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audison

2000 EDITION

Owner's manual

Power amplification integrated system for cars

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* **NP** - Nominal Power (+10%, -5%) @ 4Ω - 12V - 0,3% THD.

AMPLIFIERS			VRx 1.500	VRx 2.150	VRx 2.250	VRx 2.400	VRx 4.300	VRx 6.420
Number of channels			1	2	2	2	4	6
Nominal **P**ower @ 12V *		W	500x1	75x2	125x2	200x2	75x4	65x4+80x2
POWER @ 13,8V	6 ch. mode - 4Ω	W						75x4+85x2
	6 ch. mode - 2Ω	W						120x4+150x2
	6 ch. mode - 4/2Ω	W						75x4 (4Ω)+165x2 (2Ω)
	6 ch. mode - 4/1Ω	W						75x4 (4Ω)+250x2 (1Ω)
	5 ch. mode - 4Ω	W						75x4+330x1
	5 ch. mode - 4/2Ω	W						75x4 (4Ω)+500x1 (2Ω)
	5 ch. mode - 2Ω	W						110x4+430x1
	4 ch. mode - 4Ω	W					110x4	
	4 ch. mode - 2Ω	W					175x4	
	4 ch. mode - 1Ω	W					220x4	
	3 ch. mode - 4Ω	W					102x2+380x1	
	3 ch. mode - 4/2Ω	W					90x2 (4Ω)+530x1 (2Ω)	
	2 ch. mode - 4Ω	W		110x2	160x2	250x2	350x2	
	2 ch. mode - 2Ω	W		180x2	280x2	450x2	440x2	
	2 ch. mode - 1Ω	W		240x2	420x2	580x2		
	1 ch. mode - 4Ω	W	560x1	360x1	560x1	900x1		
	1 ch. mode - 2Ω	W	1080x1	480x1	840x1	1160x1		
	1 ch. mode - 1Ω	W	2000x1					
Distortion - THD (1 KHz)		%	0.02	0.02	0.02	0.02	0.02	0.02
A weighed S/N ratio		dBA	100	100	100	100	100	100
Hi-Lo input sensitivity		VRMS	0.15-1.5/0.5-5	0.15-1.5/0.5-5	0.15-1.5/0.5-5	0.15-1.5/0.5-5	0.15-1.5/0.5-5	0.15-1.5/0.5-5
Use in bridge				✓	✓	✓	✓	✓
Use in tri-mode				✓	✓	✓	✓	✓
Stereo load impedance		Ω		8-4-2-1	8-4-2-1	8-4-2-1	Ch.A & Ch.B: 8-4-2-1	Ch.A & Ch.B: 8-4-2; Ch.C: 8-4-2-1
Mono/bridge load impedance		Ω	8-4-2-1	8-4-2	8-4-2	8-4-2	Ch.A & Ch.B: 8-4-2	Ch.A & Ch.B: 8-4; Ch.C: 8-4-2
PRM3 option			✓	✓	✓	✓	✓✓	✓✓✓
SM24 option			✓	✓	✓	✓	✓	✓
PC36 option			✓	✓	✓	✓	✓	✓
DSC1 option			✓					
BTX2 option			✓	✓	✓	✓	✓	✓
VCRDK option			✓	✓	✓	✓	✓	✓
HL12 option			✓	✓	✓	✓		
BH12 option				✓	✓	✓		
LM24 option			✓	✓	✓	✓		
HL24 option			✓	✓	✓	✓		
BSA1 option			✓	✓	✓	✓		
MAC2 option - with TRM or RC			✓	✓	✓	✓	✓	✓
TRM4 - TRM6 option			✓	✓	✓	✓	✓	
RC08 - RC10 - RC12 option			✓	✓	✓	✓	✓	✓

MULTICHANNEL EXTENSIONS		HL12	BH12	LM24	HL24	BSA1
		HI/LO-PASS	BAND/HI-PASS	LO-PASS MONO	HI-PASS STEREO LO-PASS MONO	BALANCED PRE OUT
DEPENDENT ADJUSTMENTS / INDEPENDENT ADJUSTMENTS						
CROSSOVER SLOPE	dB/oct.	12	12	24	HI-PASS 12/LO-PASS 24	
CUT OFF FREQUENCIES	Hz	40-5k	BAND-PASS LO 40-2k BAND-PASS HI 150-5k HI-PASS 150-5k	40-90	LO-PASS 40-90 HI-PASS 40-120	
CONTINUOUS ADJUSTMENTS		✓	✓	✓	✓	
AMP-OUT/PRE-OUT SWITCHING		✓	✓	✓	✓	
PRE-OUT FUNCTION		HI-PASS; LO-PASS; BYPASS	HI-PASS; BYPASS	LO-PASS; BYPASS	HI-PASS; LO-PASS; BYPASS	BYPASS

