52/SX

New!

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DHD

Digital Broadcast Technology

52/SX Features

Input page

Equalizer page

Dynamics page

Main page
PPMs, clock,
stopwatch,
phase metering

Snapshots page

Aux page

Monitoring page

Encoder for channel settings, gain, input, Aux level

Program bus push buttons

Aux bus status indicators

Channel select push buttons, access to central section

PFL push buttons

Channel on status light bar

OLED displays for 16-character channel names, encoder function, status and input level icons, 160° viewing angle

On/Off push buttons

Professional high-grade 100 mm conductive plastic faders

Professional push buttons with silent 4 mm travel and multi-colour LEDs

Brilliant TFT/Touch Display with flexible pages for main, EQ, dynamics, input settings, snapshot management

Pre-listening & talkback speaker with built-in amp

Encoder section for control of EQs, dynamics, other settings

Flexible encoder & OLED display section for additional volume and monitor selectors, studio support

GPIO push buttons

Monitor selector, expanded by touch-display selector

Talkback microphone with built-in preamp

Professional high-grade volume potentiometers

Magnetic fixing for panels; flat or angled installation with split options

Talkback push buttons

Pre-labeled push-button function printed on front panel, film caps allow additional labelling by customer

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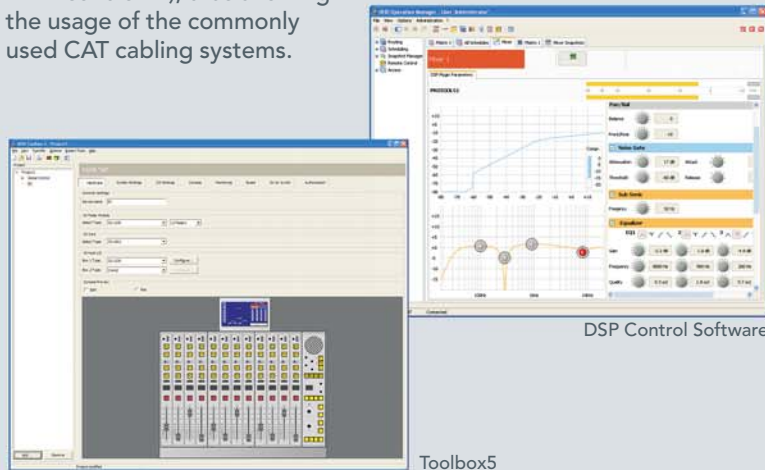Fr 16.07.2010

Compact Mixer - Powerful Features

The 52/SX is the new modular compact mixing console for radio and TV. The price-optimised mixer is ideal for On-Air studios, audio workstations and smaller OB vans.

It complements DHD's 52/MX and 52/RX product lines. The 52/SX supersedes the RM2200D. It offers functions similar to its predecessor, but is now based on the Series 52 firmware platform. The 52/SX is configured with a simplified version of the Toolbox5 software. This version can be extended to allow seamless networking with other Series 52 products, including DSP Control Software and Remote Control PC Software.

The console consists of 4, 8, 12, or 16 faders and a central control section including talkback microphone, loudspeaker, and a 7" TFT Touch Display. 52/SX consoles are available in flat or angled versions, with split options.

The modular 1-U core with I/O modules and DSP features microphone, headphone, analogue line, digital inputs and outputs (AES3, S/PDIF, USB audio), MADI and Gigabit audio interfaces.
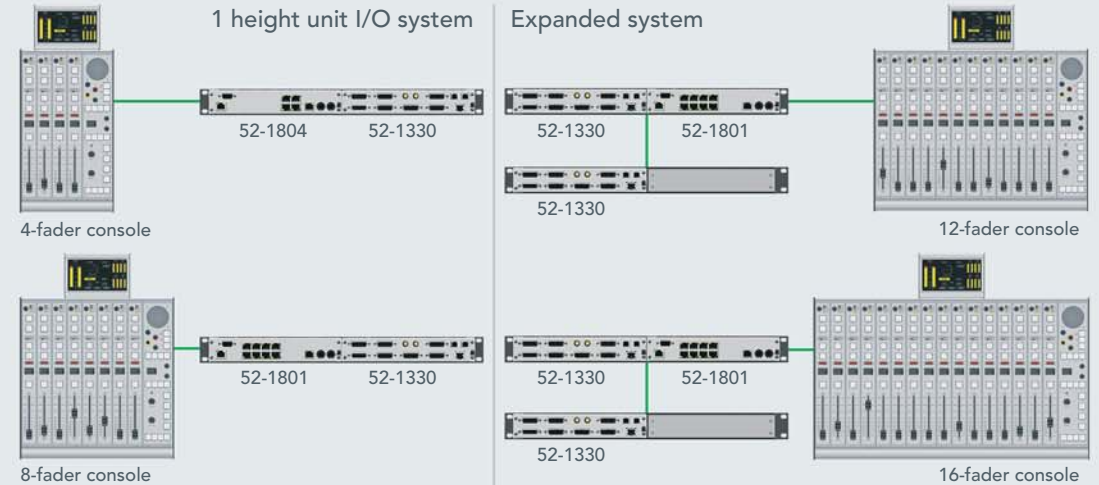
The cabling between fader units, central section, DSP units and I/O units is realised solely via Ethernet (DHD audio, PoE mains supply, DHD control IP), thus allowing the usage of the commonly used CAT cabling systems.

