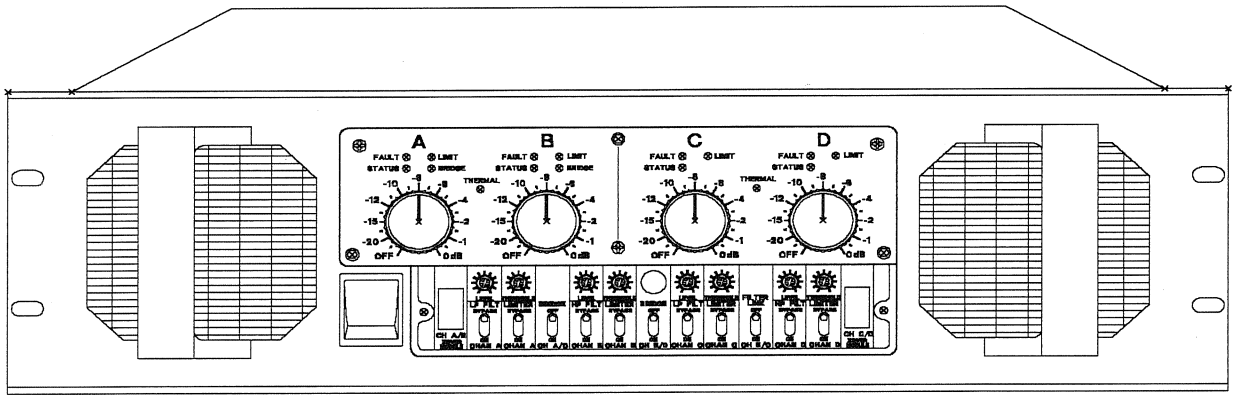
Australian Monitor



Dual Bi-Amplifier

AM2400

INSTRUCTION MANUAL

Thank you for choosing an Australian Monitor product for your demanding application. The AM2400 dual bi-amp is an integrated sound system, needing only loudspeakers and a mixer to complete a high quality live sound setup. Designed to perform and built to last.

Safety Precautions and Labelling

The rear panel of the unit has a number of markings and internationally recognized symbols related to the hazards and precautions that should be taken when operating MAINS connected equipment.

The presence of a LIGHTNING FLASH with an arrowhead contained within the boundaries of a equilateral triangle is intended to alert the user that dangerous uninsulated voltages may exist within the units enclosure. These voltages may be of a sufficient magnitude as to constitute the risk of an electrical shock.

This symbol is reinforced with the text:

!CAUTION!
RISK OF ELECTRICAL SHOCK
DO NOT OPEN

The presence of an EXCLAMATION MARK contained within the boundaries of a equilateral triangle is intended to alert the user that there is important operating and maintenance literature that accompanies the unit.

!WARNING!
DO NOT EXPOSE TO EITHER
RAIN OR MOISTURE

The unit should not be operated in a situation where it may encounter the entry of water, rain, or any fluids. To expose the unit to the above conditions may make the operation of the unit hazardous and increase the risk of electrical shock.

REFER SERVICING TO
QUALIFIED PERSONNEL.
NO USER SERVICEABLE
PARTS INSIDE.

The user should not attempt to service the unit. Only qualified and knowledgeable personnel familiar with the internal workings of the unit should attempt any repair, servicing or authorized modification to the unit. The unit does not contain any parts which the user can service or re-use in this or any other product.

If you are in need of special assistance and the information you require is outside the scope of this manual, please contact your nearest service agent or Australian Monitor direct:

THE TECHNICAL OFFICER
AUSTRALIAN MONITOR
C/- AUDIO TELEX COMMUNICATIONS PTY LTD
PRIVATE BAG 149,
SILVERWATER. N.S.W. 1811
AUSTRALIA.

	Phone	Fax
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International	61-2-9647-1411	61-2-9748-2537
Email	ho@audiotelex.com	
Internet	www.australianmonitor.com.au	

1. Features

A dual bi-amplifier of 2 x (800W + 400W)
A tri-amplifier of 800+800+400W
or 800+800+800 Watt
A four channel amplifier of 2x800 + 2x400 W
A dual bi-amplifier of 1600+800

Like the other models in the AM range, the 2400 incorporates extensive protection, including:

Mains circuit breaker
Mains current Limit at turn-on
Amplifier muted at turn-on
Thermal protection
Short-circuit and output overload protection
Individual DC supply fuses for each channel
Signal Input overvoltage protection

Comprehensive front panel indicators include:

Status LED with clip indicator
Fault indicator
Thermal protection indicators
Limiter *active* indicators
Bridge mode indicators

The dual fourth-order Linkwitz-Riley type cross-over has 24dB/octave slope and minimum phase shift. It can be used as a 2 x 2-way crossover or as a 1 x 3-way unit with adjustable cross-over frequency.

