specifications

S type

S-TYPE
COMPACT
LIVE
PRODUCTION
CONSOLE

cadac

S-TYPE PERFORMANCE SPECIFICATION

MICROPHONE INPUT

Electronically balanced; input impedance is 1k2Ω

Gain is continuously variable from 10 to 60dB. CMRR is better than 80dB.

OUTPUTS

All outputs are electronically balanced.

The output impedance is 33Ω in series with 1000µF. The maximum output is +21dBu into 2kΩ.

MIXING SYSTEM

All mixing busses are of the differential current summing type, providing 80dB rejection of external noise fields. The system is designed so that the gain of the summing amplifier is proportional to the number of channels routed to the bus. For example, the basic noise contributed by a group-summing amplifier, with no inputs selected, is typically -105dBu.

Complete Signal Path

Output Noise:	Better than -85dBu
Frequency Response:	±0.5dB 20Hz to 20kHz
Maximum Gain:	Microphone input to sub group output = 80dB
Total Harmonic Distortion:	Output level into 2kΩ = +20dBu:

20Hz	50Hz	100Hz	1kHz	10kHz	20kHz
<0.02%	<0.02%	<0.03%	<0.04%	<0.06%	<0.08%

Measured from a microphone input (10dB gain) to a sub group output, with the input channel VCA fader and sub group fader set at '0' (unity gain). The equaliser is in circuit and the controls set flat.

Low Frequency Phase Linearity

< 6° at 30Hz. input to output.

Measured by applying a tone to the microphone input at 10dB gain, routing that channel (EQ selected and set flat) to a sub group.

Frequency Response

Mic input (+10dB gain) to:

Matrix	+0/-0.5dB	20Hz-20kHz
	+0/-3dB	20Hz-60kHz
Aux	+0/-0.5dB	20Hz-20kHz
	+0/-3dB	20Hz-75kHz
Direct output	+0/-0.5dB	20Hz-20kHz
	+0/-3dB	20Hz-110kHz
Sub group	+0/-0.5dB	20Hz-20kHz
	+0/-3dB	20Hz-72kHz

Total Harmonic Distortion

+20dBu into 2kΩ, VCA in circuit, fader set to 0dB, EQ in and flat

0.012%	at 1kHz
<0.030%	20Hz to 20kHz

Noise figure

Microphone, 10dB gain, with fader set at 0dB.

<-93dBu	200Ω, 10dB gain
<-69dBu	200Ω, 60dB gain

Mic input to:

Matrix	<-93dBu
Sub group	<-93dBu
Mono Aux outputs	<-93dBu
Stereo Aux outputs	<-91dBu

Residual Noise: (no channels routed)

Matrix	<-100dBu
Sub group	<-99dBu
Aux outputs	<-100dBu

Crosstalk

0dBu input level. total gain = 20dB

Adjacent channels	-89dB (noise on i/p)	at 1kHz
	-89dB (noise on i/p)	at 20kHz
Adjacent sub outputs	-110dB	at 1kHz
	-86dB	at 20kHz
Adjacent matrix outputs	-117dB	at 1kHz
	-87dB	at 20kHz
Adjacent aux outputs	-88dB	at 1kHz
	-65dB	at 20kHz
Channel mute isolation	-115dB	at 1kHz
	-96db	at 20kHz
Channel fader isolation	-106dB	at 1kHz
	-92db	at 20kHz

Input/Output Capability

Maximum input level	+11dBu at minimum gain
	+31dBu with -20dB pad
Maximum output level	+22dBu into 2kΩ

Phase Response (degrees)

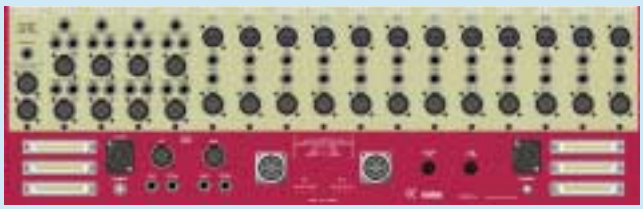
Mic input to sub group/matrix/aux output, EQ - in and flat.

