Series 52
Compact Mixing Console

SX2

DHD.audio

Digital Broadcast Technology

Made in Germany

SX2 Overview

Smart Modules for all Applications

The SX2 is a modular mixing console for radio and other broadcast applications. The price-optimised mixer is ideal for on-air studios, audio workstations and smaller OB vans.

Console sizes are adaptive and range from 4 to 16 faders. The central module (52-5614) has four faders and a central section for monitoring, talkback and central controls. The fader modules (52-5620) feature 6 faders. All faders are motorised and allow a second layer for up to 16 channels.

Both modules feature a 10.1" multi-touch display for faders and central control. All SX2 units are separate table-top devices and can be chained for a single mixing desk.

The central control module provides the most important audio I/Os. Not only a Microphone input and a Headphones output are included, you can also connect your Loudspeakers directly to this unit, thus reducing required rack space and cabling work.

rear view
SX2 central module

The SX2 is based on the same Series 52 firmware as MX or RX2 consoles. It can be configured with the 'SX2Config' software, a simplified version of the Toolbox9. The SX2 features can be extended to allow seamless networking with other Series 52 products, including Views App and DSP Control Software.

DSP Power and I/O

The DHD I/O Core 52-1830 combines DSP processing for up to 16 faders and I/O interfaces in one housing. In only 1 rack unit, you find the audio interfaces that are required for journalist desks, edit booths or small studios.

Easy connectivity is the strong point of the I/O Core. Microphones, headphones, line and AES3 signals can be connected to standard XLR ports. Also USB audio and Toslink connectors for ADAT or S/PDIF are included. Additionally, multi-channel options for MADI, DHD's Gigabit Audio and APC are available.

A built-in 4ch/4ch Dante™ interface is the solution for simple playout and recording tasks, monitoring or talkback.

For a maximum of interconnectivity with other AoIP equipment, each I/O Core can be equipped with a AES67 RAVENNA interface (52-7067) or an Dante™ interface (52-7080).

rear view XS2 I/O Core 52-1830

The compact 1U DSP core is an independent DSP systems which does not require a PC for operation. There are neither fans, hard discs nor batteries inside the XS2 Core – this allows silent and low-maintenance operation directly in the studio.

The cabling between fader units, central section, DSP units and I/O units is realised solely via Ethernet (DHD's APC technology), allowing the usage of standard network cables (CAT5/6).

High-performance 40-bit floating-point DSP for:

- 16 channels, mono or stereo, each with 3-band EQ (full parametric), subsonic filter, dynamics, limiter, delay
- 16 stereo PGM busses, Aux busses, clean feeds and PFL
- 6 clean feeds (mix-minus, mono or stereo)
- 4 monitoring busses for control room and studio
- flexible talkback, logic and GPIO system
- integrated routing matrix
- internal tone generator
- internal or external 48 kHz or 44.1 kHz sync

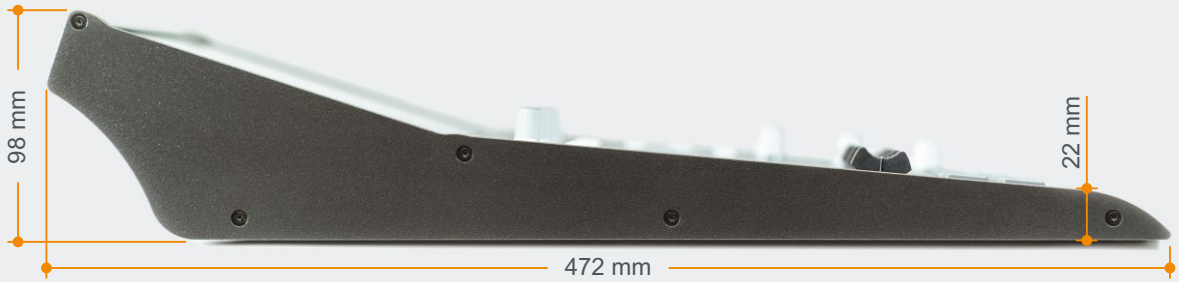
Fader Module 52-5620

TFT controls for each channel
- channel name
- PGM and off-air selection
- channel input meter
- channel name
- gain settings