CONTROL EXTENSIONS	
PRM3	ONE BAND PARAMETRIC EQUALISER WITH CONTINUOUS CONTROLS FOR: FREQUENCY (SELECTABLE IN THREE STEPS, FROM 20HZ TO 20KHZ), GAIN (-9DB, +9DB), BAND WIDTH (Q FROM 1 TO 4). BY-PASS SWITCH.
SM24	24DB/OCT. MONO SUBSONIC FILTER. CONTINUOUSLY ADJUSTABLE FREQUENCY BETWEEN 14 AND 36HZ. BY-PASS SWITCH.
PC36	ANALOGUE PHASE CONTROL. CONTINUOUSLY ADJUSTABLE PHASE BETWEEN 0° AND 360°, SELECTION ON THREE FREQUENCY RANGES (40-200 HZ; 200-800 HZ; 800-4500 HZ). BY-PASS SWITCH.
DSC1	AUTOMATIC DYNAMIC PROCESSOR FOR SUBWOOFER RESPONSE CONTROL.
VCRDK	SYSTEM FOR MASTER VOLUME REMOTE CONTROL IF USED IN BTX2 OR FOR LEVEL CONTROL OF ANY WAYS IN A MULTIAMPLIFIED SYSTEM IF USED IN VRX. BASED ON VCA1D WITH DIGITAL CONTROL.
VCA1D	ADDITIONAL MODULE FOR CONTROLLING SEVERAL CHANNELS. IF IT IS MOUNTED IN A FURTHER BTX2, IT CONTROLS ALSO REAR CHANNEL WITH ONLY ONE VCRDK.
BTX2	ABS BALANCED LINE TRANSMITTER. THREE STEP GAIN CONTROL (0DB, +3DB, +6DB) AND PEAK LED. OPTIONAL VCA MODULE FOR LEVEL CONTROL. YOU CAN REALISE MASTER VOLUME IN FRONT/REAR SYSTEMS USING TWO BTX2, ONE VCRDK AND ONE VCA1D.
MAC2	GRADUAL INTERVENTION COOLING SYSTEM CONTROLLED BY THE AMPLIFIER TEMPERATURE. MIN. STARTING THRESHOLD TEMPERATURE: 44°C; MAX. EFFICIENCY TEMPERATURE: 74°C. IT CONSISTS OF TFC CONTROLLER MODULE TO MOUNT INSIDE THE AMPLIFIER AND TWO FANS GROUPS, TO PLACE INTO A TERMINAL OR A RACCORD.

COOLING DUCT EXTENSIONS		
TRM4	TERMINALS FOR PROTECTING CONNECTIONS; IT IS POSSIBLE TO INVERT THEIR FRONT PANEL IN ORDER TO FIX THEM WITH HIDDEN SCREWS.	HOUSING DUCTS FOR MAC2 FANS.
TRM6		
RC08	RACCORDS BETWEEN TWO AMPLIFIERS FOR PROTECTING CONNECTIONS; PROVIDED WITH A 24K GOLD PLATED BRASS PLATE WHICH CAN BE PERSONALISED.	
RC10		
RC12		

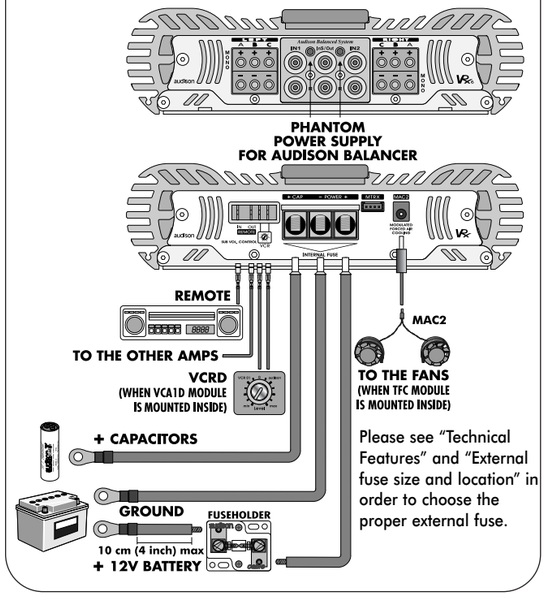
AUDISON'S MEASUREMENT STANDARDS

Power measures taken according to audison standard 1998 edition.

- *12 VDC and 13.8 VDC.*
- *1 kHz or crossover cut-off frequency.*
- *0.3 % THD nominal power; 1% THD continuous power.*
- *Tolerance: +10 %; -5 %.*
- *Continuous power given by RMS Voltage measured on resistive load.*
- *The nominal power of the amplifier is measured upon a battery voltage of 12 Volts with a 4 Ohm load and with all channels in function.*

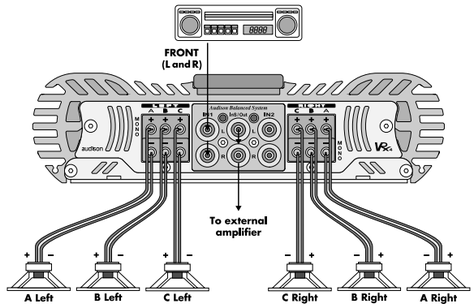
VRx6.420 connections

Power supply, remote and accessories

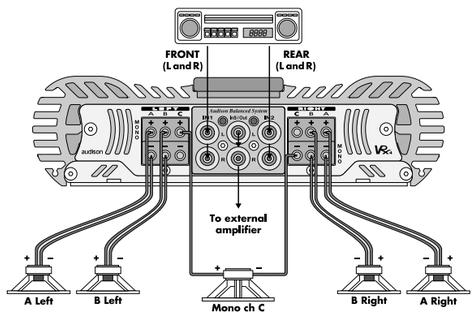


Please see "Technical Features" and "External fuse size and location" in order to choose the proper external fuse.