	20Hz	100
Sub	4.9°	0.84°
Aux	4.7°	0.85°
Direct Output	2.9°	0.57°

Common Mode Rejection Ratio (dB)

Electronically balanced mic input to direct output.

	20Hz	100	1k	10k	20kHz
20dB gain	65	85	85	60	55



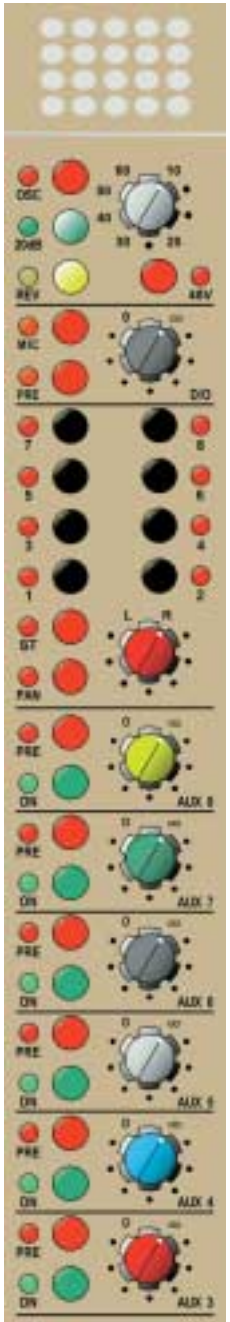
General Console Performance Specification.
All figures are typical, not worst case, and therefore no de-rating is required.

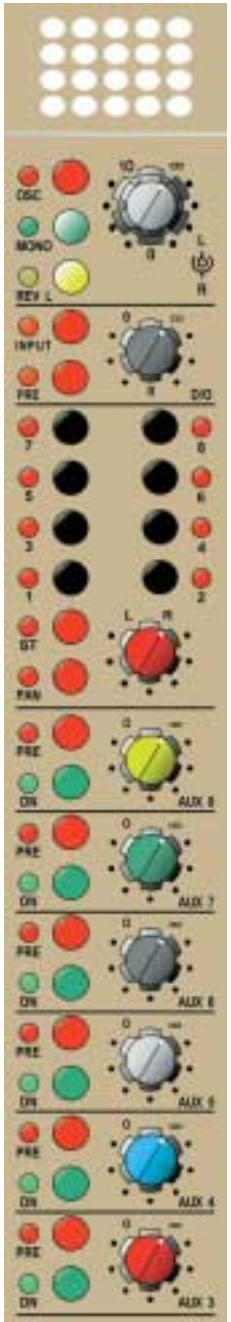
Note

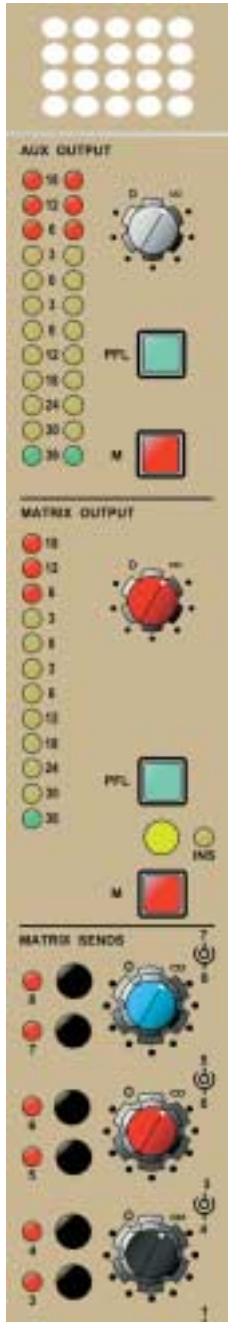
OdBu = 0.775V r.m.s Without reference to impedance.

Unless stated otherwise all specifications apply to the frequency range 20Hz to 20kHz.

