

SUPER X[®]

High Precision 2-Way Stereo/
3-Way Mono Crossover
With Multiband Limiter
Model CX 2300 **E**

VERSION 2.0 May 1995

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CONTROLS

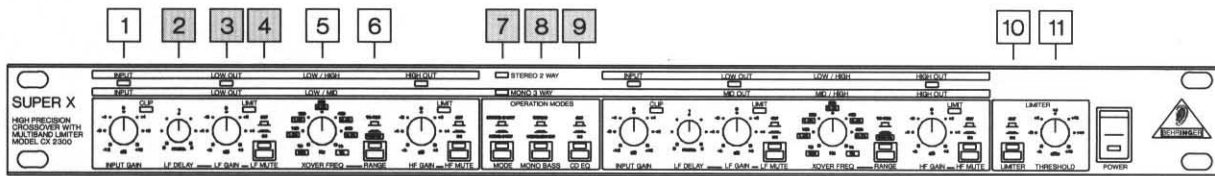


Fig. 8 SUPER X front panel controls

5.1 FRONT PANEL

1 INPUT GAIN control

Two INPUT GAIN potentiometers (+/-12 dB) match the sensitivity of the SUPER X's inputs to any console. Each has an associated CLIP LED.

2 LF DELAY control

The low band (or low and mid band for mono 3-way operation) outputs have an associated LF DELAY potentiometer (0 - 2 msec or up to 60 cm) for phase/time alignment.

3 LF / HF GAIN control

Each band has its own LF / HF GAIN (+/-6 dB) control to allow some fine-tuning of the system to give (usually) a flatter frequency response.

4 MUTE switch

The MUTE button enables easy auditioning of the selected band(s).

5 X-OVER FREQ. control

Each of two crossover frequencies are set by adjusting the X-OVER FREQ. potentiometer.

6 RANGE switch

Crossover frequencies from 90 to 900 Hz or 900 Hz to 9 kHz respectively are chosen by the RANGE switch.

7 MODE switch

Stereo 2-way or mono 3-way operation is chosen by the MODE switch.

8 MONO BASS switch

In stereo mode the bass outputs may be summed in mono via the MONO BASS switch.

9 CD EQ switch

A Constant Directivity (CD) horn equalizer curve may be applied to the upper band in either mode by means of the CD EQ switch.

10 LIMITER switch

Limiting of the output gains is enabled by the LIMITER switch.

11 THRESHOLD control

The THRESHOLD potentiometer allows to set the appropriate limiter threshold between -6 and +18 dBu.

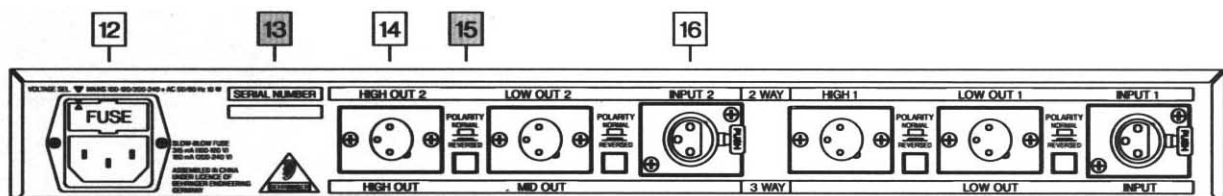


Fig. 9 SUPER X back panel

BACK PANEL

12 MAINS CONNECTOR / FUSE HOLDER / VOLTAGE SELECTOR

Before you connect the unit, please make sure that the displayed voltage corresponds to your mains supply.

Please note that the AC voltage selection is defined by the position of the fuse holder. If you intend to change the operating voltage, remove the fuse holder and twist it by 180 degrees before you reinsert it. Matching the two markers monitors the selected voltage.

Please note that, depending on the mains voltage supplied to the unit, the correct fuse type and rate must be installed.

Please use the enclosed mains cable to connect the unit to the mains power supply.

13 SERIAL NUMBER

Please take the time to make a note of the SERIAL NUMBER in the space provided on the enclosed warranty registration card. Put the instruction manual in a safe place and return the completed warranty registration card to us within 8 days of purchase, making sure that the dealer stamp has been acquired.

14 HIGH / MID / LOW OUTPUTS

Your SUPER X provides 4 outputs for stereo and 3 for mono operation.

15 POLARITY switches

For all outputs phase can be reversed via the POLARITY switches.