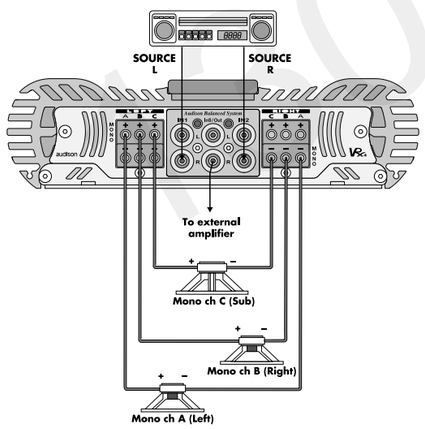
Inputs and outputs: stereo connection



Inputs and outputs: connection with C amplifiers in bridge



Inputs and outputs: connection with A, B and C amplifiers in bridge



OBJECTIVES OF VRx PROJECT

VRx project was conceived in order to solve the problems which derive from the installation of a high quality car audio system. The long and constant work made with professional installers and the use of the most advanced, currently available technology allowed **audison**'s designers to attain totally new results in terms of power, reliability and exceptional versatility above all. "VRx SYSTEM" derived from this: it is a complete line of integrated electronic circuits made by amplifiers, active crossovers and signal processors, characterised by a common conceptual system called **Open Deck Construction**.

Open Deck Construction

It's the heart of VRx SYSTEM. It indicates the "totally open construction" of VRx SYSTEM. A sophisticated pre section can accept several modules (MODULAR EXTENSIONS) which are put before the amplifiers and allow their functioning configuration. The integration between amplifier and signal processors permits to reduce signal paths as much as possible and to obtain performances which are not commonly attained through separate units.

Modular Extensions

They are divided into:

- **CONTROL EXTENSIONS:** signal processing and control modules and cooling modules. They can be used into all VRx.
- **MULTICHANNEL EXTENSIONS:** crossover modules which can be employed in one and two channel amplifiers (VRx1 and VRx2). Multichannel VRx (VRx4 and VRx6) are already supplied with a sophisticated, re-configurable crossover.
- **COOLING DUCT EXTENSIONS:** terminals and raccords which allow air ducting inside and outside the heat sink, directing its flux in order to improve cooling. If cooling modules are not used, Cooling Duct Extensions can be employed for esthetical purposes.

ABS ® - AUDISON BALANCED SYSTEM

All VRx amplifiers have balanced inputs and, if supplied with integrated crossover or Multichannel Extensions, they also have balanced outputs. They use **audison cable ABS** connectors, which allow balanced connection through an exclusive panel connector which is as big as standard RCA ones. They can accept signals up to 5V, in order to be as compatible as possible with all sources which can be found into the market.

VRx AMPLIFIER

While developing VRx project, utmost attention was paid to the following aspects:

- dynamics, which involves power supply and amplifying stage
- reliability and, thus, protection and cooling
- sound quality.