2. System configuration

Indicators

On/Thermal

Normally on

Green light emission indicates power on

Red light emission indicates that the amplifiers shut down due to the excessive heat build-up.

Fault

Normally off

Amber light emission indicates overload; if the LED does not turn off when the overload is removed, the amplifiers need servicing.

Limit

Normally off

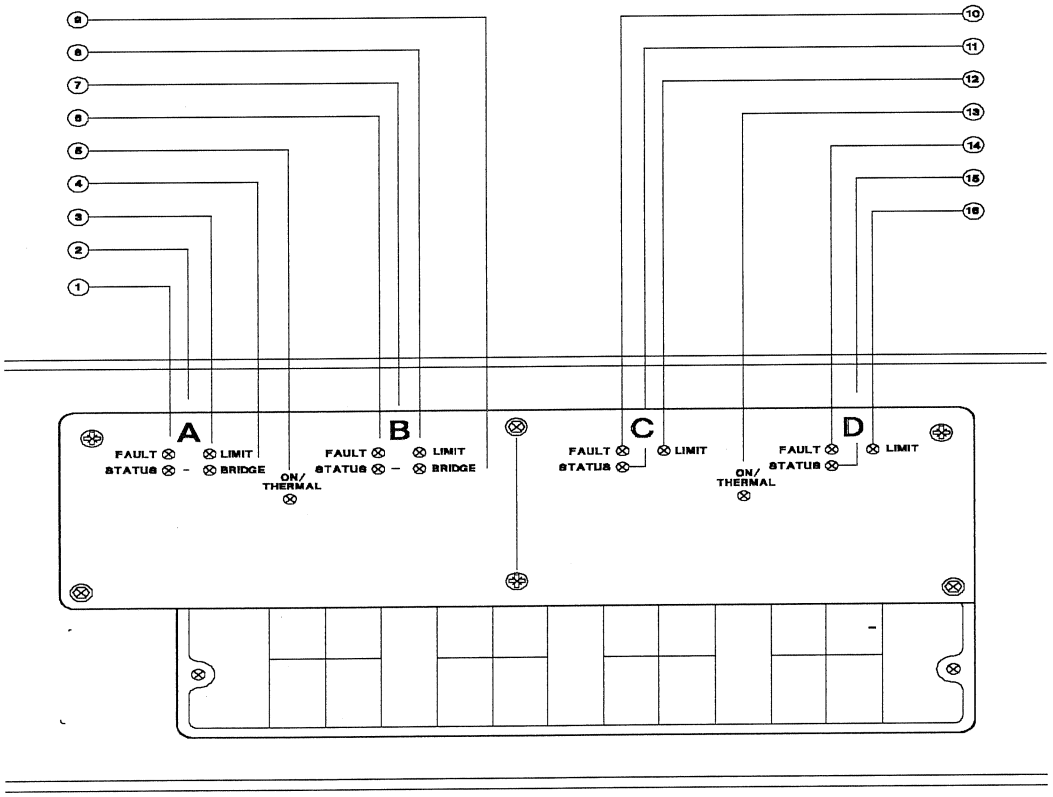
Blue light emission indicates bridge operating mode.

Status

Normally off

Green indicates signal presents at the amplifier output

Red when output signal is -0.5dB below clip



1 Ch. A Fault LED
2 Ch. A Status LED
3 Ch. A Limiter LED
4 Ch. A Bridge Ch. C to A mode operation
5 Ch.B Fault LED
6 Ch.B Status LED
7 Ch.B Limiter LED
8 Ch.B Bridge Ch. D to B mode operation
9 Ch. C Fault LED
10 Ch. C Status LED
11 Ch. C Limiter LED
12 Ch. D Fault LED
13 D Status LED
14 Ch. D Limiter LED

Controls

Accessible on the front panel are attenuators for individual channels.

