

**COMMERCIAL AUDIO SERIES**

# 135MA 160MA



The Crown® 135MA and 160MA are high-value mixer-amplifiers for commercial audio. They provide 8-ohm and constant-voltage outputs (70V and 100V). Typical uses are paging, background music, and music-on-hold.

The 135MA provides 3 inputs (each with a volume control) and a 35W amplifier output. The 160MA provides 4 inputs (each with a volume control) and a 60W amplifier output.

Other features include priority muting, voice-activated muting, phantom power, and Bass and Treble controls.

## Specifications

### Performance

**Frequency Response (at 1 watt from line out):**  
50 Hz to 20 kHz  $\pm$  1 dB.  
19 Hz to 34 kHz +0, -3 dB.

**Signal to Noise Ratio (ref. to rated power, master volume at minimum):**

Mic: > 58 dB.  
Line: > 60 dB.  
Telephone: > 60 dB.  
Inputs 2 or 3 (and 4 in 160MA): > 78 dB.

**THD + N:** < 0.5% at rated power at 1 kHz.  
< 0.1% at 5W at 1 kHz.

**Input Sensitivity (for full output at maximum gain):**

Input 1: Mic 3mV, Line 800mV.  
Input 2: 400mV.  
Input 3: 400mV.  
Input 4 (160MA only): 400mV.

**Input Impedance (nominal):**

Mic: 2.2 kilohms.  
Line: 10 kilohms.  
RCA: 10 kilohms.

**Crosstalk:** -82 dB at 1kHz (Ch. 1 line input 0.8V, Ch. 1 volume at minimum, other channel volumes at maximum).

**Line Output Level (nominal):** 1V into 10 kilohms.

**Phantom Power:** 15 VDC.

## Features

- 3 inputs (each with a volume control), and one 35W amplifier output channel in 135MA
- 4 inputs (each with a volume control), and one 60W amplifier output channel in 160MA
- Ideal for paging, background music, and music-on-hold
- Balanced Phoenix-type mic/line input, telephone output, dual RCA stereo music inputs, screw-terminal speaker outputs
- Priority muting by VOX or external switch
- Bass and Treble controls on master output
- Three-Year, No-Fault, Fully Transferable Warranty completely protects your investment and guarantees its specifications

### AC Line Voltages Available:

Universal Power Supply. Line voltage tolerance +15%, -20%.

**Operating Temperature/Humidity:** 0° C to 40° C at 95% relative humidity (non-condensing).

**Storage Temperature:** -20° C to 85° C.

### Front Panel Controls and Indicators

**Power Switch:** Pushbutton on-off switch.

**Input Volume Controls:** Four controls, one per input. Detented potentiometers with knobs.

**Tone Controls:** Bass and Treble non-detented recessed potentiometers under master output volume control. Bass  $\pm$ 10 dB at 100 Hz, Treble  $\pm$ 10 dB at 10 kHz.

**Power Indicator:** Blue LED indicates power on.

**Input Signal Presence Indicators:** Green LED, one above each channel's input attenuator, illuminates when input signal exceeds -40 dBu.

**Input Signal Clip Indicators:** Green LED, one above each channel's input attenuator, flashes brightly at threshold of audible distortion.

**Output Signal Presence Indicator:** Green LED above master output volume control illuminates when any input signal exceeds -40 dBu.

**Output Signal Clip Indicators:** Red LED above master output volume control flashes brightly at threshold of audible distortion.

**Master Output Volume Control:** Detented potentiometer with knob.

### Back Panel Controls, Connectors and Indicators

**AC Power Inlet:** Detachable IEC accepts US or Euro style power cords.

**Amplifier Output Connector:** 4-position terminal barrier block with COM (Common), 8 ohms, 70V and 100V terminals. Accepts up to 10 AWG terminal forks. Non-touch cover included.

**Preamp Line Out Connector:** 3-pin balanced Phoenix-type for connection to external amplifiers. Level independent of master volume control.

**Input Connector 1:** 5-terminal Phoenix connector. 3 terminals for balanced signal, 2 terminals for priority contact closure, which mutes other channels when DIP switch 3 is on.

**Input Connector 2:** Unbalanced line-level RCA-type connectors.

**Input Connector 3:** Unbalanced line-level RCA-type connectors.

**Input Connector 4 (160MA only):** Unbalanced line-level RCA-type connectors.

**Telephone (MOH) Output Connector:** 4-terminal Phoenix connector (2 terminals for 1W output to 8-ohm speaker, 2 terminals for 600-ohm output to PBX music-on-hold port).