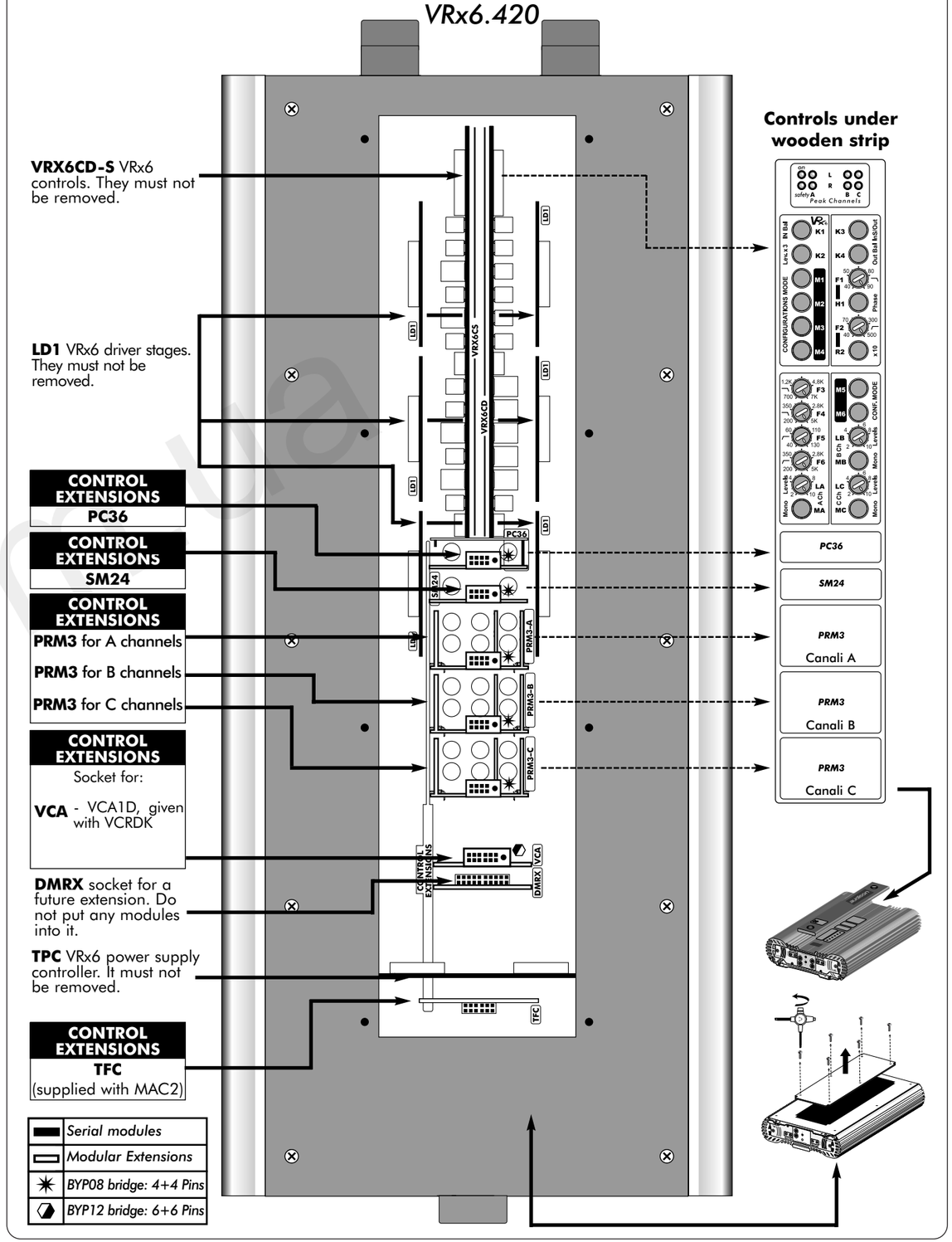
VRx amplifiers have high power, which can guarantee very good dynamics even in car. In order to be able to do this, power supply is oversized and has the same structure as **HV** series one.

Power supply is protected from overloads and excessive voltages (due to the car voltage controller breakdown or to the battery charger fault, for instance). Protection against short circuits or against too low loads onto speakers outputs were also introduced, as well as in case there is direct current on power signal.
Thermal protection is double: it traditionally controls heat sink temperature but also power supply transformers one.

In order to achieve the best sound quality, VRx use totally symmetrical, pure A class refined drivers made with discrete components. These are mounted onto separate printed circuit boards with heat sink; this solution guarantees optimal thermal stability.
Final stages use complementary inverted triplets of bipolar transistors. These components were judged better than mosfets since they permit to obtain more linearity with the same power.

The accurate calibration of all these designing elements allowed the limitation of feedback factor below 15dB and, thus, the achievement of outstanding sound features.

WHERE TO PUT MODULAR EXTENSIONS



VRx6.420

Front/Rear configurations

N° Ch	A Channels 2 x 65 W	B Channels 2 x 65 W	C Channels 2 x 80 W	PRE OUT Out - K3	IN SUB InS - K3	INPUTS IN1	INPUTS IN2	CONFIGURATION MODE M1	M2	M3	M4	M5	M6	MONO - STEREO MA	MB	MC
5/6	♦ HI FRONT F5	HI REAR F2	▲ SUB 24 dB F1 BRIDGE 300Wx1	▲ SUB 24 dB F1	IN SUB	Front IN (R)	Rear IN (R) →	■	▬	▬	■	▬	■	■	■	■■
5/6	♦ WOOFER FRONT F5 F4	♦ MID & TW FRONT F6	▲ SUB 24 dB F1 BRIDGE 300Wx1	HI REAR F2	IN SUB	Front	Rear → / Not used →	■ / ▬	▬	■	■	■	■	■	■	■■
6	♦ MID & TW FRONT F6	HI REAR F2	♦ WOOFER FRONT F5 F4	▲ SUB 24 dB F1	~~IN SUB~~	Front	Rear → / Not used →	■ / ▬	▬	■	■	▬	■	■	■	■
5/6	♦ MID & TW FRONT F6	▲ SUB 24 dB F1 BRIDGE 200Wx1	♦ WOOFER FRONT F5 F4	HI REAR F2	IN SUB	Front	Rear → / Not used →	■ / ▬	▬	■	■	▬	■	■	■■	■

Note:
♦ Channels are driven by PC36 (PC36 always takes signal from IN1)
▲ Sub is driven by IN1 + IN2 NO FADING SUB (with active Constant Bass)