DSP Control Software

Toolbox5

Console & I/O System Sizes

1 height unit I/O system · Expanded system

4-fader console
52-1804 · 52-1330 · 52-1330 · 52-1801 · 52-1330 · 12-fader console

8-fader console
52-1801 · 52-1330 · 52-1330 · 52-1801 · 52-1330 · 16-fader console

Inputs/outputs available on XS Multi-I/O Boxes 52-1330:			
Microphone/line inputs	2	4	-77...+18 dBu sensitivity
Headphone outputs	2	4	stereo
Analogue line inputs	8	16	max. +24 dBu
Analogue line outputs	8	16	max. +24 dBu
Digital inputs, AES3/EBU	3	6	sample rate converter, stereo
Digital inputs, S/PDIF	1	2	sample rate converter, stereo
Digital inputs, USB	2	4	sample rate converter, stereo
Digital outputs, AES3/EBU	2	4	sample rate converter, stereo
Digital outputs, S/PDIF	1	2	sample rate converter, stereo
Digital outputs, USB	2	4	sample rate converter, stereo
General purpose inputs	10	20	opto coupler
General purpose outputs	10	20	photo mos relays
Analogue control inputs	2	4	for external potentiometers

Inputs/outputs available on central module 52-1010:		
Talkback microphone	1	built-in, connected via ethernet
PFL/Talkback speaker	1	built-in, connected via ethernet

MADI (hardware option) 52-1821:		
MADI input channels	64	AES10 format, SC/fibre
MADI output channels	64	AES10 format, SC/fibre

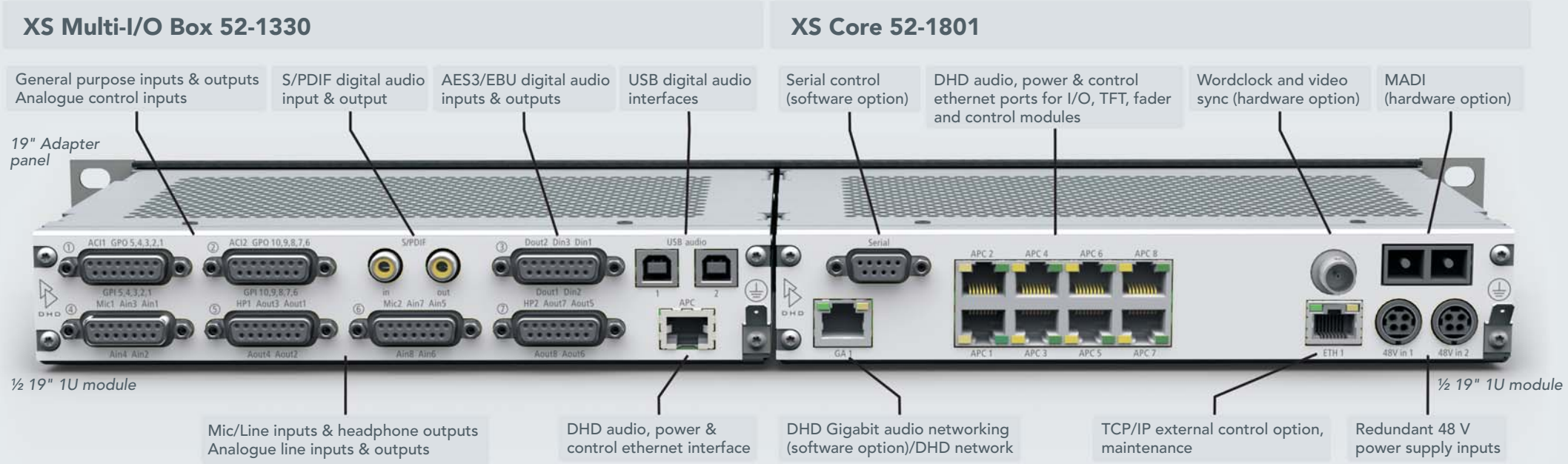| Gigabit audio networking (software option) 52-1951:		
Gigabit audio interface input channels	512	DHD format, RJ45/CAT cable
Gigabit audio interface output channels	512	DHD format, RJ45/CAT cable

