SCM820 Digital Automatic Mixer

Overview

The Shure SCM820 is an 8-channel digital automatic mixer designed for use in speech applications, including sound reinforcement, broadcasting and audio recording. It uses Intellimix technology to dramatically improve audio quality in any application where multiple microphones are required.

Features

- Seamless automatic mixing and reduced background noise through dynamic channel gating and attenuation
- IntelliMix modes offer five different mixer mode presets of reliable automixing styles (Classic, Smooth, Extreme, Custom or Manual) to quickly tailor the mix for a particular application.
- DB25 or logic-enabled block connector models available, each with 8 inputs
- Per channel direct outputs for use as an insert to a mixing console or recording
- Mix A and B outputs with selectable mic or line level connect to a sound reinforcement system, mixing console, or recording device.
- Individual channel control for quick adjustment of gain, limiter, EQ, and solo/mute
- LED meter rings vibrantly display real-time settings and output levels
- Browser-based control software delivers comprehensive software control, monitoring, routing and configuration
- 3rd party control system (AMX®, Crestron®) compatible
- Models available with Dante™ digital networked audio for multi-channel audio networking over Ethernet
- Dante upgrade card available for standard Ethernet models
- DFR (Digital Feedback Reduction) adds two channels of adaptive EQ filtering to find and attenuate feedback frequencies

Available Models and Accessories Furnished Accessories
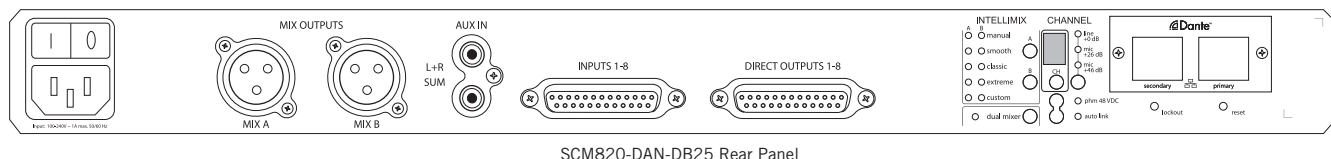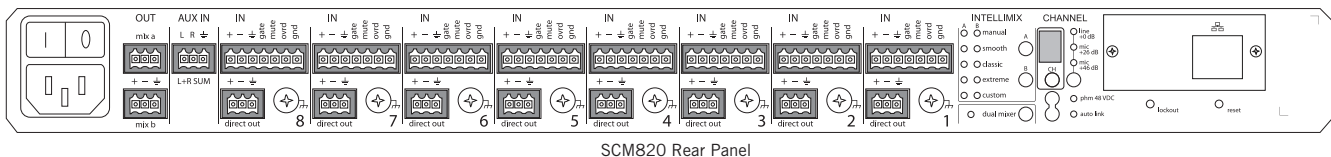
I/O AND NETWORKING CONFIGURATIONS

SCM820	Eight Channel Digital Automatic Mixer, Block Connectors
SCM820-DAN	Eight Channel Digital Automatic Mixer, Block Connectors, Dante™ Digital Audio
SCM820-DB25	Eight Channel Digital Automatic Mixer, DB25 Connectors
SCM820-DAN-DB25	Eight Channel Digital Automatic Mixer, DB25 Connectors, Dante™ Digital Audio

INSTALLABLE UPGRADE CARD

A820-NIC-DANTE	Dante™ Digital Audio Upgrade Card for SCM820 Standard Ethernet Versions

ACCESSORY CABLES

DB25-XLRM	Eight Channel DB25 to XLR Male Audio Snake, 25 ft.
DB25-XLRF	Eight Channel DB25 to XLR Female Audio Snake, 25 ft.
DB25-TRSM	Eight Channel DB25 to TRS Audio Snake, 25 ft.