Multichannel Configurations

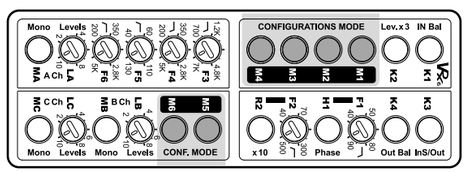
N° Ch	A Channels 2 x 65 W	B Channels 2 x 65 W	C Channels 2 x 80 W	PRE OUT Out - K3	IN SUB InS - K3	INPUTS IN1	INPUTS IN2	CONFIGURATION MODE M1	M2	M3	M4	M5	M6	MONO - STEREO MA	MB	MC
6	♦ MID FRONT F6 F3	♦ TW FRONT F2	♦ WOOFER FRONT F5 F4	▲ SUB 24 dB F1	~~IN SUB~~	Front	Sub level → / Not used →	■ / ▬	▬	■	▬	▬	■	■	■	■
5/6	♦ WOOFER FRONT F5 F4	♦ MID FRONT F6 F3	▲ SUB 24 dB F1 BRIDGE 300Wx1	TW FRONT F2	IN SUB	Front	Sub level → / Not used →	■ / ▬	▬	■	■	■	■	■	■	■■
5/6	♦ MID FRONT F6 F3	▲ SUB 24 dB F1 BRIDGE 200Wx1	♦ WOOFER FRONT F5 F4	TW FRONT F2	IN SUB	Front	Sub level → / Not used →	■ / ▬	▬	■	▬	■	■	■	■■	■

Note:
♦ Channels are driven by PC36 (PC36 always takes signal from IN1).
▲ Sub is driven by IN1 + IN2.
IN2 = **Sub level**: Sub is driven by IN1 + IN2. Fader is used to adjust sub level.
IN2 = **Not used**: Sub and Front driven by IN1.

A, B and C bridged amplifiers configurations

MA, MB and MC on position 2 (mono)

N° Ch	A Channels 1 x 200W	B Channels 1 x 200W	C Channels 1 x 300W	PRE OUT Out - K3	IN SUB InS - K3	INPUTS IN1	INPUTS IN2	CONFIGURATION MODE M1	M2	M3	M4	M5	M6	MONO - STEREO MA	MB	MC
3	HI LEFT F5	HI RIGHT F2	SUB 24 dB F1	SUB 24 dB F1	IN SUB	Left IN (R)	Right IN (R) →	■	▬	▬	■	▬	■	▬	▬	▬



■ = **Pushed switch.**
▬ = **Released switch.**
● = **Switch involved in configurations.**

GENERAL FEATURES

Conformity with "E" norms
VRx models have a RF filter which makes them suitable to the new norms about radio-frequency disturbances emission inside cars before any others. A "common mode", adequately dimensioned filter choke was inserted next to power supply input in order to prevent sudden voltage drops which commonly occur in similar circuit typologies.

Thermal limiter onto transformers
A very effective protection circuit was put onto transformers to prevent them from exceeding temperatures which might be dangerous for the amplifier integrity. This circuit intervenes by having VRx stop; the amplifier will start to function again only after the necessary cooling and reset operation (on and off again) will have to be carried out.

LNS (Line Noise Suppressor) circuit
LNS circuit allows the system low frequency disturbances rejection, reducing the ordinary noise due to car electrical parts (alternator, electronic injection, etc.). It does not affect sound and is effective in most cases. The special switch which is onto all models except VRx 6.420 (where it is not indicated since it is constantly active) permits to check if its intervention is necessary in case there are several VRx configured in cascade.

TPC.2 (Twin Power Controller) power supply stage handling system
TPC.2 allows to increase power supply stage handling speed (10 times approx.). This implies higher available impulsive power and lower stress of filter capacitors.

OCN (Off Current Null) and DVP (Damaging Voltage Protection) circuits
Thanks to OCN circuit, VRx models are the only ones to be in conformity with max absorption new standards when amplifier is off. Their value (0.00005A) makes them be 10 times below the maximum allowed limit. DVP circuit protects VRx amplifiers from voltage increases and electrostatic discharges.

Synchro-PWM power supply
Power supply stage consists of two totally separate and synchronised sections: one for positive and one for negative voltages. It is therefore possible to satisfy the final stage current demands more promptly, guaranteeing higher energy and speed with low frequencies.

Final stage driver modules: LD1.2 and DHF.1
Final stage driver modules (LD1.2 for VRx2-4-6; DHF.1 for VRx1) sum up all **audison**'s experience of amplified sound characterisation. Subjected to continuous studies and improvements, they further increase linearity and acoustic impact with low frequencies in the current VRx version.

DFL (Distortion Frequency Limiter) circuit
DFL circuit is a real electronic protection for speakers. It limits max distortion factor to 6% onto low frequencies and to 2% onto high ones. This implies constant and systematic control onto all audio range and wide safety margin for all speakers in the system.

