance from the Tbox to the building structure.

- Standard suspension ranges shall be selected based on the actual distance between the ceiling grid and building structure.
- Custom suspension solutions may be provided for conditions outside the standard ranges.
- Suspension components shall be installed directly to suitable building structure and shall not rely on ceiling tile track for structural support.

PART 3 – EXECUTION

3.1 EXAMINATION

- Verify ceiling-grid dimensions, ceiling construction, and building-structure conditions before installation.

- Verify that the building structure is suitable for attachment of the specified Tbox configuration and the intended equipment.
- Verify actual distance between the ceiling plane and overhead structure.
- Do not proceed with installation where structural attachment conditions are unsuitable or unresolved.

3.2 PREPARATION

- Coordinate Tbox locations with ceiling-grid installation and other ceiling-mounted work.
- Provide openings and ceiling-grid modifications necessary to receive the Tbox without damaging adjacent ceiling components.
- Verify all required suspension hardware and electrical components are available before installation.

3.3 INSTALLATION

Install Tbox in accordance with the Manufacturer's current installation instructions and approved project-specific Shop Drawings.

- Position the Tbox within the specified ceiling-grid opening or custom ceiling location.
- Connect the Tbox suspension system to suitable building structure above the ceiling.
- Adjust suspension cables or other approved suspension components to establish the required elevation and alignment.
- Secure the Tbox independently of the suspended ceiling grid.
- Install fixture-mounting pipe or strut as specified.
- Install power and control connectors in the specified top or side locations.
- Make electrical connections in accordance with the approved electrical design and applicable codes.
- Provide DMX output and throughput connections where specified.
- Verify that all mechanical and electrical connections are secure before installing equipment.
- Do not modify the Tbox frame, suspension system, or fixture-mounting components except as authorized by Productions Unlimited, Inc.

3.4 CRITICAL INSTALLATION REQUIREMENT

WARNING: The Tbox MUST be suspended from the building structure using the supplied suspension cables or other approved suspension means. The Tbox is NOT designed to be supported by the suspended ceiling grid or ceiling tile track.

Ceiling-grid members may locate and visually integrate the Tbox within the ceiling system but shall not be relied upon as the primary structural support for the Tbox or equipment mounted to it.

3.5 ELECTRICAL INSTALLATION

- Perform electrical work in accordance with applicable codes and the requirements of the Authority Having Jurisdiction.
- Coordinate circuiting and connector types with the electrical design and connected equipment.
- Provide grounding and bonding as required by applicable electrical codes.
- Test power and control connections before placing the Tbox in service.
- Label circuits and control connections where required for safe and convenient operation.

3.6 FIELD QUALITY CONTROL

- Verify that suspension components are securely attached to building structure.
- Verify that the Tbox is stable, properly aligned, and independently supported.
- Verify fixture-mounting components are secure.
- Verify power and control connections operate as intended.
- Correct deficiencies before equipment is attached or the Tbox is placed in service.

3.7 PROTECTION AND CLEANING

- Protect the Tbox finish and adjacent ceiling components during installation.
- Remove debris and construction materials from the Tbox and surrounding ceiling area.
- Repair minor finish damage in accordance with the Manufacturer's recommendations.
- Leave the completed Tbox clean and ready for equipment installation.

3.8 DEMONSTRATION

- Demonstrate proper use of the fixture-mounting position and applicable power/control connections to the Owner's representative.
- Provide Manufacturer's product and installation documentation at project closeout.

END OF SECTION