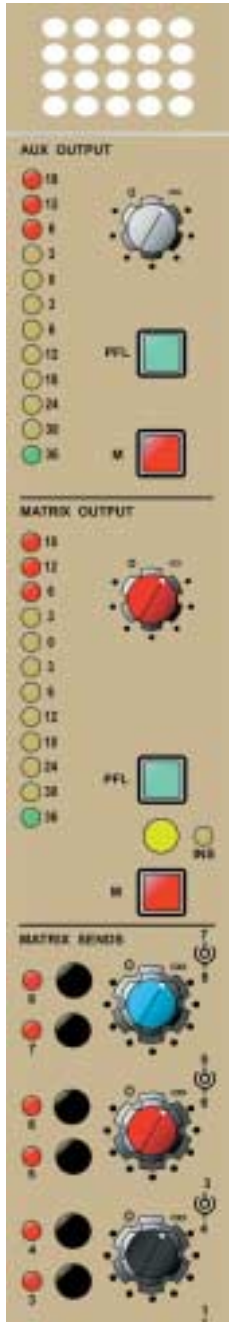
All noise measurements are r.m.s. via a DIN audio band filter, with -3dB points at 22Hz and 22kHz.


OSC
ZOOM
REV
ABV
MIC
PRE
DIO
ST
PAN
ON
AUX 8
AUX 7
AUX 6
AUX 4
AUX 3


OSC
MONO
REV L
INPUT
PRE
DIO
ST
PAN
ON
AUX 8
AUX 7
AUX 6
AUX 4
AUX 3

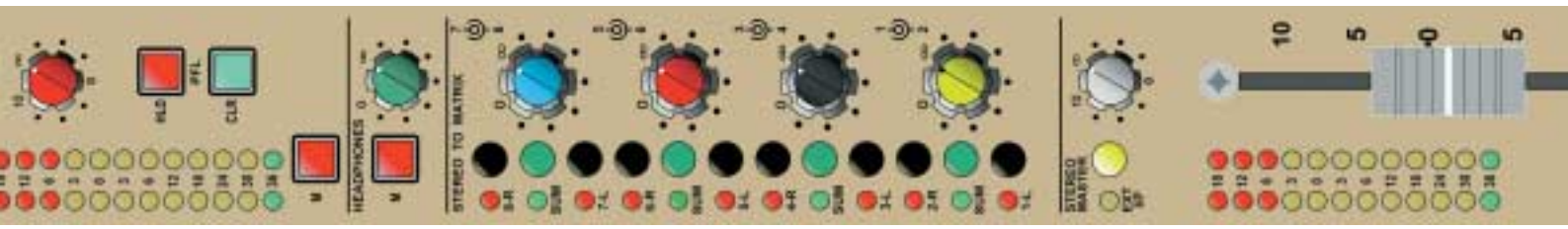

AUX OUTPUT
PFL
M
MATRIX OUTPUT
PFL
INS
M
MATRIX SENDS


TALKBACK MIC
CHECK MUTE
MUTE ALL
TALKBACK
ABV
HPF
AUX
SEND TO
GROUP
M
TO
LITTLITES
ON
OSCILLATOR
10K
1K
100
TO
CHS
GPS
LISTEN OUTPUT

