

INTRODUCING THE 328XD

The Ins and Outs of the 328XD

2

THE INS AND OUTS OF THE 328XD

Analogue Inputs

The Soundcraft 328XD offers 16 Mic/Line inputs, using Soundcraft's highly acclaimed UltraMic™ Pre-amps.

All Mic/Line Inputs have an insert point, analogue gain control and high pass filter and a further 5 Stereo Inputs are also available. 48V phantom power is available to all 16 microphone inputs. All of these inputs feature 24 bit 128 x oversampling A/D converters. All have full access to the revolutionary E-Strip offering 3 band fully parametric equalisation, 4 auxiliary sends, 2 internal Lexicon effects sends, a pan control and control over the compressor and noise gate available to each input.

Digital Inputs

The 16 digital input channels on the rear of the 328XD are accessed by two 8 channel TDIF or ADAT optical input connectors. There is also a dedicated AES/EBU Input, and an S/PDIF Input fitted with sample rate conversion (capable of receiving signals with sampling rate between 20kHz - 100kHz) for connecting CD, Minidisc and DAT Machines. All of these inputs have full access to the E-Strip offering 3 band fully parametric equalisation, 4 auxiliary sends, 2 internal Lexicon effects sends, a pan control and control over the dedicated compressor and noise gate available to each input.

Analogue Outputs

The 328XD offers an array of analogue outputs including MIX outputs on both balanced male XLR and unbalanced RCA phono connectors, 4 auxiliary outputs and control room outputs on balanced jacks and a headphones output with dedicated level control.

Digital Outputs

The two ADAT and TDIF ports also offer 16 digital output channels. Both TDIF outputs and both ADAT outputs are continually and simultaneously active. These can be configured to transmit either 16 Direct Outputs sourced from Mic/Line Input Channels 1-16, 2 x the 8 Group outputs, or a combination of either.

The AES/EBU and S/PDIF stereo digital outputs can output signals from any of the following sources:

MIX Out L/R	Groups 3 & 4
AUX 1 & 2	Groups 5 & 6
AUX 3 & 4	Groups 7 & 8
FX send 1 & 2	Control Room output L/R
Groups 1 & 2	

The Auxiliary Optical Output can be set to derive an 8 channel ADAT Optical format output of either the 8 Group Outputs or a combination of the MIX bus, AUX 1, 2, 3 and 4 sends and FX 1 & 2 sends. Alternatively it can be switched to transmit an S/PDIF optical signal, duplicating the signal at the coaxial S/PDIF output.

Metering

The 328XD offers full metering of all 16 analogue and 16 digital inputs as standard, eliminating the requirement for an additional meter bridge. The 16 x 10 segment bar graph meters follow BANK selection to reflect the levels of

MIC/LINE Inputs 1-16

DIGITAL Inputs 17-32

GROUP Outputs 1-8, AUX Outputs 1-4 and FX Sends 1 and 2

When the DYNAMICS ON METERBANK switch is pressed, the 16 x 10 segment bar graph meters continue to follow BANK selection but indicate the gain reduction of the internal compressors. The gain reduction of the Mix Bus and Stereo Input compressors is displayed on the Master meter bank.

Under normal operation, the stereo output meters will display the stereo Mix bus. Additionally, the stereo output meters can display the analogue or digital (AES/EBU or S/PDIF) 2-Track return inputs. When any channels are soloed in pre-fade or after fade listen modes, the solo bus will be displayed.

Faders

The 328XD's 16 100mm long throw faders work in the same way that you would expect those of analogue console to behave, although their motorized nature offers automation and position recall. If you refer to the diagram in **Appendix D - 328XD Expanded View** you will see that the number of level controls actually offered by the 328XD is far greater than 16. To combat this, the BANK SELECT switches allow you quick and easy access to the faders of a console this frame size, while keeping the physical footprint comparatively small.