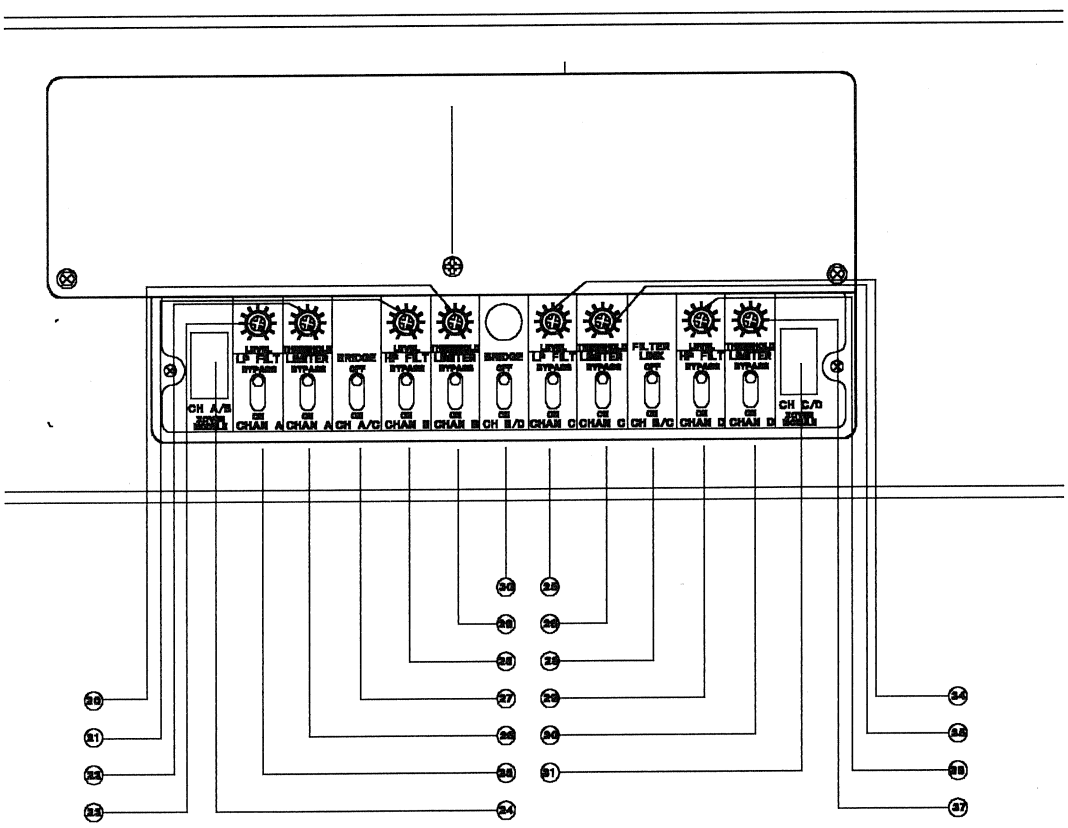
Removing the bottom cover, the presets for the signal processing circuitry can be altered.

All switches are factory set to the *OFF* (*up*) position, with all signal processing by-passed.

25 Ch. A Low Pass On/By-Pass
26 Ch.A limiter On/By-Pass
27 Bridge Mode Ch. C to Ch. A On/Off
28 Ch. B High Pass On/By-Pass
29 Ch. B limiter On/By-Pass switch
25 Bridge Mode Ch. D to Ch.B On/Off
26 Ch. C Low Pass On/By Pass

The potentiometers are:
23 Ch.A Low Pass attenuation control
22 Ch.A limiter threshold control
21 Ch.B High Pass attenuation control
20 Ch.B limiter threshold control
34 Ch.C Low Pass attenuation control
35 Ch.C limiter threshold control
36 Ch. D High Pass attenuation control
37 Ch.D limiter threshold control

The crossover frequency is preset by the capacitor banks located on iether side of the control panel.
24 Ch.A and B crossover module
31 Ch.C and D crossover module