| Total number of inputs/outputs (all options):			
Input channel count	599	621	local + network option + MADI option
Output channel count	599	621	local + network option + MADI option

52/SX Console Layouts

Two fader module layouts for different customer preferences

52-1020 Fader Modules

Channel On/Off buttons located above faders, no buttons below.

52-1024 Fader Modules

Channel On/Off buttons located below faders.
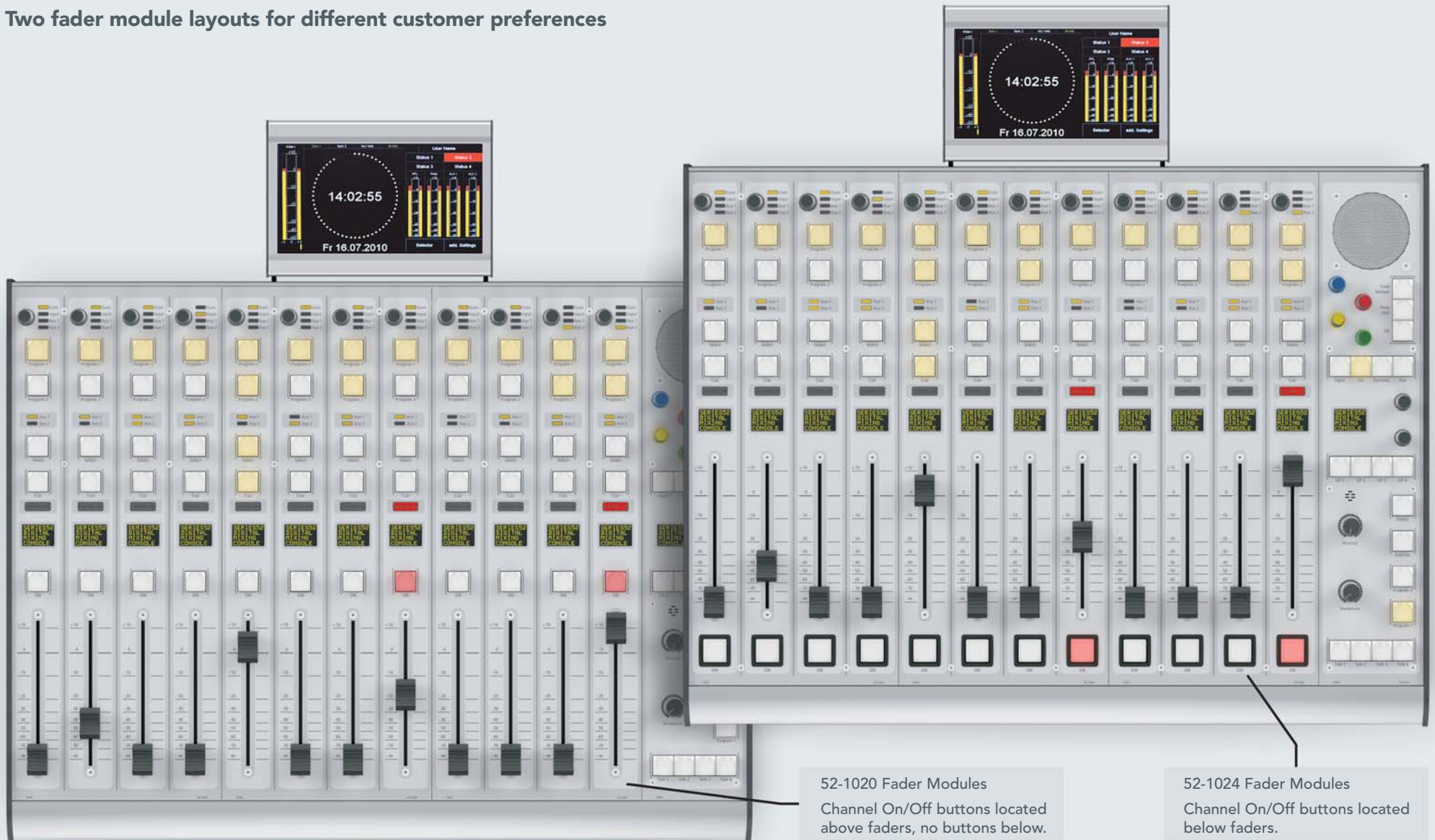
52/XS Core & Multi-I/O Box for 52/SX Console