Sub input (VRx6.420)
VRx6.420 PRE OUT output can be used as IN Sub input in order to use this model with the head units which have a third preamplified output for the subwoofer, exploiting the amplifier internal filter.

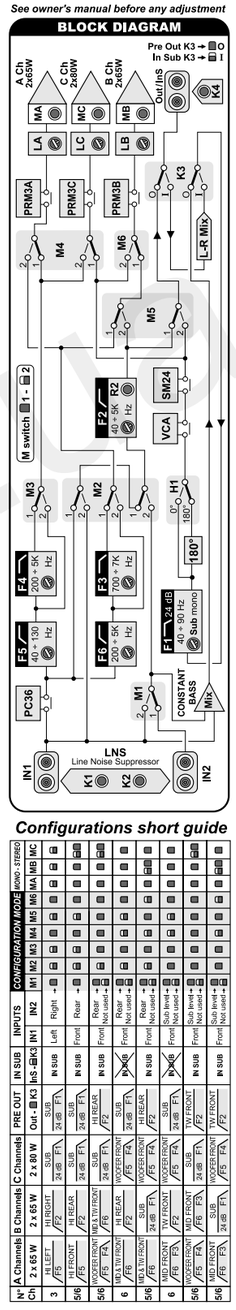
RGP input stages protection (Resettable Ground Protection)
RGP is an electronic protection able to detect high direct current passage onto input ground; it acts by putting the device in "stand by" condition (safety). The main feature of this circuit is its being able to work even when the amplifier is off, allowing the interruption of current passage towards input stages in case of power supply transformers short circuit. It perfectly guarantees the system safety since it consists of several sensors.

Three way, big size terminal block
VRx terminal block can accept cables up to 2 gauge section. A third positive pole houses the external capacitor (+C) which, thus, directly acts onto power supply voltage seen by the amplifier. This minimises voltage drop and cable overheating. Fastening screws are protected by a polycarbonate door. Inside the terminal block there is also a location for a strip fuse which can be inspected through the device bottom, that protects electronic circuitry and external capacitor. This solution allows the installation to be cleaner and the terminal block-fuse holder system to have 300A approx. max capacity.

VRx6.420

Short guide under wooden strip

It shows internal crossover, outputs configurations and controls meaning



Configurations short guide

N° Ch	A Channels	B Channels	C Channels	PRE OUT Out - K3	IN SUB In-SUB	INPUTS IN1	INPUTS IN2	CONFIGURATION MODE M1	M2	M3	M4	M5	M6	MA	MB	MC
	2 x 65 W	2 x 65 W	2 x 65 W	Out - K3	In-SUB	Left	Right	mono - stereo								
3	HI FRONT F5	LEFT F6	MID FRONT F6	SUB 24 dB F1	IN SUB	Front	Rear	+								
5/6	HI FRONT F5	HI REAR F2	WOOFER FRONT F5	SUB 24 dB F1	IN SUB	Front	Rear Not used	+								
5/6	WOOFER FRONT F5	MID & TW FRONT F6	MID & TW FRONT F6	SUB 24 dB F1	IN SUB	Front	Rear Not used	+								
6	MID & TW FRONT F6	HI REAR F2	WOOFER FRONT F5	SUB 24 dB F1	IN SUB	Front	Rear Not used	+								
5/6	MID & TW FRONT F6	SUB 24 dB F1	WOOFER FRONT F5	SUB 24 dB F1	IN SUB	Front	Sub Invrt Not used	+								
6	MID FRONT F6	TW FRONT F2	WOOFER FRONT F5	HI REAR F2	IN SUB	Front	Sub Invrt Not used	+								
5/6	WOOFER FRONT F5	MID FRONT F6	SUB 24 dB F1	SUB 24 dB F1	IN SUB	Front	Sub Invrt Not used	+								
5/6	MID FRONT F6	TW FRONT F2	WOOFER FRONT F5	TW FRONT F2	IN SUB	Front	Sub Invrt Not used	+								

VRx6 controls

10125731

K1 B *Balanced* / U *Unbalanced* — *Mono in: R only* — IN1 IN2 Bal

K2 H *0.15 ÷ 1.5V IN sensitivity range* / L *0.5 ÷ 5V* — LEVEL x3

K3 I *In Sub* (K4 → U) / O *Pre Out* (K4 → B / U) — InS Out

K4 B *Balanced* / U *Unbalanced* — *Mono out: R only* — Pre Out Bal

M1 1 / 2

M2 1 / 2

M3 1 / 2

M4 1 / 2

F1 70 (60 75 50 80 45 85 40 90) — *Sub 24 dB mono* — *- Hz -* — F1 Filter

H1 180 *180° Phase delay* / 0 *0° Phase*

F2 150 (120 200 70 300 50 400 40 500) — *12 dB stereo* — *- Hz -* — F2 Filter

R2 x10 *400 Hz ÷ 5 KHz* / x1 *40 Hz ÷ 500 Hz*

CONFIGURATION MODE

F3 2.8K (2.4K 3.5K 1.2K 4.8K 800 6K 700 7K) — *12 dB stereo* — *- Hz -* — F3 Filter