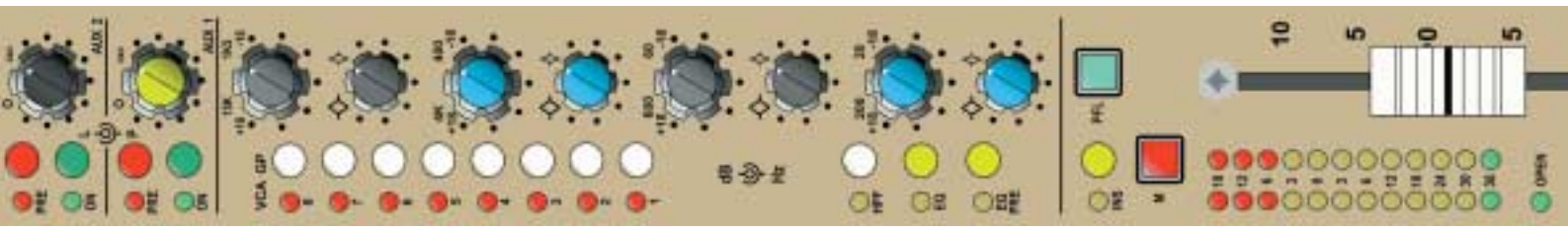

AUX OUTPUT
PFL
M
MATRIX OUTPUT
PFL
M
MATRIX SENDS

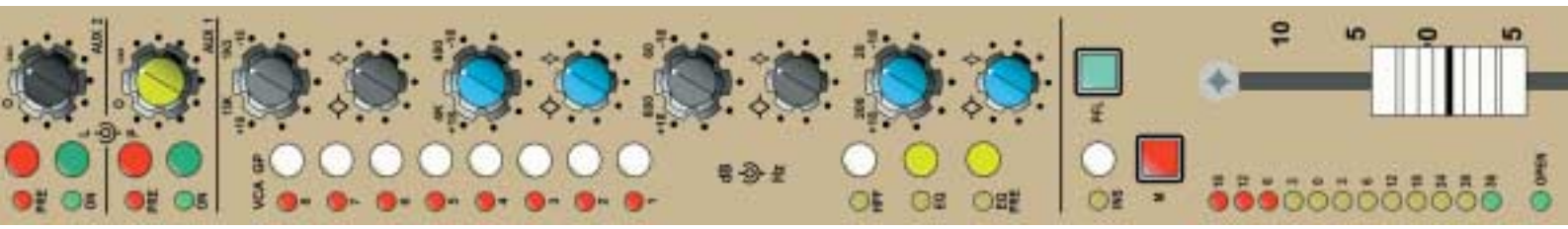
S type

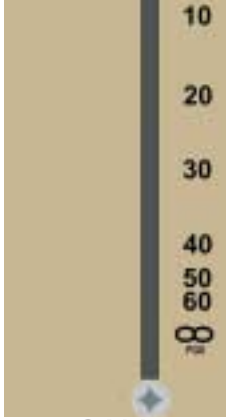

SUB GROUP
ST
PFL
VCA MASTER


HLD
PFL
CLR
HEADPHONES
STEREO TO MATRIX
STEREO MASTER

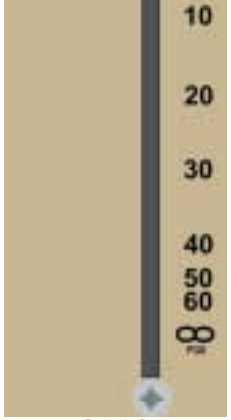

SUB GROUP
ST
PFL
VCA MASTER


AUX 2
AUX 1
PRE
ON
VCA GP
PFL
OPEN

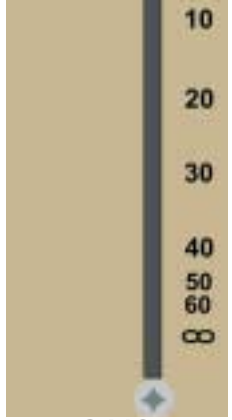

AUX 2
AUX 1
PRE
ON
VCA GP
PFL
OPEN



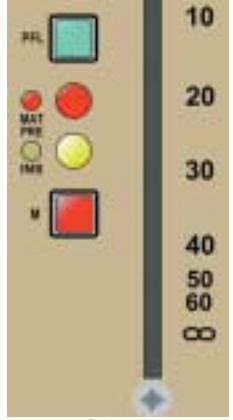
8411
Mono Intput



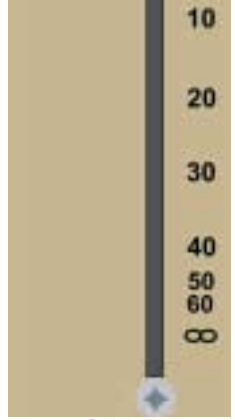
8412
Stereo Input



8413
VCA Master,
Sub-Group, Matrix,
Stereo Aux.

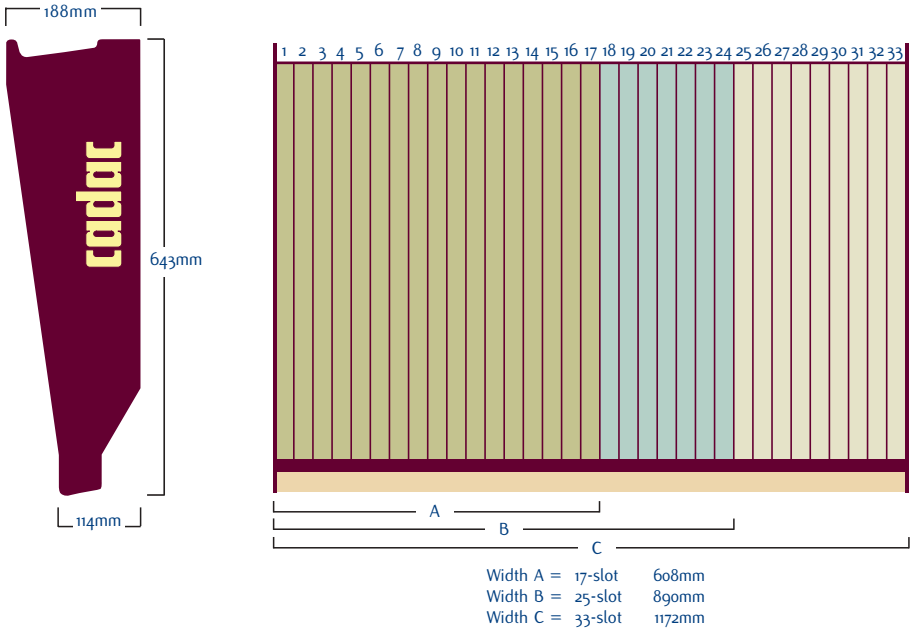


8414
Stereo Master,
Stereo Output,
Listen, Osc.



8415
VCA Master,
Sub-Group, Matrix,
Aux.

GENERAL SPECIFICATION



FRAME

The S-Type is constructed from 1.6 mm Zintec, fixed to 4mm aluminium end profiles. This allows multiple frames to be positioned, so that modules are almost adjacent. Internal audio bussing is balanced and uses ribbon cables. All power bussing is also routed via ribbon cables. Frame-mounted inputs include diode-mixed power inlets, earth points, a headphone jack, bus expansion connectors, main stereo outputs XLRs, main stereo insert point jacks and Littlite XLRs. The frame also incorporates multiple cooling fans.

The three sizes of frame available comprise 17, 25 and 33 module positions. These allow for the standard configurations of 8,16 or 24 input channels, 8 output groups and a Stereo Master/Talkback/Oscillator/Comms module. Alternatively, any