**MOH Level Control:** Trim pot adjusts level for Music-On-Hold output from Telephone (MOH) Output Connector.

**Amp Configuration DIP Switch:** DIP switch selection for multiple functions.

1. On: Sets CH1 to Mic Input. Off: Sets CH1 to Line Input.
2. On: Sets CH1 to Normal mode (no priority).
3. On: CH1 priority contact closure mutes other channels.
4. On: CH1 VOX mutes other channels by sensing signal through Input 1.
5. On: Routes CH1 to MOH output.
6. On: Routes CH2 to MOH output.
7. On: Routes CH3 to MOH output.
8. On: 15V phantom power.

## 135MA

\*1 kHz Power

Minimum guaranteed power into 8 ohms or 70V/100V output **35W**

\*1 kHz Power: refers to maximum power in watts at 1 kHz with 0.5% THD.

## 160MA

\*1 kHz Power

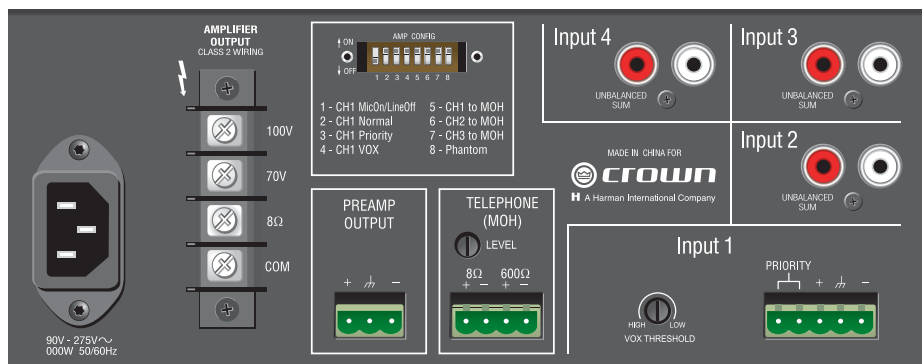
Minimum guaranteed power into 8 ohms or 70V/100V output **60W**

\*1 kHz Power: refers to maximum power in watts at 1 kHz with 0.5% THD.



INSTALLED

# 135MA 160MA



160MA back panel

**VOX Threshold:** Trim pot controls how loud the voice on CH1 must be before muting other channels. Can be set for no muting.

### Cooling

Convection cooled.

### Protection

Included protection mechanisms are current limiting, over-temperature thermal cutout, and DC-fault load protection. The unit is protected against turn-on/turn-off thumps.

### Included Accessories

- Power cord
- Non-touch cover for output connectors
- Phoenix-type connectors

### Optional Accessories

- Part no. IST 600-ohm Isolation Transformer for Telephone Output or Input 1.
- Part no. RM1 single rack mount kit for mounting a

- single MA unit in a rack.
- Part no. RM2 double rack mount kit for mounting two MA units side-by-side in a rack.
- Part no. S-Cover 10-pack of security knobs.

### Dimensions

- Width: Half rack width (9.5 in. or 24.1 cm).
- Height (front panel): 3.5 in. (8.9 cm).
- Height (including feet): 4.1 in. (10.5 cm).
- Depth (front panel to back panel): 12.2 in. (31.0 cm).
- Depth (front of knobs to back panel): 13.9 in. (35.2 cm).

### Weight

- Net Weight:**
- 135MA: 8 lb 2 oz (3.7 kg).
- 160MA: 9 lb 7 oz (4.3 kg).

### Shipping Weight:

- 135MA: 10 lb 16 oz (4.9 kg).
- 160MA: 12 lb 4 oz (5.6 kg).

## Crown's Three-Year, No-Fault, Fully Transferable Warranty

Crown offers a Three-Year, No-Fault, Fully Transferable Warranty for every new Crown mixer-amplifier—an unsurpassed industry standard. With this unprecedented No-Fault protection, your new Crown mixer-amplifier is warranted to meet or exceed original specifications for the first three years of ownership. During this time, if your mixer-amplifier fails, or does not perform to original specifications, it will be repaired or replaced at our expense. About the only things not covered by this warranty are those losses normally covered by insurance and those caused by intentional abuse. And the coverage is transferable, should you sell your mixer-amplifier.

See your authorized Crown dealer for full warranty disclosure and details. For customers outside of the USA, please contact your authorized Crown distributor for warranty information or call 574-294-8200.



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