SCM820 Rear Panel

SCM820-DAN-DB25 Rear Panel

Product Specifications

General

Dynamic Range	Analog-to-Analog: 110 dB
(20 Hz to 20 kHZ, A-weighed, typical)	Analog-to-Dante, Dante-to-Analog: 113 dB
Output Noise (mix output / direct output)	Output Pad
(20 Hz to 20 kHz, A-Weighted, one channel open)	Line (+0): -90 dBV
	Aux (-20): -110 dBV
	Mic (-46): -135 dBV
Equivalent Input Noise	Input Gain Setting
(20 Hz to 20 kHz, A-Weighted, input terminated with 150Ω, digital gain at +18 dB)	Line (+0): -93 dBV
	Mic (+26): -118 dBV
	Mic (+46): -130 dBV
THD+N	<0.05%
1 kHz, +4 dBu out, mix output (MASTER) at +0 dB	
Common Mode Rejection Ratio	>70 dB
150Ω balanced source, at 1kHz	
Polarity	Non-inverting, any input to any output
Dimensions	44 mm x 483 mm x 289 mm
	(1.7 in. x 19.0 in. x 11.4 in.), H x W x D
Weight	5.5 kg (12.0 lbs)
Housing	Steel; Extruded aluminum
Power Requirements	100 to 240 V AC, 50-60 Hz, 1 A
Operating Temperature Range	−18°C (0°F) to 63°C (145°F)
Storage Temperature Range	−29°C (-20°F) to 74°C (165°F)

Analog Connections

Channel Input	Configuration:	Active Balanced
	Impedance:	5 kΩ
	Clipping Level:	Line (-0): +20 dBV
		Mic (+26): −6 dBV
		Mic (+46): −26 dBV
Phantom Power	48 V DC, selectable per channel, 14 mA max.	
	Mic level settings only. Phantom power automatically switched off in LINE position.	
Aux Input	Configuration:	Stereo, Unbalanced
	Impedance:	10 kΩ
	Clipping Level:	+10 dBV
Mix Output	Configuration:	Active Balanced
	Impedance:	350 Ω
	Clipping Level:	Line (±0): +20 dBV
		Aux (−20): 0 dBV
		Mic (−46): −26 dBV
Direct Output	Configuration:	Impedance Balanced
	Impedance:	150 Ω
	Max Output Level:	+20 dBV
Headphone Output	6.35 mm (1/4") TRS, 100 mW, 350 Ω, dual mono (will drive stereo phones)	

Digital Signal Processing

AD/DA Converter	24-bit, 48 kHz, 113 dB dynamic range typical		
Internal Processing	32-bit		
Latency		Single Device (ms)	In a Link Group (ms)
From channel input to mix output, Estimated Nominal, ±0.1 ms	Analog to Analog:	.51	0.76 + 4T$_N$
	Analog to Dante:	.29	0.54 + 4T$_N$
	Dante to Analog:	0.28 + T$_N$	0.53 + 5T$_N$
	Dante to Dante:	0.06 + T$_N$	0.31 + 5T$_N$

T$_N$ = Network latency in milliseconds, as set in the device preferences page or Dante Controller.

Note: Dante network latency is typically associated with the receiving device.

Channel Input Processing	Gain Adjustment Range:	−110 dB to +18 dB
	Low Cut:	Corner: 25 Hz to 320 Hz
		Slope: 12dB/octave
	High Shelf:	Corner: 5 kHz
		Slope: 12dB/octave
		Gain: −18 dB to +18 dB
Mix Output Processing	Gain Adjustment Range:	−110 dB to +18 dB
	Low Shelf:	Corner: 25 Hz to 20 kHz
		Slope: 12dB/octave
		Gain: −18 dB to +18 dB
	High Shelf:	Corner: 25 Hz to 20 kHz
		Slope: 12dB/octave
		Gain: −18 dB to +18 dB
	6-Band PEQ:	25 Hz to 20 kHz, ±18 dB
		Bandwidth: 1/70 to 4 octaves
	Limiter:	Ratio: 10:1
		Threshold: −50dBFS to −2dBFS
		Attack: 0.1 ms
		Decay: 100 ms

Networking

Network Interface	SCM820	Single Port, 10/100 Mbps Ethernet
	SCM820-DAN	Dual Port, Gigabit Ethernet, Dante digital audio
Cable Requirements	Cat 5e or higher, shielded, 100 m maximum	
Network Addressing Capability	DHCP, link-local, static	

Furnished Accessories

90A20082	Hardware Kit (SCM820, SCM820-DAN)
90A20082	Hardware Kit (SCM820-DB25, SCM820-DAN-DB25)
95A20437	Ethernet cable
region dependent *(see table below)*	Power Cable
95A20438	USB Flash Drive

Power Cable by Region	Part Number
US	95B8389
Brazil	95A14336
Argentina	95A14335
Europe	95C8247
UK	95A8713
Japan	95B9021
China	95B9073
Korea	95B9074
Australia	95A9128

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