combination of modules can be fitted. The only limits are a maximum of 8 output groups and 1 Oscillator/Comms module in a system. A system can comprise multiple frames. Each module may be located into any position within the console frame to accommodate for personal preferences in layout.

CONNECTORS

Balanced XLR type connectors are standard for all inputs and outputs. Balanced TRS ¼" jack sockets are used for insert sends and returns, plus the inputs on the stereo channel. An unbalanced TRS ¼" jack socket is used for the external stereo input on the Stereo Master/Talkback/Oscillator/Comms module.

POWER SUPPLIES

Each S-Type console requires the following:

- ±18V for the audio electronics
- +13V for LEDs and relays
- +48V for phantom powering of microphones
- Input 110-240VAC, 1ϕ

The 2U power supplies are suitable for rack-mounting or flight cases, and are connected via a shielded multicore cable with 6 pole military circular bayonet connectors at each end. Each console may be powered from two independent power supply systems, operating simultaneously for continuous redundant operation.

FINISH

The front panels are stove enamelled, silk-screened and lacquered. The silk-screened legend is designed to withstand arduous operating conditions.

TRANSPORTATION

Custom-made flight cases are available for the S-Type console, as required.

STANDARDS

The S-Type is designed to the following standards:

- EN55103-1:1997
- EN55103-2:1997
- EN60065:1998

ISO 9001 REGISTERED FIRM

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