16 INPUTS

Inputs are electronically balanced (2 for stereo, 1 for mono operation).

ACTIVE ELEMENTS

In the following figures active elements on the front and back panel of the SUPER X are marked by a darker tone, depending on the operation mode.

5.3.1 Stereo 2-Way Operation With Stereo Bass

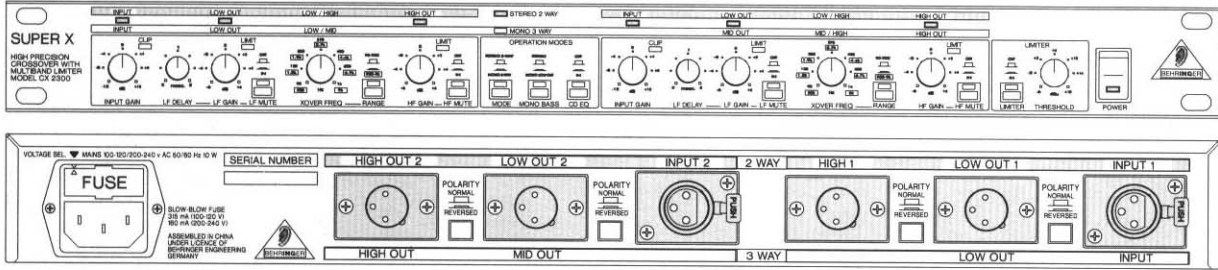


Fig. 10 Active elements in stereo 2-way mode with stereo bass

5.3.2 Stereo 2-Way Operation With Mono Bass

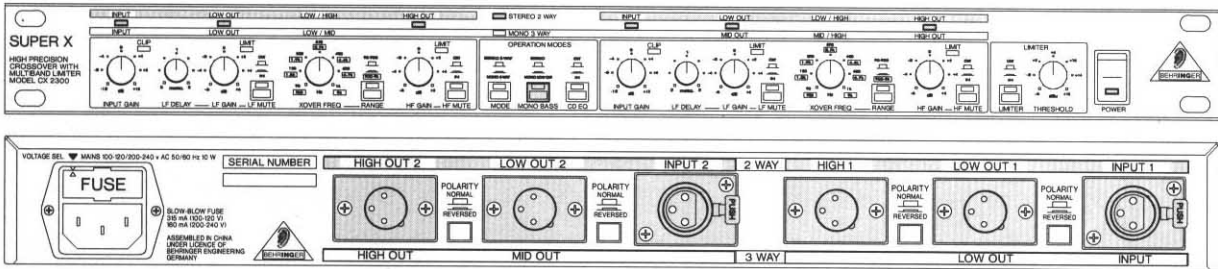


Fig. 11 Active elements in stereo 2-way mode with mono bass

5.3.3 Mono 3-Way Operation

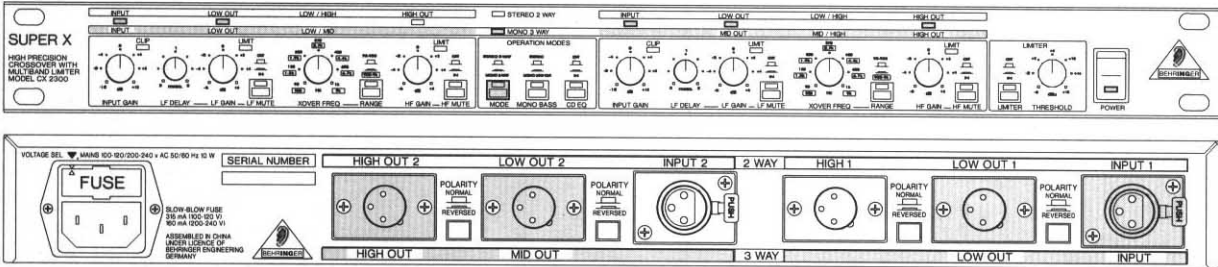


Fig. 12 Active elements in mono 3-way mode

BLOCK DIAGRAMS

3.1 STEREO 2-WAY OPERATION

Active elements in each configuration are shown by a darker tone in the following block diagrams. Note the inclusion of high- and low-pass filters prior to the frequency dividing network, the signal delay circuitry associated with the low (and mid, when using the SUPER X in mono mode) bands, and the limiters on all outputs.

