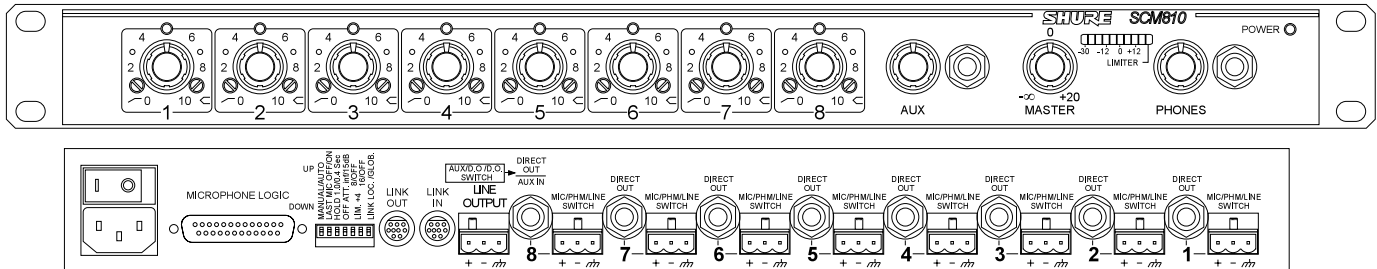


SCM810 EIGHT-CHANNEL AUTOMATIC MICROPHONE MIXER

The Shure Model SCM810 is an automatic microphone mixer using Shure's patented IntelliMix operational concept. Intellimix activates only those microphones being addressed, minimizing the poor audio caused by multiple open microphones. The SCM810 is an eight-channel mixer capable of being linked for installations as large as 400 input channels. The single-rack-height chassis is ideal for installations with limited rack space. The removable header-type input and output connectors are quick, convenient, and eliminate the time and expense of wiring XLR microphone connectors.



SYSTEM FEATURES

- Reliable, quick-acting, noise-free microphone selection which automatically adjusts to changes in background room noise
- User-configurable parameters for automatic operation
- Automatic gain adjustment as additional microphones are activated (NOMA: Number of Open Microphones Attenuator)
- Last Mic Lock-On circuit maintains ambient sound
- Adjustable EQ per channel: low-frequency rolloff and high-frequency shelving
- 48 V phantom power selectable for each input
- Active balanced microphone- and line-level inputs and line-level output
- Highly RF-resistant chassis and circuitry
- Bi-color LED indication of channel activation and clipping
- Linking capability for systems up to 400 microphones
- Non-automatic aux-level inputs with level control
- Front-panel headphones output with level control
- Peak-responding output limiter with selectable thresholds and LED indicator
- Internal modification permits 120 V operation (SCM810) or 230 V operation (SCM810E)

SPECIFICATIONS

Measurement Conditions (unless otherwise specified): Line voltage 120 Vac, 60 Hz (SCM810) or 230 Vac, 50 Hz (SCM810E); full gain; 1 kHz, one channel activated; source impedances: Mic 150 Ω, Line 150 Ω; terminations: Line 10 kΩ, Phones 300 Ω (tip-sleeve and ring-sleeve), Direct Out 10 kΩ; Auto mode, equalization controls adjusted for flat response

Frequency Response (Ref 1 kHz, channel controls centered)
50 Hz to 20 kHz +2 dB; -3 dB corner at 25 Hz

Voltage Gain (typical, controls full clockwise)

| Input | Output | | |
|---------------------------|--------|------------|------------|
| | Line | Headphones | Direct Out |
| Low-impedance mic (150 Ω) | 80 dB | 88 dB | 34 dB |
| Line | 40 dB | 48 dB | -6 dB |
| Aux | 44 dB | 52 dB | - |
| Send/Return | 20 dB | 28 dB | - |

Inputs

| Input | Impedance | | Input Clipping Level |
|-------------|-----------------------|------------------|----------------------|
| | Designed for use with | Actual (typical) | |
| Mic | 19-600 Ω | 10 kΩ | -15 dBV |
| Line | 32 kΩ | 10 kΩ | +22 dBV |
| Aux | 32 kΩ | 10 kΩ | +22 dBV |
| Send/Return | 32 kΩ | 10 kΩ | +18 dBV |