Flexible Fader Encoders
- function according to TFT content
- control of gain settings

Professional high-grade 100 mm motor faders

Flexible pushbuttons in each channel
- silent, multicolour (RGB)
- individual button functions for channel e.g., ON, OFF, PFL, Access, Layer or Talk
- buttons below fader have a label area for clear function naming



Central Module 52-5614

TFT controls for central functions
- main control
- metering
- EQ and dynamics
- input channel settings
- snapshots

Flexible Central Encoders
- function according to TFT content
- control of EQs or dynamics parameters
- volume control of guest headphones
- monitor selectors

Ambient light sensor for automatic console brightness control

Pre-listening & talkback speaker with built-in amp

Silent, multicolour (RGB) push buttons
- monitoring section, expanded by touch-display selector
- GPIO push buttons
- talkback push buttons

Professional high-grade volume potentiometers

Talkback microphone with built-in preamp

All modules are separate table-top devices. Each fader module comes with a chaining kit for optional physical connection of modules.

The SX2 modules are designed for easy maintenance and low power consumption (max. 25 W per module).

SX2 Bundle and Specifications

Specifications and design in this document are for information only and subject to change without notification.

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The SX2 Bundle (52-1998) is a complete 10-fader mixing console for radio broadcast applications. The package contains the central module (52-5614) with 4 motor faders, a fader module with 6 motor faders (52-5620), the I/O core (52-1830), a Multi I/O Box (52-1335), a power supply and all necessary cables.

The bundle will be delivered with a default system configuration. It can be adapted with a simplified version of the Toolbox9 software called "SX2Config".

The 52-1950 Extended Feature Upgrade licence allows to use the Toolbox9 for detailed configuration and creation of specialised TFT views.

	I/O Core 52-1830		Multi I/O Box 52-1335		Central Module 52-5614		**SX2 Bundle 52-1998**	
Interfaces	input	output	input	output	input	output	**input**	**output**
Microphone/Line	2	-	2	-	1	-	**5**	**-**
Headphones	-	1	-	2	-	1	**-**	**4**
Analogue Line balanced	2	4	8	8	-	2	**10**	**14**
Analogue Line unbalanced	2	2	-	-	-	-	**2**	**2**
AES3/EBU (stereo)	3	3	3	2	-	-	**6**	**5**
S/PDIF (stereo)	1[1]	1[1]	1	1	-	-	**2**	**2**
USB (stereo)	1	1	2	2	-	-	**3**	**3**
Dante™ (4 ch)	1	1	-	-	-	-	**1**	**1**
Dante™ (64 ch)	1[2]	1[2]	-	-	-	-	**1**[2]	**1**[2]
AES67/RAVENNA (64 ch)	1[3]	1[3]	-	-	-	-	**1**[3]	**1**[3]
GPIO	2	4	10	10	2	2	**14**	**16**

[1] switchable to 8 channels ADAT
[2] optional hardware module 52-7080
[3] optional hardware module 52-7067

Mic/Line Input Specifications

Input sensitivity:	-77 dBu ... 18 dBu
Gain setting:	analogue preamp 0 dB, 10 dB ... 63 dB in steps of 1 dB, -20 ... +20 dB digital gain in steps of 1 dB
Frequency response:	< 0.03 dB (20 Hz ... 20 kHz)
Dynamic range:	> 111 dB (A-weighted)
THD+N:	< -82 dB / 0.008% (-1 dBFS, +17 dBu, 0 dB analogue / digital gain)
Equivalent input noise:	< -127 dBu (150 ohm source), < -126 dBu (200 ohm source)
Phantom power 48 V:	switchable per input channel, unloaded input: 48 V ±10%
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:	< 0.05 dB (20 Hz ... 20 kHz)
THD+N:	< -85 dB / 0.006% (-1 dBFS, +23 dBu)
Dynamic range:	> 98 dB (A-weighted)
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:	< -84 dB / 0.006% (-1 dBFS, +23 dBu)
Dynamic range:	> 104 dB (A-weighted)
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)
Input SRC sampling frequency range:	28 kHz ... 108 kHz
Output SRC sampling frequency range:	28 kHz ... 54 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)

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