F4 1.1K (600 1.8K 350 2.8K 240 4.2K 200 5K) — *12 dB stereo* — *- Hz -* — F4 Filter

F5 90 (70 100 60 110 50 120 40 130) — *12 dB stereo* — *- Hz -* — F5 Filter

F6 1.1K (600 1.8K 350 2.8K 240 4.2K 200 5K) — *12 dB stereo* — *- Hz -* — F6 Filter

M5 1 / 2

M6 1 / 2

LB 6 (4 8 2 10) — *B ch. level* — *Range K2* — B Ch

MB M *Mono - IN Right* / S *Stereo*

LA 6 (4 8 2 10) — *A ch. level* — *Range K2* — A Ch

MA M *Mono - IN Right* / S *Stereo*

LC 6 (4 8 2 10) — *C ch. level* — *Range K2* — C Ch

MC M *Mono - IN Right* / S *Stereo*

PC36 *Continuous phase controller*

YH 85 (35 120 20 180 5 280 0 360) — *Phase adjustment* — *- Degrees -*

YB ON *PC36 on* / OFF *PC36 by-pass*

40÷200 Hz (factory preset); 200÷800 Hz; 800÷4500 Hz 3 pos. internal presets

SM24 *Subsonic mono filter*

WF 25 (23 28 20 30 16 33 14 36) — *Frequency adjustment* — *- Hz -*

WB ON *SM24 on* / OFF *SM24 by-pass*

PRM3 A - PRM3 B - PRM3 C *Parametric equaliser*

JF 70 (50 90 35 130 25 190 20 200) — *Frequency adjustment* — *- Hz -*

JM ON / OFF — *Activates JX* — *20 Hz ÷ 200 Hz*

JX x100 *2 KHz ÷ 20 KHz* / x10 *200 Hz ÷ 2 KHz*

JB ON *PRM3 on* / OFF *PRM3 by-pass*

JL 0 (-3 +3 -6 +6 -8 +8 -9 +9) — *Level adjustment* — *- dB -*

JQ 1.2 (1.15 1.5 1.1 2.5 1.05 3.4 1 4) — *Q adjustment*

A / B / C

VRx6.420

Controls and functions

Controls description

K1 - **Bal/Unbal inputs** switch.

K2 - It selects **sensitivity range** of all inputs.

K3 - **In Sub/Pre Out** switch. ABS sockets, normally used for Pre output, can be also employed as additional input for Sub.

K4 - **Bal/Unbal** switch for **PRE output**. It is possible to have a balanced output signal even with an unbalanced input one. Put **K4** on **B** (Balanced) only if **K3** is on **O** (Out)

M1, M2, ..., M6 - Switches to select the amplifier functioning modes. M1, M2 and M3 act on crossover and on inputs connection; M4, M5 and M6 act on outputs. Please see the manual in order to use them; it indicates VRx6 main functioning modes.

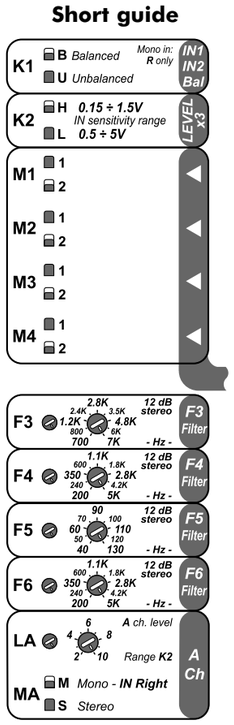
F1 - **Mono** LO-PASS filter for sub, **24dB/oct.** slope.

F2, F3, F4, F5, F6 - 12dB/oct. stereo crossover filters. The pairs (F4, F5) and (F3, F6) form two band-passes.

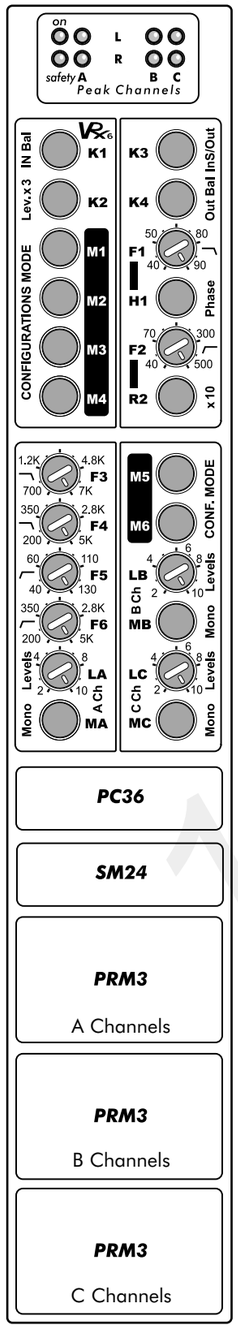
LA,LB, LC - Input **sensitivity adjustment** of A and B amplifiers pairs respectively.

MA, MB, MC - **Mono/Stereo** switches of A, B and C amplifiers respectively.