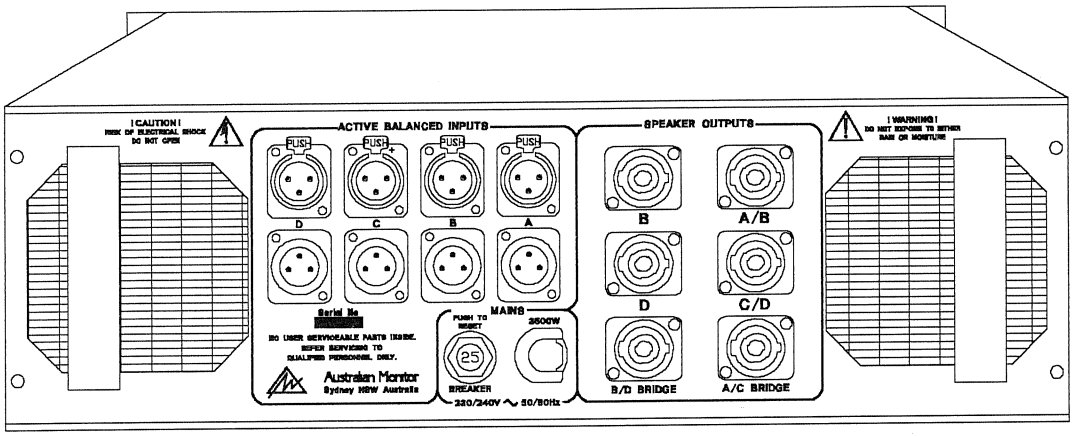


3. Systems connection

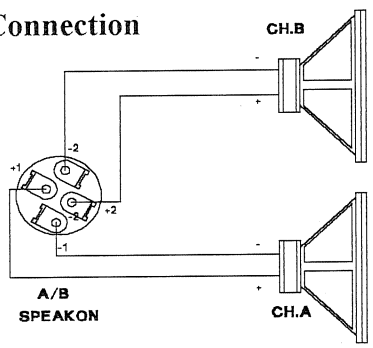
3.1 Input Connection

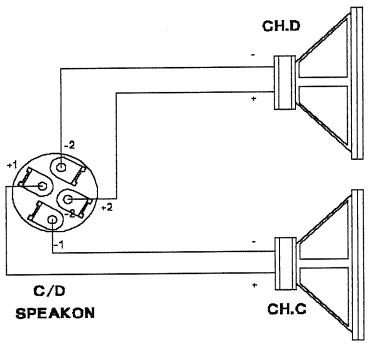
XLR input connection is configured :

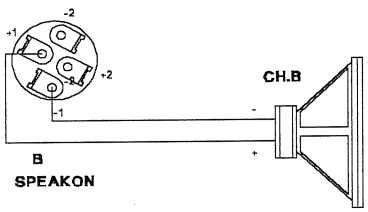
PIN-3 : Hot *PIN-2* : Cold *PIN-1* : Shielded Ground