XS Multi-I/O Box 52-1330

XS Core 52-1801

General purpose inputs & outputs
Analogue control inputs

S/PDIF digital audio
input & output

AES3/EBU digital audio
inputs & outputs

USB digital audio
interfaces

Serial control
(software option)

DHD audio, power & control
ethernet ports for I/O, TFT, fader
and control modules

Wordclock and video
sync (hardware option)

MADI
(hardware option)

19" Adapter panel

½ 19" 1U module

½ 19" 1U module

Mic/Line inputs & headphone outputs
Analogue line inputs & outputs

DHD audio, power &
control ethernet interface

DHD Gigabit audio networking
(software option)/DHD network

TCP/IP external control option,
maintenance

Redundant 48 V
power supply inputs

High-performance 40-bit floating-point digital signal processing for

- 3-band full parametric equalizers, subsonic filter, dynamics, limiter, delay for all 16 fader channels, mono or stereo
- 32 summing busses, Aux busses, clean feeds and PFL
- 6 clean feeds (mix-minus, mono or stereo)
- 4 monitoring busses for control room and studio support
- flexible talkback, logic and GPIO system
- integrated routing matrix
- internal tone generator
- Gigabit audio network for 512 input and 512 output channels for low-latency interconnection between 52/XS cores or to other DHD products
- USB audio interface for direct connection to PC
- internal or external 48 kHz or 44.1 kHz sync

Rear view XS Multi-I/O Box 52-1330 and XS Core 52-1804

Front view XS Core and XS Multi-I/O Box
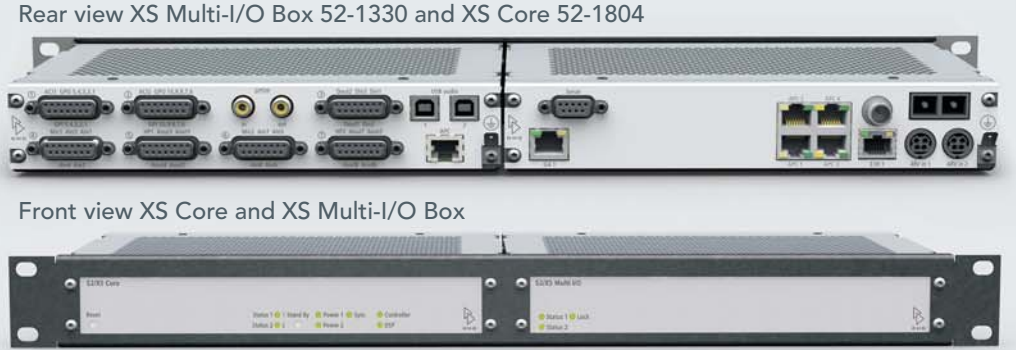
- stand-alone system does not require a PC; no fan, no hard disc, no battery inside
- highly efficient external, wide-range power supply, Energy Star Level V, redundancy option
- minimal system power consumption
- expandable modular system allows optional integration with other DHD product lines
- serial or TCP/IP interface options to radio automation or other external control systems

Product Number	Product Name	Description	Typical 12 fader mixer	Typical 16 fader mixer, split
52-1010A	SX Central Module	• 19 push buttons, 2 volume controls • 6 rotary encoders • 32-character OLED display • built-in loudspeaker/amp, mic/preamp	1	1

52-1020A	SX Fader Module	• 4 fader channels, each with:
		  - 5 push buttons above fader
		  - 32-character OLED display
		  - 100 mm conductive plastic faders
		  - 1 rotary encoder
			3	4

52-1024A	SX Fader Module	• 4 fader channels, each with:
		  - 1 push button below, 4 above fader
		  - 32-character OLED display
		  - 100 mm conductive plastic faders
		  - 1 rotary encoder		