There are 4 modes of operation for the channel faders according to the BANK SELECTION:

1. 1-16 in which the faders control the level of analogue inputs 1-16
2. 17-32 in which the faders control the level of digital inputs 17-32
3. MASTERS in which the faders control the levels of Group outputs 1-8, the master send levels of auxiliary outputs 1, 2, 3 and 4 and internal Lexicon FX sends 1 and 2 and the Solo bus
4. MIDI CONTROL in which the 16 faders and also the 16 E-Strip encoders, 16 MUTE and 16 SOLO switches act as user definable MIDI controllers enabling the 328XD to act as a control surface for external MIDI devices

E-Strip

The E-Strip is a feature unique to Soundcraft digital consoles and the 328XD's E-strip offers the following modes of operation:

1. For quick and easy channel parameter adjustment, the E-Strip behaves just like a conventional analogue channel strip rotated through 90°. It offers control over the 3-band fully parametric equalisation, 4 auxiliary sends, 2 internal FX sends and a PAN control for all MIC/LINE and TAPE channels, Stereo Input 1 & 2 and FX Return 1 & 2.
2. Auxiliary routing and pan positioning can be viewed simultaneously and adjusted for each of the 16 channels of each BANK.
3. The E-Strip can also be configured to work as 16 dedicated Level controls for the BANK opposing the current selection (when set to 1-16 or 17-32), providing level control for all 32 input channels simultaneously.
4. The E-Strip is also used to control the parameters of the dedicated compressor and noise gate available to each input channel. A dedicated bypass switch is available for both compressor and noise gate.
5. When none of the BANK buttons are selected the 16 rotary encoders of the E-Strip, and also the 16 channel faders, and 16 MUTE and 16 SOLO switches function as user-programmable MIDI controllers.

Select Panel

The Select Panel is where the equivalent of analogue console channel strip switches are found. When the E-Strip is active for an input channel, so too is the Select Panel. Using the switches in the Select Panel, channels can be routed to or derouted from the Mix, Solo and Group buses, muted, phase inverted or have EQ flattened or switched in and out.

NOTE: MIX and GRP switches are also used as SELECT switches when accessing dynamics parameters for these buses.

Lexicon Effects Processors

The 328XD features two built in Lexicon stereo FX Processors. The algorithms include reverb, delay, chorus and flange effects. Control of the two dedicated effects return channels, FX-1 and FX-2, should be considered in the same way as that for inputs 1-32. The E-Strip can be made active for either FX Return, allowing EQ adjustment, further auxiliary and FX routing and balance control. Similarly, the Select Panel can be active for either FX Return to enable Group and Mix bus routing and Solo/Mute control, while dedicated rotary encoders allow make level adjustment simple.

Snapshot and Dynamic Automation

The 328XD offers two different types of automation - Snapshot and Dynamic, together providing maximum flexibility to the user. Complete recall of all console settings can be stored in up to 100 Snapshot memory locations for recall either directly from the console surface, against incoming or internally generated timecode, or when the appropriate MIDI message is received at the MIDI In port.

Recording automation MIDI data to a MIDI recording device allows complete automation of all the physical digital controls of the 328XD, including internal FX parameters. The dynamics parameters, analogue input gain controls and 100Hz highpass filters are not automatable.

Machine Control

The transport control section of the 328XD can be used to control a variety of external recording devices including hard disk editors, computer based audio sequencers and audio and video tape machines. The 328XD can achieve this using either MIDI Machine Control (MMC), RS-422 Sony 9-Pin control or by transmitting correctly defined MIDI Note On/Note Off messages.

Audio Quality

All analogue inputs and outputs on the 328XD have the same crystal clear 24 bit 128 x oversampling Analogue to Digital (A/D) and Digital to Analogue (D/A) converters, ensuring wide dynamic range and superb sonic performance.

The 328XD can be configured to operate at sampling rates of 44.1kHz and 48kHz.

