

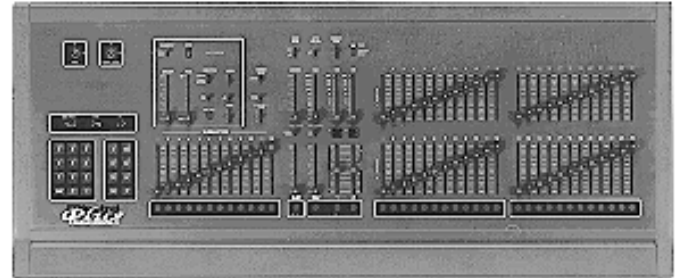


# Performance Controls

## Features

- User-friendly one- or two-scene preset configuration
- Timed split dipless crossfaders with LED displays
- Independent fader with timer
- Grand Master with blackout switch
- Individual fader load buttons
- Up to 96 channel address capacity
- Off-line storage
- Optional Video Display with On-Board Operations Manual

## Plus Control Console

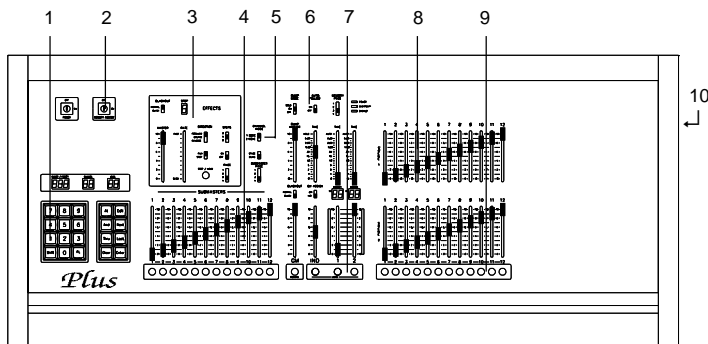


## Description

The **Plus** console offers a series of enhancements to the Minstrel platform. Included are expanded preset memory, off-line storage, a standard parallel printer output and output for an optional video display...all packaged in a user-friendly two-scene preset or single-scene configuration. With a capacity to address up to 512 dimmers and hold up to 240 preset memories, the **Plus** console offers a training tool for basic and sophisticated preset operation. Presets can be loaded in or out of sequence. Any preset number loaded on the fader will be displayed in the preset window. A bank of scene channels can be loaded to the Independent Fader for live edits and/or individual channel controls. The Keypad also offers preset edit features.

The **Plus** console has the capacity to display information in either the Keypad window, or through an optional video display. The video display highlights the current status of all channels and fades. The available displays are Set-up, Preset, Patch, Submaster, and Stage with active fader status information. The Minstrel **Plus** console uses the industry standard 3.5-inch disk drive for off-line storage as well as a ten year lithium battery for protection of internal memory. The disk can store up to 40 shows with alpha numeric labels.

## Component Information



### Ordering Information:

#### Plus Console:

- 12-channel Console
- 24-channel Console
- 48-channel Console

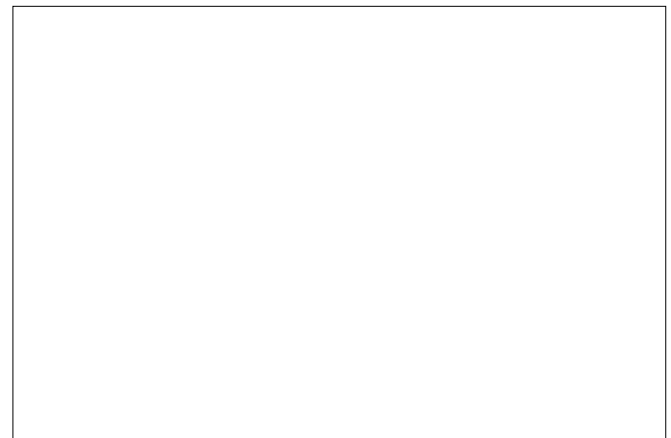
#### Optional Accessories:

- Dust Cover
- Script Light
- Video Card
- CRT Display
- Line Printer
- MIDI Capacity
- Analog Back-up
- Custom Controls
- Optional Protocol

### Plus Front Panel

- 1. Command Keypad:**  
Numeric Keypad and LED display with keys for access to Patch, Channel, Level, Preset, Submaster and Disk functions.
- 2. Key Switches:**  
Key access to both power and record functions.
- 3. Effects Controls:**  
Program controls for Chase effects to include dedicated level and rate controls.
- 4. Submasters:**  
Four pages of 12 overlapping Submaster memories with bump buttons and bank load capacities.
- 5. Scene Switch:**  
For selection of traditional two-scene preset operation or single-scene to double the channel count.
- 6. Playback Controls:**  
Split dipless crossfaders with timer controls and LED preset displays. An Independent fader for pile-on or inhibitive capacity. Bump mode controls with off, level control, and solo selections. Grand Master and blackout switch.
- 7. Load/Record Keys:**  
When selected with preset key loads to a specified fader.  
When selected with preset key records to a specified preset.
- 8. Channel Controls:**  
Single or two-scene channel controllers for individual level setting.
- 9. Bump Buttons:**  
Channel bump buttons and/or preset record keys.
- 10. Disk Drive:**  
Multi-Show off-line storage of recorded information.

### APPROVAL STAMP



## Mechanical Characteristics

<b>Enclosure:</b>	Heavy-duty aluminum, finished in grey epoxy paint. Silk-screened nomenclature.
<b>Circuit Cards:</b>	Plug-in style, double-sided, through-hole, plated, U.L. recognized with G-10 fiberglass rate FR-4.
<b>Protocol:</b>	USITT - DMX-512 standard AMX-192 option Analog 0 - 10VDC option (Others available on request)

## Physical Characteristics

<b>Dimensions:</b>	12/24-channel: 5" H x 36" L x 15½" D (12.7cm x 91.4cm x 39.4cm) Approximate Wt: 24 lbs (10.9kg)
	24/48-channel: 5" H x 36" L x 15½" D (12.7cm x 91.4cm x 39.4cm) Approximate Wt: 30 lbs (13.6kg)
	48/96-channel: 5" H x 51" L x 15½" D (12.7cm x 129.5cm x 39.4cm) Approximate Wt: 42 lbs (19.0kg)
	Houselight Module: 11½" D x 8" W

