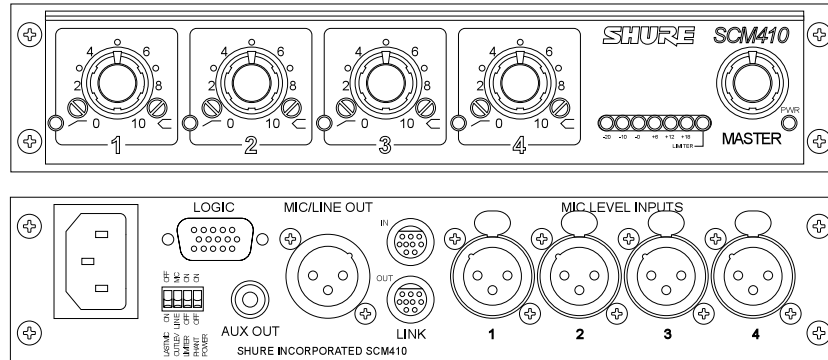


SCM410 FOUR-CHANNEL AUTOMATIC MICROPHONE MIXER

The Shure Model SCM410/E is a four-channel automatic microphone mixer designed for use in sound reinforcement, audio recording, and broadcast applications. The SCM410 dramatically improves audio quality in any application where multiple microphones are required. Any low-impedance dynamic or condenser microphone (including wireless) can be used with the SCM410. Multiple SCM410 mixers can be linked to other SCM410 mixers, as well as to Shure Models FP410, SCM810, SCM800, and AMS8100 mixers.

Each input channel has a two-band equalizer and three logic terminals. The equalizer reduces unwanted low-frequency audio pickup and makes different microphone types—lavaliers, boundary and handheld—sound similar. The logic terminals can be used to control external devices.

The SCM410 operates on 100-120 Vac power and the SCM410E operates on 220-240 Vac power. Each mixer is supplied with a power cord, rack-mounting hardware, and a link cable.



SYSTEM FEATURES

- Fast, noise-free microphone selection, which automatically adjusts to changes in background noise
- Automatic gain adjustment as additional microphones are activated—NOMA (Number of Open Microphones Attenuated)
- Last Mic Lock-On circuit maintains ambient sound
- Fits in half a rack space
- Adjustable EQ for each channel
- Active balanced microphone-level XLR inputs and an active balanced Mic/Line level XLR output
- Unbalanced auxiliary-level phono output
- Bi-color channel activation and clipping LEDs
- Peak-responding output limiter with LED indicator
- Peak-responding output level meter

SPECIFICATIONS

Measurement Conditions (unless otherwise specified): Line voltage 120 Vac, 60 Hz (SCM410) or 230 Vac, 50 Hz (SCM410E); full gain; 1 kHz, one channel activated; source impedances: Mic 150 Ω; terminations: Line/Mic Aux 10 kΩ

Frequency Response (at 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 | Mic | Aux |
| Low-impedance mic (150 Ω) | 80 dB | 40 dB | 68 dB |

Inputs

| Input | Impedance | | Input Clipping Level |
|-------|-----------------------|------------------|----------------------|
| | Designed for use with | Actual (typical) | |
| Mic | 19–600 Ω | 1.4 kΩ | -14 dBV |

Outputs

| Output | Impedance | | Output Clipping Level |
|--------|-----------------------|------------------|-----------------------|
| | Designed for use with | Actual (typical) | |
| Line | .5k Ω | 300 Ω | +24 dBV |
| Mic | .600 Ω | 3 Ω | -18 dBV |
| Aux | .10k Ω | 1.5 k Ω | +14 dBV |

Total Harmonic Distortion (through 22 Hz – 22 kHz filter; Input at 12 o' clock and Master at 12 o' clock, all other controls full counterclockwise)

< 0.1% at +4 dBu output level, 50 Hz to 20 kHz

Hum and Noise (150 Ω source; through 22 Hz – 22 kHz filter)

Equivalent Input Hum and Noise: -123 dBV max., -125 dBV typical

Output Hum and Noise (channel controls full counterclockwise)

