Twilite System Controls

Features

- Supports 512 Channels
- 384 System-wide Presets
- 16-Room system capacity
- Up to 24 Presets per room
- User-programmable Controls
- Full DMX-512 Pile-on capacity
- 3.5 Disk Drive for Off-line Storage
- Windows™ Off-line Editor package

TSC Control Module

Description

The Twilite System Control Module offers an affordable, fully enclosed digital processor designed specifically for integrated architectural lighting applications. The high speed processor offers the user an assignable dynamic memory for storage of all system information including station configurations, dimmer to channel assignments, channel levels, and preset information necessary for the system operation. The Control Module can address up to 512 dimmers on a single data line and support up to 384 system wide presets. The Control Module is designed to address one output network, with the capacity to support up to 16 discrete control stations on a simple local area network wiring configuration.

The Twilite System Control Module can be configured for multiple room applications. The program can be mapped through the electronic patch to support up to 16 independent rooms with up to 24 presets per room. All control assignments can be identified and edited through any Twilite Display Station or the Off-Line Editor Package. The front panel keyswitch position can restrict all on line system edits to insure basic integrity for the program. The 3.5" disk drive and internal battery offers library storage and automatic backup protection should any interrupt occur in the system.

The Twilite System's internal clock offers a range of performance features normally associated with up scale systems. The Control Module can operate on time clock or astronomical time requirements for automated event programs with both weekly and holiday schedules. The system also supports the capacity to link presets together with user definable delay times for repeatable patterns for special applications. These features are user addressable from any Twilite Display Station.

The Twilite System Control Module supports the capacity to combine USITT standard DMX-512 data signal into the system data line. This allows a standard DMX Controller to coordinate and address system dimmers through the system control. The Control Module offers the capacity to copy the incoming DMX information, pile-on the information to an existing signal, pass the signal through without modification or switch off the input port to restrict the source. The mode of operation can be controlled through the Display Station or by remote input.

The system has the capacity to alert the operator to the operating conditions. The front panel of the Control Module incorporates visual indicators for this purpose while the Display Station offers text messages which report conditions that may affect the operation of the system.

Ordering Information: Twilite Systems Control

Control Module:	**Options:**	**Minimum System requirements for optional TSC Off-Line Editor:**	
❒ CM/120	❒ Off-Line Editor	Processor: 486SX-25	RAM: 4 MB
❒ CM/240	❒ Print Program	Disk space:3 MB	Video: SVGA

JOB NUMBER: APPROVAL STAMP

JOB NAME:

CUSTOMER:

P. O. #

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Control Module — Twilite System Controls

Performance Data

Signal In Port:	3 position, USITT DMX512 compatible.
Off-Line Storage:	3.5" disk drive, IBM Format, 1.44MB.
LAN Capacity:	16 Individual addresses.
LAN Formation:	Daisy chained; 1000', standard output. Custom outputs for extended range.
Data Out Speed:	56.0KBPS (full address) minimum.
LAN Scan Speed:	MPP, 84.0KBPS. minimum.
Control Cable:	Alpha 1133 Cable (or equal), 18 ga. tinned copper, PVC insulated, color coded, twisted pairs, PVC jacket

Electrical Data

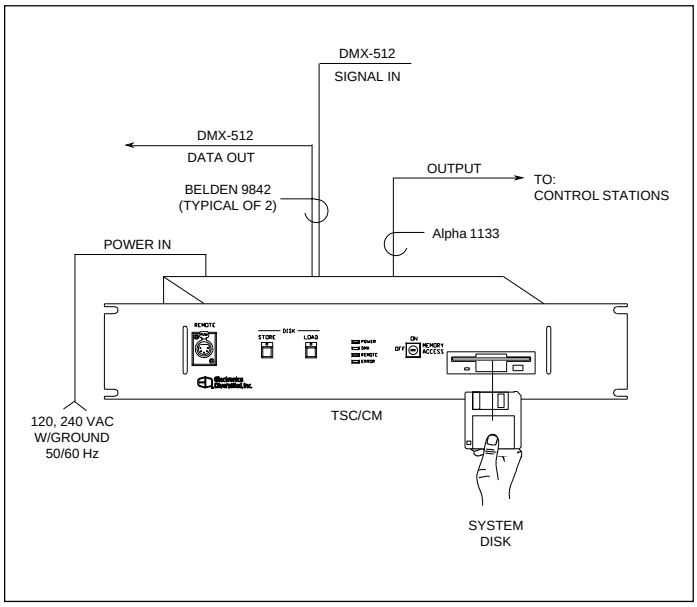
Power Input:	120 or 240 Volt AC at 60 /50 hz. (47 to 63 hz).
Consumption:	160 watts maximum (measured).
Control Voltage:	Class II Multiplex (Low Voltage 15VDC +/-30%).
UPS Option*:	Blackout, Brownout protection with Indicators.
Transfer Time:	2 ms (milliseconds minimum).
Backup Time:	28 minutes operation minimum with full charge
Alarm:	Visual and audio, local or remote.
Diagnostics Pgm:	Internal, power up with feedback (200 item checks).
Notes:	Stations are connected via Daisy Chain. Backbox ground via metal conduit network.