Outputs

| Output | Impedance | | Output Clipping Level |
|-------------|---------------------------|------------------|-----------------------|
| | Designed for use with | Actual (typical) | |
| Line | >600 Ω | 60 Ω | +18 dBV |
| Headphones | 8-200 Ω, 60 Ω recommended | 300 Ω | +12 dBV |
| Direct Out | >2 kΩ | 1 kΩ | +18 dBV |
| Send/Return | >2 kΩ | 1 kΩ | +18 dBV |

Total Harmonic Distortion (through 20 Hz–20 kHz filter; Input 1 and Master at 5, all other controls full counterclockwise)
< 0.1% at +18 dBV output level, 50 Hz to 20 kHz

Hum and Noise (150 Ω source; through 400 Hz–20 kHz filter)
Equivalent Input Noise: -125 dBV

Equivalent Input Hum and Noise (150 Ω source; through 20 Hz–20 kHz filter)
-123 dBV

Output Hum and Noise (through 20 Hz–20 kHz filter; channel controls full counterclockwise)

Master full counterclockwise: -90 dBV

Master full clockwise: -70 dBV

Common Mode Rejection

>70 dB at 1 kHz

SCM810 AUTOMATIC MICROPHONE MIXER SPECIFICATION SHEET

Polarity

Mic/Line, Send inputs to all outputs are non-inverting; Aux input to all outputs is inverting

Input Channel Activation

Attack Time: 4 msec
Hold Time: 0.4 sec (switchable to 1.0 sec)
Decay Time: 0.5 sec

Off-Attenuation

15 dB (switchable to ∞)

Overload and Shorting Protection

Shorting outputs, even for prolonged periods, causes no damage. Microphone inputs are not damaged by signals up to 3 V; Line and Monitor inputs by signals up to 20 V

Equalization

Low-frequency: 6 dB/octave cut, adjustable corner from 25 to 320 Hz
High-frequency: +6 dB at 5 kHz, +8 dB at 10 kHz, shelving

Limiter

Type: Peak
Threshold: Switchable: off, +4, +8, +16 (dBm at output)
Attack Time: 2 msec
Recovery Time: 300 msec
Indicator: Lights red when limiting occurs

Input LEDs

Green on channel activation, red at 6 dB below clipping

Phantom Power

46 Vdc open-circuit through 6.8 k Ω series resistance per DIN 45 596

Operating Voltage

SCM810: 120 Vac rated nominal (see *Voltage Selection* for 230 Vac operation), 50/60 Hz, 200 mA
SCM810E: 230 Vac rated nominal (see *Voltage Selection* for 120 Vac operation), 50/60 Hz, 200 mA

Temperature Range

Operating: 0° to 60° C (32° to 140° F)
Storage: -30° to 70° C (-22° to 158° F)

Overall Dimensions

44.5 mm H x 483 mm W x 317 mm D (1 $\frac{3}{4}$ x 19 x 12 $\frac{1}{2}$ in.)

Net Weight

4.3 kg (9 lb 9 oz)

Certifications

SCM810: Listed by Underwriters Laboratories, Inc., listed as Certified by Canadian Standards Association; SCM810E: Conforms to European Union directives, eligible to bear CE marking; VDE GS-Certified to EN 60 950; meets European Union EMC Immunity Requirements (EN 50 082-1, 1992); RF radiated (IEC 801-3): meets Criterion A, ESD: meets Criterion B, EFT (IEC 801-4): meets Criterion B

REPLACEMENT PARTS

| | |
|------------------------------------|---------|
| Knob, Master & Phones (white)..... | 95A8238 |
| Knob, Channel Gain (blue)..... | 95B8238 |
| Line (Power) Cord (SCM810)..... | 95A8389 |
| Line (Power) Cord (SCM810E)..... | 95A8247 |
| Link Cable..... | 95A1143 |

APPLICATIONS

The SCM810 has numerous applications in sound reinforcement, audio recording, and broadcast. In any speech pickup application where multiple microphones are required, the SCM810 dramatically improves audio quality. Automatic operation allows an individual talker's voice to rise above background noise and reverberation to become clearer and more intelligible.

Each SCM810 handles up to eight microphone- or line-level signals and two aux-level signals. Any high quality, low-impedance, balanced dynamic or condenser microphone (including wireless) can be used. Additional SCM810 mixers (up to 50) can be interconnected using the rear-panel link jacks. Non-automatic (manual) operation is also available.

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