3.1.1 Stereo 2-Way Operation With Stereo Bass

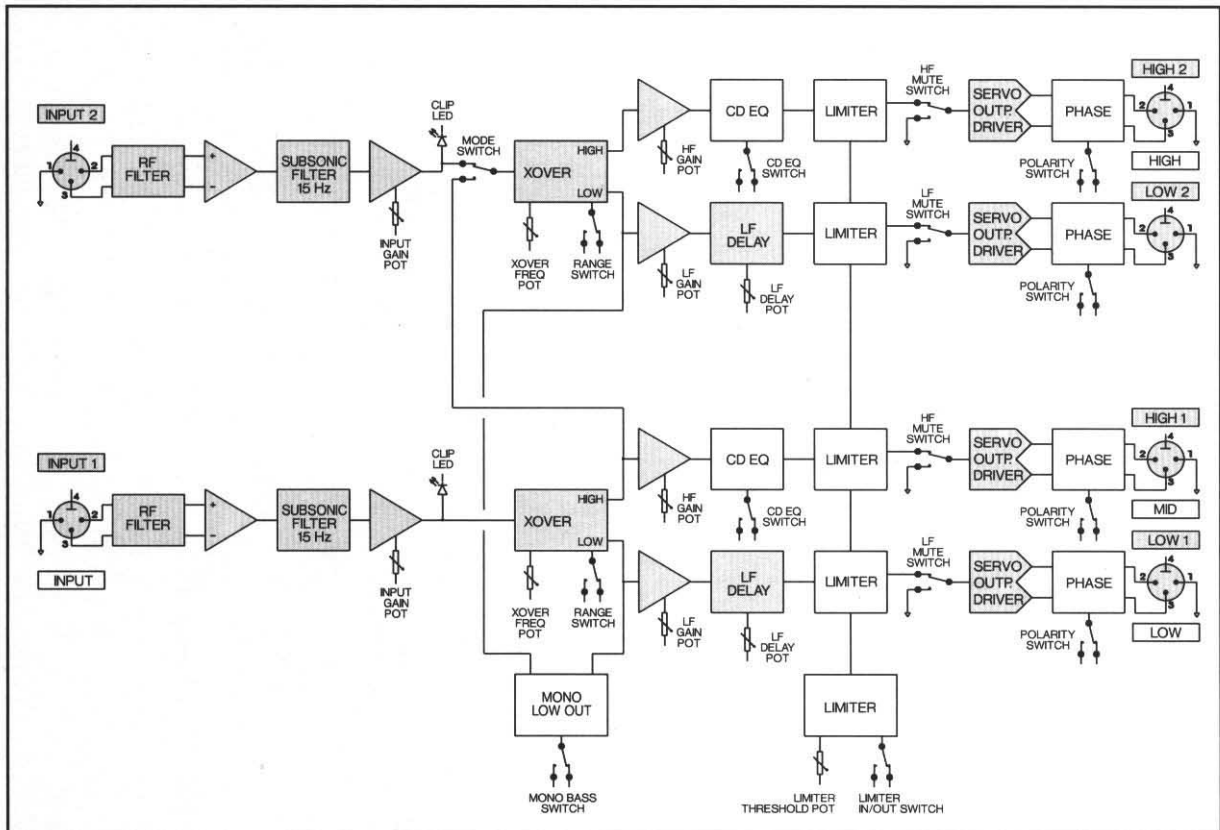
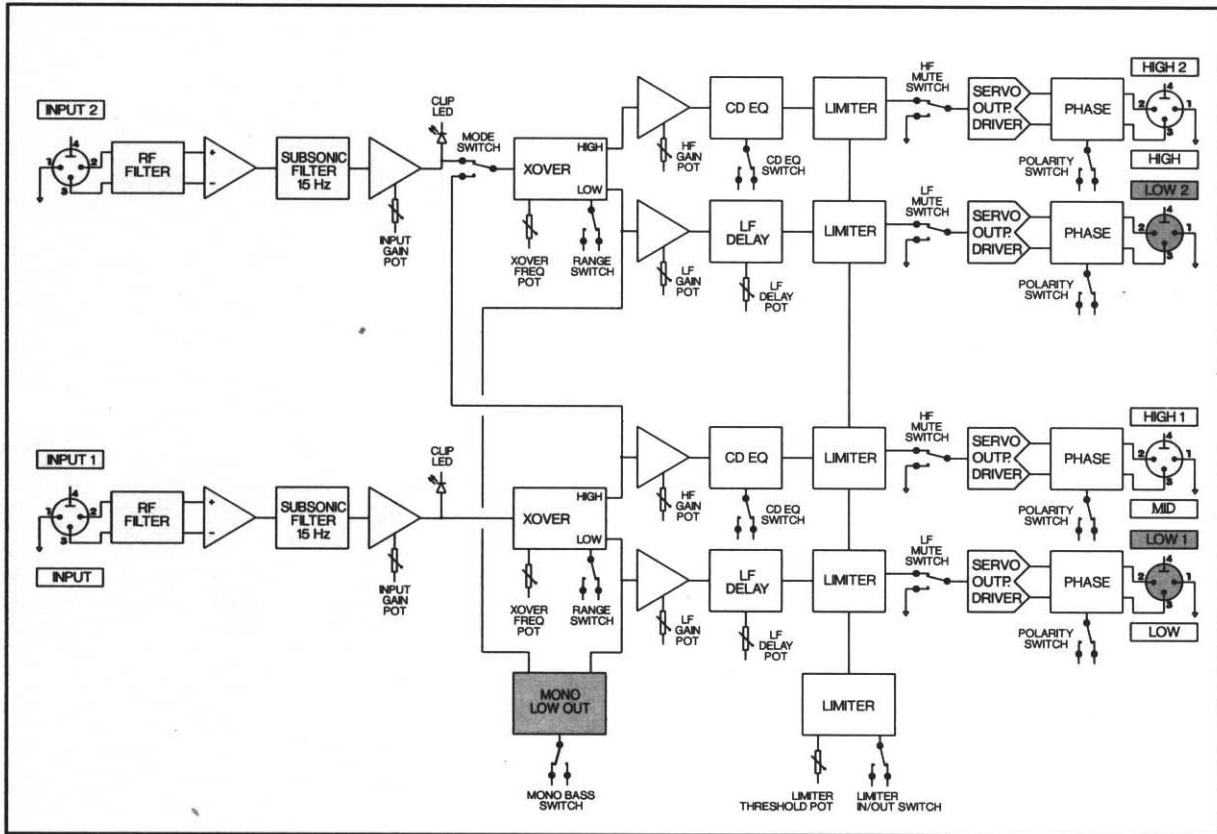