52-1018A	SX Blank Module	• 80 mm x 399 mm x 36 mm		
52-1330A	XS Multi-I/O Box	• 2 mic/line inputs, preamp, 48 V • 2 stereo headphone outputs • 8 analogue line inputs, el. bal., 24 dBu • 8 analogue line outputs, el. bal., 24 dBu • 3 AES3/EBU inputs, 1 S/PDIF input • 2 AES3/EBU outputs, 1 S/PDIF output • 2 USB audio IF, 10 GPI, 10 GPO,2 ACI	1	2
52-1801A	XS Core, 8 - 16 Fader Processing	• DSP/controller • 8 audio, power & control ports • supports SX console with up to 16 faders • number of available functions limited by XS core hardware, see specifications	1	1
52-1804A	XS Core, 4 Fader Processing	• DSP/controller • 4 audio, power & control ports • supports 4-fader SX console • number of available functions limited by XS core hardware, see specifications		
52-1821	XS Core AES10 MADI Submodule	• 56 or 64 in/out channels • submodule for 52-1801, 52-1804 • multimode fibre, SC		
52-1919A	XS 19" Adapter Panel	• for 2 housings 1/2 19" width	1	2
52-1948A	XS Power Supply 48 V / 120 W	• input voltage 90-264 VAC	1	1

52-1950	XS Core Toolbox Support	• allows Toolbox5 configuration instead of
		  configuration assistant with predefined
		  function set		

52-8582	XS Core Gigabit Audio Networking	• Gigabit audio interface to DHD routers or other DHD mixers		
52-8583	XS Core Control Networking	• control interface for logic exchange between DHD devices		
52-4017A	TFT/Touch Display, 7"	• 7" / 177 mm diagonal size	1	1
52-2604A	SX Table-Installation Frame	• aluminium extrusion frames • for flat installation • magnetic fixing for panels • table cutout required		
52-2606A	SX Table-Installation Frame			
52-2608A	SX Table-Installation Frame			
52-2610A	SX Table-Installation Frame			
52-2614A	SX Table-Installation Frame			
52-2618A	SX Table-Installation Frame			
52-3017A	Table-Top Stand for 52-4017			
52-2804A	SX Console Frame	• angled console frame with metal sides • rear height 52 mm • magnetic fixing for panels • simple table cutout required		
52-2806A	SX Console Frame			
52-2808A	SX Console Frame			1
52-2810A	SX Console Frame			1
52-2814A	SX Console Frame		1	
52-2818A	SX Console Frame			
52-3018A	Console Mounting Kit for 52-4017		1	1

Mic/Line Input Specifications

Input sensitivity:	-77 dBu ... 18 dBu
Gain setting:	analogue preamp 0 dB, 8 dB ... 63 dB in steps of 1 dB, -20 ... +20 dB digital gain in steps of 1 dB
Frequency response:	< 0.1 dB (20 Hz ... 20 kHz)
Dynamic range:	108 dB (A-weighted)
THD+N:	< 0.001% (+17 dBu, 0 dB gain)
Equivalent input noise:	< -127 dBu (150 ohm source)
Phantom power 48 V:	switchable per input channel, 48 V
Max. input level:	18 dBu (balanced)
Converter technology:	24 bit, oversampling sigma-delta

Analogue Line Input Specifications

Max. input level:	24 dBu (balanced)
Frequency response:	< 0.1 dB (20 Hz ... 20 kHz)
THD+N:	< 0.0025% (+23 dBu)
Dynamic range:	105 dB (A-weighted, typical)
Converter technology:	24 bit, oversampling sigma-delta

Analogue Line Output Specifications

Max. output level (phones, single-ended):	24 dBu (balanced)
Minimum load (outputs short-circuit protected):	600 ohm
Frequency response:	< 0.1 dB (20 Hz ... 20 kHz)
THD+N:	< 0.005% (+23 dBu, 600 ohm load)
Dynamic range:	110 dB (A-weighted, typical)
Converter technology:	24 bit, oversampling sigma-delta

Digital Input/Output Specifications

Input/output impedance:	110 ohm (AES3/EBU) or 75 ohm (S/PDIF)
Input sensitivity:	> 200 mV
Sample rate converters (SRC):	inputs and outputs (switchable, slaved to related input)
SRC sampling frequency range:	32 kHz ... 192 kHz
Dynamic range (SRC off):	144 dB (24-bit digital audio)
Output level:	3.4 V (into 110 ohm load)
Output dither:	off, 16, 20 bit (switchable by configuration software)

52/SX Mounting Frames

Table-Installation Frames 52-26xx

Console Frames 52-28xx