Master full counterclockwise: -90 dBV

Master full clockwise: -70 dBV

Common Mode Rejection

>70 dB at 1 kHz

Polarity

All inputs to all outputs are non-inverting

SCM410 AUTOMATIC MICROPHONE MIXER SPECIFICATION SHEET

Input Channel Activation

Attack Time: 4 ms
Hold Time: 0.4 s
Decay Time: 0.5 s

Off-Attenuation

13 dB

Overload and Shorting Protection

Shorting outputs, even for prolonged periods, causes no damage. Microphone inputs are not damaged by signals up to +10 dBV (3V)

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: +16 dBu (at output)
Attack Time: 2 ms
Recovery Time: 300 ms
Indicator: Lights red when limiting occurs

Input LEDs

Green on channel activation, red at 6 dB below clipping

Phantom Power

12 Vdc open-circuit through 680 Ω resistors

Operating Voltage

SCM410: 100-120 Vac rated nominal, 50/60 Hz, 100 mA (maximum)
SCM410E: 220-240 Vac rated nominal, 50/60 Hz, 50 mA (maximum)

Mains Inrush Current (230 Vac, SCM410E only)

0.7 A peak

Temperature Range

Operating: -7° to 49° C (20° to 120° F)
Storage: -29° to 74° C (-20° to 165° F)

Overall Dimensions

44 mm H x 219 mm W x 267 mm D (1³/₄ x 8⁵/₈ x 10¹/₂ in.)

Net Weight

1.75 kg (3.86 lbs)

Certifications

SCM410: UL listed to UL 6500 and cUL listed to E65 Canada.
SCM410E: Conforms to applicable European Directives; eligible to bear CE marking. Low Voltage Directive 73/23/EEC: VDE GS-Certified to EN 60065. EMC Directive 89/336/EEC: Professional Audio Products Standard EN55103 (1996); Part 1 (Emissions) and Part 2 (Immunity).

Electromagnetic Compatibility (EMC) Statement

The SCM410E mixer is intended for use in E1 (residential) and E2 (light industrial) environments, as defined in European EMC standard EN 55103. It meets the applicable tests and performance criteria found in the standard for these environments. EMC conformance is based on the use of recommended and supplied cables.

NOTE: Under certain circumstances, the SCM410E may be exposed to outside electromagnetic interference levels beyond what is typical in the intended environment. Should this occur, additional measures may be required to reduce interference to acceptable levels. The following table identifies possible sources of unwanted interference.

| | Decreased Signal-to-Noise Ratio | Erratic LED and/or Channel Operation | Signal Distortion |
|--|---------------------------------|--------------------------------------|-------------------|
| High RF Field (generated by nearby radio transmitter) | X | X | X |
| Electrostatic Discharge | X | X | |
| Magnetic Fields (close proximity to mains, power lines, or CRTs) | X | | X |
| Main Power Line Interruptions/Dips (poor power grid quality/storms) | | X | X |
| Main Surges and Line Transients (nearby lightning strikes/ mains arcs) | X | X | |

REPLACEMENT PARTS

| | |
|---|----------|
| Knob, Master (white)..... | 95A8238 |
| Knob, Channel Gain (blue) | 95B8238 |
| Line (Power) Cord (SCM410) | 95A8762 |
| Line (Power) Cord (SCM410E)..... | 95A8778 |
| Link Cable..... | 95A8889 |
| Fuse, SCM410 (5 x 20 mm, T 125mA L, 250V, time delay)..... | 80C730 |
| Fuse, SCM410E (5 x 20 mm, T 50mA L, 250V, time lag) | 80C380 |
| Long Rack Mount Bracket | 53A8484 |
| Short Rack Mount Bracket..... | 53B8484 |
| Straddle Bracket | 53A8443 |
| Bagged Hardware Kit..... | 90AA8100 |

OPTIONAL ACCESSORIES

| | |
|---|---------|
| Line (Power) Cord, 230-240 Vac (UK) | 95A8713 |
| External 50 dB Line Pad | A15LA |

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