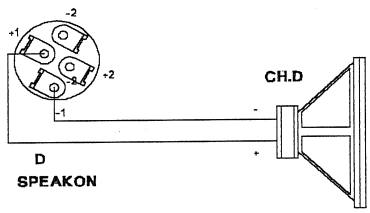


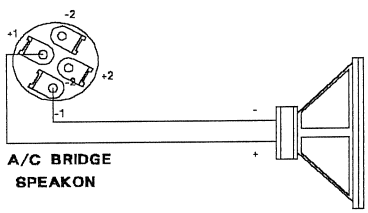
3.2 Output Connection

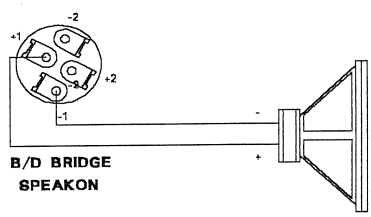




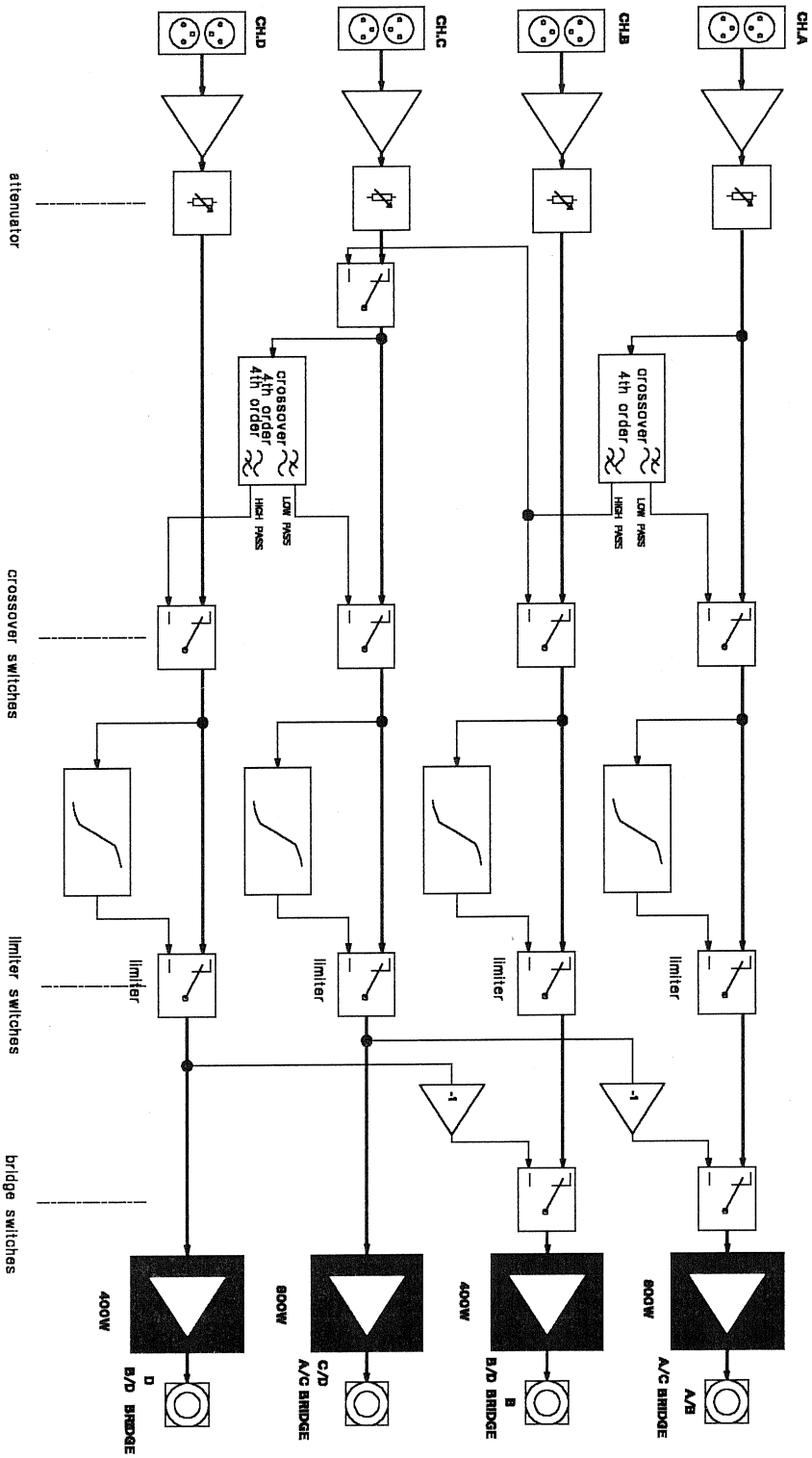








3.3. Block Diagram



3.4 limiter setup

The limiter switch must be set to *ON* (*down*) position.

The threshold is increased by turning the threshold potentiometer clockwise.

3.5 Crossover setup

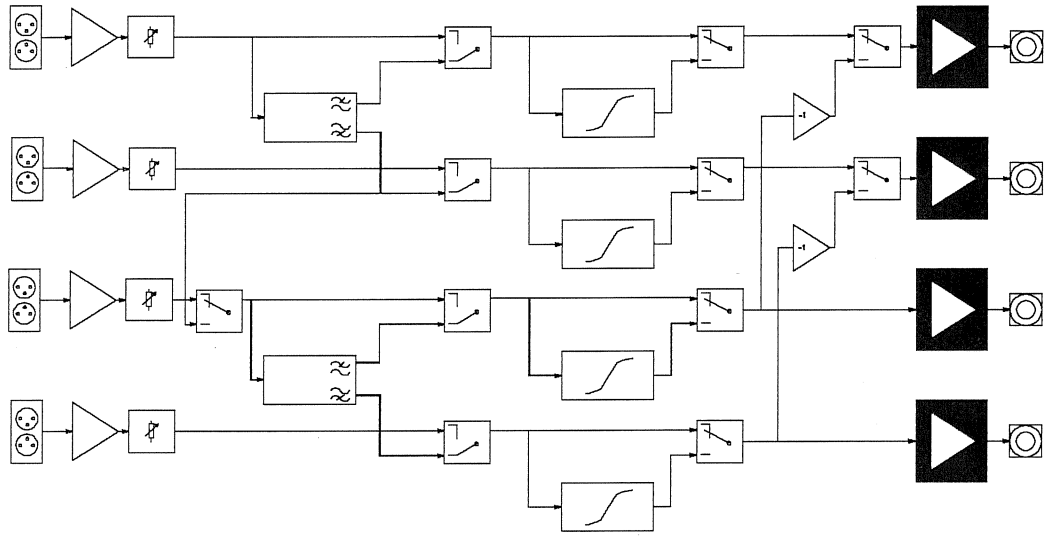
The crossover frequency can be set by changing the cross over module. The crossover module consists of seven capacitors; their values and the corresponding frequency is listed below.

