

# System Specifications

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## 2.1 Specifications      Marquee 8110+/8500/8500LC/9500LC

*Note: Due to constant research, specifications are subject to change without notice. Specifications may vary with projector vintage.*

- Model** ➤
- ▣ 8110+: 38-P11075-95
  - ▣ 8500: 38-P13085-95
  - ▣ 8500LC: 38-P130LC-95
  - ▣ 9500LC: 38-P13095-95

- Optics** ➤
- ▣ High definition hybrid lens
  - ▣ Optical resolution: 10 line pairs per mm
  - ▣ 8110+/8500: HD8 lens, 8" electromagnetic focus CRTs
  - ▣ 8500LC: HD10 lens, 8" liquid coupled electromagnetic focus CRTs
  - ▣ 9500LC: HD10 lens, 9" liquid coupled electromagnetic focus CRTs
  - ▣ Optional lenses available for 8500LC and 9500LC, optimized for different throw distances
  - ▣ Scheimpflug adjustment for top, bottom, and side to side focus
  - ▣ Liquid coupling of 8500LC and 9500LC for optimized contrast ratio

- Resolution** ➤
- ▣ 2500 x 2000 addressability
  - ▣ 8110+/8500/8500LC: 1350 x 1100 ANSI pixels
  - ▣ 9500LC: 1500 x 1200 ANSI pixels

- Brightness** ➤
- ▣ 8110+: 200 ANSI lumens
  - ▣ 8500: 225 ANSI lumens
  - ▣ 8500LC: 235 ANSI lumens
  - ▣ 9500LC: 240 ANSI lumens (260 without filter on green)

- Display** ➤
- ▣ Electronic geometry circuits separately correct top, bottom and sides for flat or curved screens up to 25 feet diagonal
  - ▣ Keystone circuitry to correct pictures for angles up to  $\pm 15^\circ$  vertically from screen axis
  - ▣ Color temperature adjustment for precise setup
  - ▣ S and C vertical and horizontal linearity controls
  - ▣ Adjustable top, bottom and side blanking
  - ▣ 8500/8500LC/9500LC: 9 zone electronic astigmatism correction
  - ▣ 8500/8500LC/9500LC: 8 zone Contrast Modulation control

- Input Signals** ➤
- Video Input Level: 0.5 to 1.0 volts p-p,  $75\Omega \pm 1\%$  terminated
  - Sync Input Level: 0.5 to 5.0 volts p-p,  $75\Omega$  terminated
  - Automatically switches to separate sync, composite sync, or sync on green
  - Separate and composite sync are automatically accepted in either polarity
  - Audio Input Level: 1.0 volts nominal

- Output Signals** ➤
- Stereo audio outputs with volume control

- Gamma Correction** ➤
- Gamma correction circuitry provided for improved video performance and gray-scale tracking

- Frequency Response** ➤
- 8110+/8500/8500LC: 100 MHz bandwidth (-3 dB)
  - 9500LC: 120 MHz bandwidth (-3 dB)
  - 8110+/8500/8500LC: Accommodates 4 nanosecond pixels and digital clock rates over 250 MHz
  - 9500LC: Accommodates 3 nanosecond pixels and digital clock rates over 300 MHz

- DC Restoration** ➤
- Keyed clamp, better than 1% accuracy

- Geometry** ➤
- Rectilinear Accuracy: 1.0% of picture height maximum
  - Horizontal Linearity: 2.0% maximum (keypad adjustable)
  - Vertical Linearity: 1.0% maximum (keypad adjustable)

- Deflection Circuits** ➤
- Smartlock™ circuitry for quick lock-in and ultra steady images

### **Vertical Deflection**

- Frequency Range: 38 Hz to 180 Hz autolock
- Size automatically regulated over frequency range and adjustable to  $\pm 15\%$  of nominal
- Retrace Time: less than 300 microseconds