## Specifications

- The Minstrel **Plus** Console shall be a micro-processor based controller specifically designed for the live performance market. The controller shall address a system of up to 512 dimmers to be controlled by 12, 24 or 48 control channels in a two-scene preset configuration. The standard communication protocol for the system shall be USITT standard DMX-512.
- The **Plus** Console shall be housed in a heavy-duty aluminum enclosure substantially framed for portable use with a sloped front control surface clearly marked for operation. All identifications shall be silk-screened for high contrast, low light-level viewing. All control connectors integrated into the chassis shall be of locking-type to insure proper connection.
- The **Plus** Console program shall be secured in a non-volatile read only memory. The program operation shall not be dependent upon any peripheral device for operation. A diagnostics program shall be available to confirm proper operation. Recorded memory shall be protected by a ten-year lithium battery. Additional protection shall be available by means of off-line storage of recorded information. Off-line storage shall be accomplished by the industry standard 3.5" disk drive internal to the housing. Up to forty shows with alpha numeric labels can be stored on a single disk.
- The **Plus** Console shall provide, but not be limited to the following as standard features:
  - Channel Faders: Individual slider controls arranged in two rows of 12, 24, or 48 controllers for manual intensity selection.
  - Bump Buttons: Assigned to individual preset channels for instant output when touched. Solo, Off or On output is selected and controlled by the bump mode selector and intensity fader.
  - Split Dipless Crossfaders: Allows operator control of two manual preset scenes, manual and memory presets, or memory and memory presets. Incoming and outgoing scenes can be individually controlled manually or by times. An LED array shall indicate the status of the fader at all times. The ability to automatically load faders sequentially shall be available.
  - Independent Fader: Allows operator to control any preset, manual or memory in addition to the Crossfaders. Incoming and outgoing scenes can be controlled manually or by time. A selector shall allow the Fader to operate in a pile-on or inhibitive mode.
  - Grand Master and Blackout Switch: All channel and fader outputs shall be assigned and proportionally controlled by this potentiometer and switch.
  - Load Keys: Shall allow recorded presets to be assigned to Faders.
  - Submasters: Dedicated submasters with bump buttons for individual manual control of recorded outputs. Submaster outputs may be loaded to faders for playback with time controls. Up to 48 submaster outputs may be accessed.
  - Effects Controls: Allow access to special chase effects. User selectable steps shall allow assigned groups directional control of patterned chases. Individual rate and level controls shall be provided.
  - Keypad Controls: Allow direct address of dimmers, channels, and levels for preset composition through 20 keys. Access to recorded information, such as Stage, Preview, Submaster, Patch and Set-Up shall be accomplished through the keypad. Any information stored can be displayed through the display window above the keypad or through the optional video output.
- During operation, the **Plus** shall provide, but not be limited to, the following features:
  - Power and Record access shall be controlled by a key switch.
  - Patch features shall be accessed by the keypad. Standard conventions such as AT, AND, THRU, NEXT, and LAST shall access the proportional electronic patch functions. CLEAR and RESET options shall be available.
  - Level Setting shall be performed by selecting live or blind mode and either manually adjusting the channel level potentiometers or by digitally calling the channels to levels on the keypad.
  - Recording information shall be accomplished by depressing the record key and assigning the memory to a specific location via the bump button and the page selector. Up to 4 pages of channel buttons can store presets. Visual confirmation of the record will be provided to the operator.
  - Recorded information may be previewed and or modified through the display window and the keypad. Access to the recorded presets and their individual levels may be modified at any time.
  - Presets may be loaded to the Faders by depressing the load key followed by the bump button of the preset to be loaded. Confirmation of the "load" will be displayed in the preset window. Sequential presets shall automatically load if the AUTO FOLLOW mode is selected.
  - The channel mode selector shall allow access to two scene or one scene operation. In the one-scene mode, the channel address capacity shall double the available two-scene fixed channel count for increased channel capacity. One-scene operation can occur while crossfaders play back recorded presets.
  - Effects playback shall operate independent of the crossfaders. Rate and level controls shall be adjustable at all times. A step/hold key shall allow abrupt control of any effect. Directional control shall allow forward, reverse, or bounce features.
- OPTIONS: The **Plus** Console shall have the capacity to support the optional peripheral equipment outlined below:
  - CRT Display: The console shall support a CRT for display of all internal screens such as Stage, Preview, Submaster, Patch and Set-up. Optional "Help" functions shall also be available through this mode.
  - Line Printer: The console shall support a standard line printer for printouts of recorded information groups such as presets, submasters, and patch assignments.
  - MIDI Capacity: The console shall have the capacity to interface with MIDI compatible control input and output signals.
  - Custom Controls: The console shall have the capacity to house custom houselight controls within the chassis. These controls can operate independently, or in sequence with the standard outputs of the console.
  - Output Protocols: The console shall have the capacity to address other selected output protocols in addition to the USITT standard DMX-512.
  - Analog Back-up: The console shall have the capacity to address the system dimmer bank in an analog output configuration should the primary outputs fail for any reason. Up to ten channels of analog control shall be available.
- The **Plus** Console shall house a U.L. recognized integral power supply which shall regulate power within plus or minus 01% of incoming line voltages between 105 and 125 VAC. The console shall have the capacity to operate on 120 VAC, 60 Hz. or 240 VAC, 50 Hz. The power consumption shall not be greater than 2 amps.
- The lighting control console shall be the Minstrel **Plus**, as manufactured by Electronics Diversified, Inc., Hillsboro, OR 97124 USA.

Specifications subject to change without notice. Specification applicable to standard products only.  
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