The crossover output can be attenuated by adjusting the crossover attenuators. The attenuation is controlled counter clockwise.

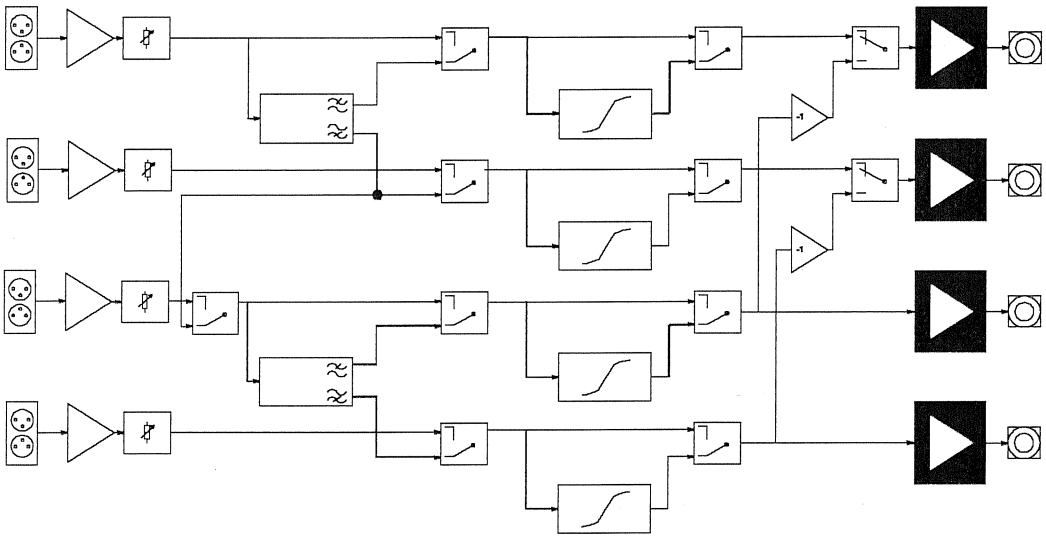
AM2400 is a versatile system that can be configured to suit many applications. The drawings below are examples to show how the 2 way and 3 way crossover can be setup.

Module	Xover Point.
1n0	3.0kHz
1n5	2.4kHz
2n2	1.9kHz
3n3	1.4kHz
4n7	1.0kHz
6n8	770Hz
10n	550Hz
15n	380Hz
22n	260Hz
33n	180Hz
47n	125Hz
68n	88Hz
100n	60Hz
150n	40Hz

Note: All capacitors are WIMA MKS33 or Roederstein MKT1818



2 ways crossover setup



3 way crossover setup

3.6 Bridge

Bridge mode can be operated:

Ch.C is master channel controls bridge mode into Ch.A

Ch.D is master channel control bridge mode into Ch.B

Specifications

	A	B	C	D
Output Power re 4 Ohm	800 W	400 W	800 W	400 W
Output Power re 8 Ohm	500 W	250 W	500 W	250 W

THD @ 1 kHz,	0.005% @1dB below clipping
Amplitude Response 20 Hz - 20 kHz	+/- 0.5 dB
Hum and Noise Aweighted	
re rated power channels A & C	-105 dB
re rated power channels B & D	-102 dB
Input Impedance - balanced line-line	25 kOhm
CMRR 20 Hz - 20 kHz	70 dB
Crosstalk 20 Hz - 20 kHz	-70 dB
Input Sensitivity	+dBu
Dimension - H, W, D	133.5, 483, 445 mm
Weight	35 kg