*See Data Sheet P455A

Environment

Ambient temp. range:	Recommend 64° -77° F (18° - 25° C)
Relative humidity:	10% to 90% non-condensing
General conditions:	Interior use only, general office level

Control System Riser Diagram



Specifications

1. The Twilite System Control Module shall be a fully enclosed, self contained, microprocessor based control unit capable of high speed bidirectional data transmission specifically designed for solid state management of electrical dimmed and switched load circuits. The Control Module shall support a series of low cost, network compatible control stations for single of multiple room operations. All data necessary for system operation shall be resident in the Control Module .
2. The Control Module shall support a system address of up to 512 dimmers on 512 discreet channel outputs. All system dimmers can be assigned direct channel output or grouped proportionally assigned levels on a room by room basis. The system shall support up to 384 system wide presets with a capacity of 16 rooms. Up to 24 presets can be assigned in any room. To assure maximum memory capacity, the program shall support a dynamic memory allocation process which configures the system memory to specific site requirements.
3. The control module shall be available to support a single output LAN configuration. The LAN connection between the control module and the remote stations shall be of Class II low voltage electrical wiring based on a daisy chained, three-twisted pair cable. The LAN shall support up to 16 individual stations which may share common station identifiers. The Control Module shall direct a high speed, bidirectional polling protocol which monitors, updates and executes commands entered on the network. All connections made to the remote stations on a single removable, keyed connector with labeled terminals. Network cable runs shall be limited to 1000 feet (330 meters)on standard output ports.
4. The system program shall be based on user addressable conditions accessed through a display station or off line editor. The program shall be stored in read only memory. Conditions set shall be stored in battery protected random access memory as well as stored off line on a standard 3.5" disk drive. Under interrupt conditions, the control module shall review system memory and automatically reload the disk information if the system memory has been corrupted at any level. Systems equipped with an optional un-interruptible power supply will offer both audio and visual alarms during a fault condition.
5. The Control Module shall support the capacity for a direct USITT DMX-512 input “copy active” command. This command will allow an independent source to set levels which can be captured and assigned to a preset. The control module shall allow the user to select the system general mode of operation which would include, but not be limited to:
   1. Stand alone as a control source
   2. Pile on memory to existing DMX signal
   3. Pass through DMX information without interruption
6. The control program shall allow the user to restrict access to information stored by the station. All access can be controlled by a user assigned five digit password configured from a display station. Restrictions shall be available to control preset selection, edit functions and configuration settings.
7. The Control Module shall support a menu driven operating program with simple commands and illuminated button prompts. System access buttons allow the user to set and review selections in the following menu fields:
   A. The System Menu establishes a location for installation based information to include:
      a. Software version number.
      b. Position for facility name.
      c. Operation mode set for input port.
      d. Select character set for display.
   B. Configuration Menu includes a location for assignments to include:
      a. Assign dimmers with patch to channel in room information.
      b. Assign rooms with name and preset information.
      c. Assign stations with names, rooms and lock assignments.
      d. Establish password functions.
      e. Configure combine inputs for master and slave room combinations.
      f. Assign functions for remote device interface remote inputs to system.
      g. Set the astronomical clock for sunrise, sunset based calculations.
      h. Establish slider controls by assigning channels or groups.
   C. Features Menu shall access assignments within the display station for the remote controls:
      a. Set current time and date information.
      b. Create and apply exceptions schedules to daily event operation.
      c. Create and assign event clock schedules for room assignments.
      d. Install and Update system password assignments.
      e. Access system disk routines for save and load requirements.
   D. Preset Menu shall access room information based on inputs controlled by the display station:
      a. Access to alpha numeric labels for channels and presets.
      b. Access to remote lock assignments for remote stations.
      c. Access to preset with channel and numeric level and time.
      d. Capacity to copy and store active outputs function.
      e. Access to preset link and delay functions.
7. The control module electronics shall be housed in a single enclosure, designed to rack mount in either a 19" or 24" assembly. The enclosure shall be self contained with alignment pins to insure correct mating of connectors. All control terminations are secured independent of the control module. The control module shall display current status information at all times. Optional mounting enclosures include locking covers when necessary.

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