### **Horizontal Deflection**

- 8110+: 15 kHz to 110 kHz autolock
- 8500/8500LC/9500LC: 15 kHz to 130 kHz autolock
- Size automatically regulated over frequency range and adjustable to  $\pm 15\%$  of nominal
- Retrace Time:
  - 15-30 kHz: 5.5  $\mu$ s (short)
  - 30-60 kHz: 3.3  $\mu$ s (short)
  - 60-130 kHz: 1.6  $\mu$ s (short)
  - 30-45 kHz: 5.0  $\mu$ s (long)
  - 60-100 kHz: 2.5  $\mu$ s (long)
- Blanking Time:
  - 15-30 kHz: 6.5  $\mu$ s (short)
  - 30-60 kHz: 3.6  $\mu$ s (short)
  - 60-130 kHz: 1.8  $\mu$ s (short)
  - 30-45 kHz: 5.6  $\mu$ s (long)
  - 60-100 kHz: 3.2  $\mu$ s (long)

- High Voltage** ➤
  - 34.9 kV regulated to better than  $\pm 1\%$
- Power Requirements** ➤
  - 90 VAC to 264 VAC universal input
  - Line Frequency: 50 to 60 Hz nominal
  - Power: 650 watts maximum
  - Power factor corrected
- Inputs** ➤
  - Built-in RGBHV interface, with stereo audio inputs. Optional input modules install in interface slot.
  - Image Shifter Module (standard on 9500LC only) which slowly moves the image to lengthen the life of the CRT phosphors while maintaining a high brightness picture
  - Built-in RS-232 for computer control, with loop-thru for connection of multiple projectors
  - HDTV compatible with optional interface module
- Optional Source Expansion** ➤
  - The *Marquee* Signal Switcher allows use of up to nine additional input modules. Up to nine switchers can be connected.
  - Maximum Number of Inputs: 78
- Control Features** ➤
  - Multi-language software (user selectable)
  - Menu driven interface with on-screen help
  - Built-in set up tutorials
  - Auto power up after power interruption
  - Five built-in test patterns
  - Internal frequency generator
  - Programmable events and real time clock
- Servicing** ➤
  - Modular design provides ease of servicing
  - Most service adjustments are made using the keypad
- Environment** ➤
  - Maximum Operating Range**
    - Temperature: 0 to 35°C
    - Humidity: 0 to 90% non-condensing
    - Altitude: 0 to 3000m (0-10,000 ft.)
  - Storage**
    - Temperature: -30°C to 65°C
  - Heat Dissipation**
    - 2450 BTU/Hr (approximate)
- Mounting** ➤
  - Can be ceiling mounted on its optional ceiling mount or placed on a castered cart for portable applications
- Weight** ➤
  - 8110+: 144 lbs (65 kg) / 194 lbs (88 kg) shipping weight
  - 8500: 145 lbs (66 kg) / 210 lbs (95 kg) shipping weight
  - 8500LC: 175 lbs (79 kg) / 234 lbs (106 kg) shipping weight
  - 9500LC: 186 lbs (84 kg) / 240 lbs (109 kg) shipping weight

### **Accessories** ► **Included**

- 1 IR remote multi-use, backlit, full function keypad
- 1 Internal multi-use, backlit, full function keypad
- Tool Kit
- User's manual
- Line cord

### **Available Options** ► **& Accessories**

- A variety of input interface modules including an RGB Input Module, an RGB Loop Thru Module, a Composite/S-Video Module, a HDTV Input Module, and a PC Analog Input Module
- Image Shifter Module which slowly moves the image to lengthen the life of the CRT phosphors while maintaining a high brightness picture (comes standard on 9500LC)
- ACON II (Automatic Convergence) which completely automates the convergence process, performing complete convergence in less than three minutes
- *Marquee* Signal Switcher
- *Marquee* Case/Power Supply to allow input modules to be used as stand-alone interfaces
- Adapter cables
- Wired keypad
- P43 short persistence phosphor CRTs for 3D applications
- Ceiling mount and rear screen equipment
- RETRO III rear screen projection enclosure
- Castered cart
- Optional lenses (8500LC and 9500LC only)
- Multistandard Video Decoder Module
- Contrast Module Upgrade Kit (for model 8110+)
- *Marquee* Librarian software
- *Marquee* Encyclopedia software

Contact your dealer or Electrohome for more information about the above products and accessories.

### **Regulatory** ► **Approvals**

- FCC Class A, DHHS and HWC requirements, EN55022 Class B
- CSA/UL/EN 60 950
- EU Directives 73/23/EEC, 89/336/EEC (CE marked)

### **Warranty** ►

- One year parts and labour (see user's manual)
- Extended warranties available