Fig. 1 Stereo 2-way operation with Stereo Bass

Stereo 2-way operation is selected by a switch on the front panel of the SUPER X. All inputs and outputs are active in this mode, as can be discerned from the legending on the unit. Active controls are indicated by illuminated status LEDs. It is expected that both left and right channels will normally be given the same crossover frequency value.

Stereo 2-Way Operation With Mono Bass



MONO 3-WAY OPERATION

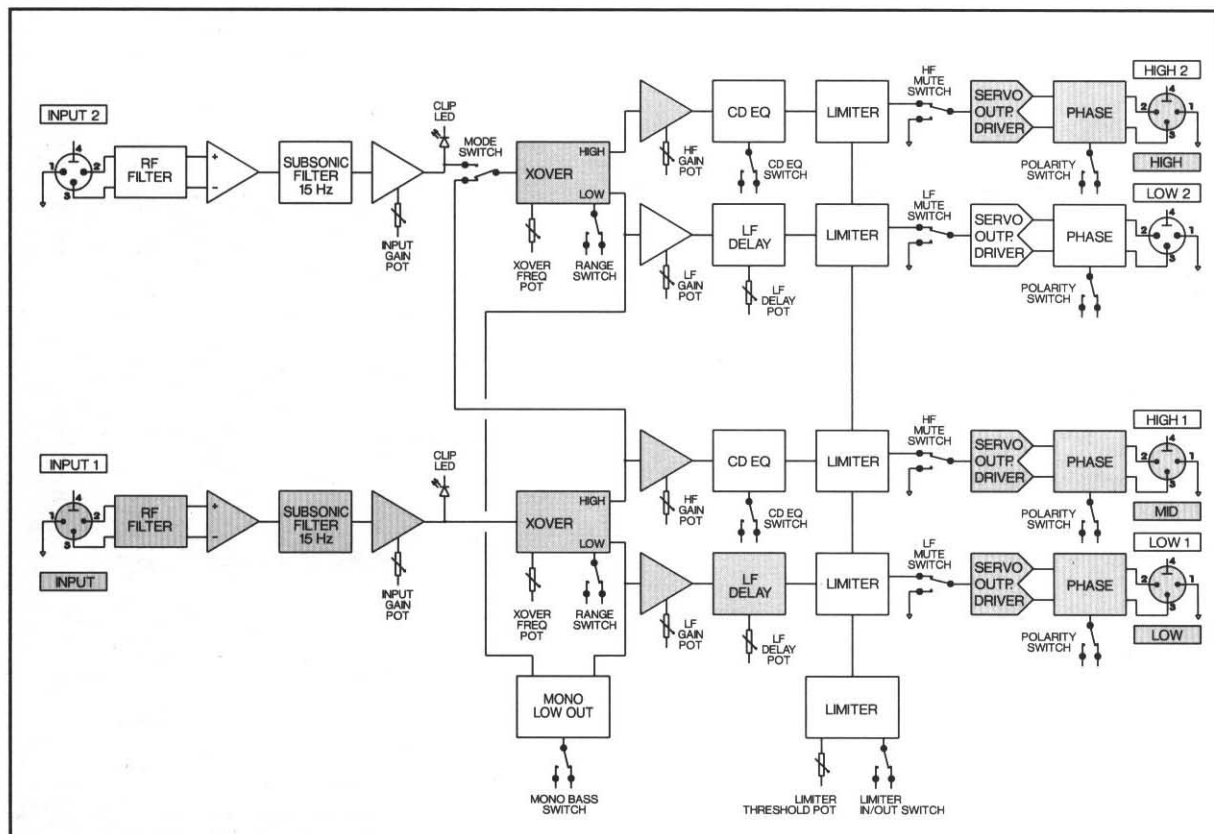


Fig. 3 Mono 3-way operation

Mono 3-way operation is selected from the front panel. Note, that only one input and only three of four outputs of the SUPER X are now active. This is clearly indicated by legending on the unit and also by status LEDs which illuminate when the MODE switch is depressed. You can choose crossover frequencies between bass and mid, and mid and high frequency bands.

SPECIFICATIONS

INPUTS

Type	servo-balanced input
Filter	RF & 15 Hz high-pass filter on each input
INPUT GAIN control	variable -12 to +12 dB
Input Impedance	60 kOhms, balanced
Nominal Operating Level	-10 dBV to +4 dBu
Maximum Input Level	+20 dBu balanced and unbalanced (unity gain)
CMR	better than 40 dB

OUTPUTS

Type	electronically servo-balanced output stage (optional transformer-balanced). automatic level correction for unbalanced use (correction: 6 dB).
Output Impedance	40 Ohms, balanced and unbalanced
Maximum Output Level	+26 dBu balanced, +21 dBu unbalanced
Bandwidth	5 Hz to 100 kHz, +0, -1 dB
THD @ +4 dBu	0.005 % typ.
IMD (SMPTE) @ +10 dBu	0.01 % typ.
Noise & Hum, unity gain	-92 dBu (20 Hz to 22 kHz, unweighted)
Crosstalk @ 20 kHz	better than -50 dBu
POLARITY switches	all outputs can be reversed

FILTER

Type	State variable 24 dB/octave Linkwitz-Riley filter
MODE switch	stereo 2-way or mono 3-way selectable
RANGE switch	switchable 90 to 900 Hz / 900 Hz to 9 kHz
X-OVER FREQ. control	variable 90 to 900 Hz / 900 Hz to 9 kHz
LF DELAY control	variable 0 to 2 ms
LF GAIN control	variable -6 to +6 dB
HF GAIN control	variable -6 to +6 dB
LF/HF MUTE switches	outputs can be switched off

LIMITER

Type	Interactive Programme Limiter
THRESHOLD control	variable -6 to +18 dBu
LIMITER switch	band limiters can be activated globally
LIM LED	indicates the operation of the band-specific limiter

FUNCTIONS

MONO BASS switch	in stereo mode both bass outputs can be summed
CD EQ switch	allows for CD Horn frequency correction

INDICATORS

SWITCH LED indicators	all active switches are illuminated
MODE LED indicators	highlight the active controls in 2-way or 3-way mode

POWER SUPPLY

Mains Voltages	100-120/200-240 VAC 50-60 Hz
Power Consumption	20 Watts
Fuse	315 mA (100-120 V); 160 mA (200-240 V) slow-blow
Mains Connection	standard IEC receptacle

PHYSICAL

Dimension	13/4" (44.5 mm)H * 19" (482.6 mm) * 8.5" (217 mm)
Net Weight	3 kg
Shipping Weight	4.3 kg