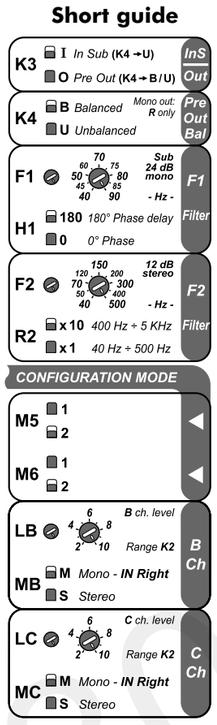
Short guide



Controls under wooden strip



Short guide



Leds

ON - Green led
It indicates the amplifier is on.

SAFETY - Red led
It indicates protection intervention: excessively high temperature or output anomalies (direct current, short circuit or dangerously low load impedance). Protection intervention stops the amplifier functioning. Switch the amplifier off; when anomaly is eliminated, switch the amplifier on again.

PEAK CHANNELS LA - LB - RA - RB - Orange leds
They light up when one or more VRx amplifiers are about to attain distortion threshold. They are useful to adjust inputs sensitivity.

audison

2000 EDITION

VRx MODULAR EXTENSIONS:
CONTROL EXTENSIONS

- PRM3 stereo parametric equaliser

- SM24 24dB/oct. mono subsonic filter

- PC36 360° phase controller

- DSC1 sub dynamic control

- VCRDK digital remote volume control kit
(VCA1D module + VCRD adjuster)

- VCA1D VCA1D module VRx - BTX2

- MAC2 forced air modulated cooling system
(2 fans with spacers to put into Terminals and Raccords, plus TFC control module)

- BTX2 stereo balancer/preamplifier

WARNING!
Apply to Audison's specialised installation centres for the installation and configuration of modular extensions described in this section

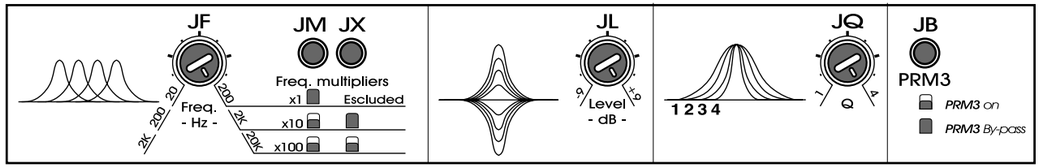
VRx Control Extensions

PRM3 One band stereo parametric equaliser with frequency, gain and bandwidth (Q) control.

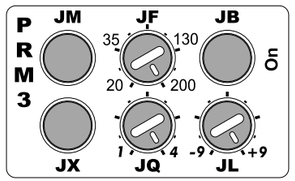
Stereo parametric equaliser

Frequencies ranges: 20Hz÷200Hz; 200Hz÷2KHz; 2 kHz÷20KHz
Gain: ± 9 dB
Q adjustment: 1÷4

Functions diagram

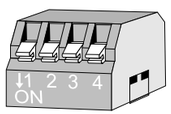


Controls panel



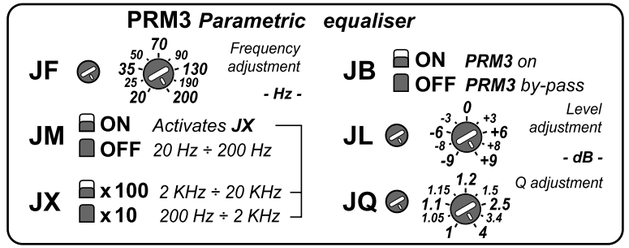
VRx1 and VRx2 amplifiers can use one PRM3 module; VRx4 amplifiers can use two; VRx6 amplifiers can use three. This allows the insertion of a parametric equalisation on each way of a multiamplified system made with VRx amplifiers.

Warning: There is a DIP Switch to be set on **ON** into PRM3.1 modules.



DIP Switch

Short guide



Controls description

JF - Frequency adjustment.
JM - Switch for activating frequency ranges multiplier.
JB - Active **(ON)**/BYPASS **(OFF)** switch.
JX - Frequency ranges switch.
JL - Level adjustment.
JQ - Q adjustment.

VRx Control Extensions

SM24 Monophonic subsonic filter for subwoofer.

Mono subsonic filter

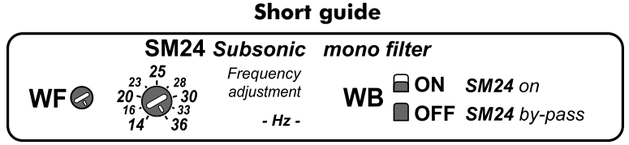
24dB/oct. HI-PASS
Frequency range: 14 Hz ÷ 36 Hz

Controls panel

SM24 is monophonic since it was designed in order to be used with subwoofer.
It **only acts on the Right channel** of preamplified signal, therefore:
• the amplifier it drives must be configured in **mono**;
• if its output is sent to an external amplifier (possible solution with VRx4 and VRx6), **only the Right Channel** of pre output must be used.

Functions diagram

Short guide

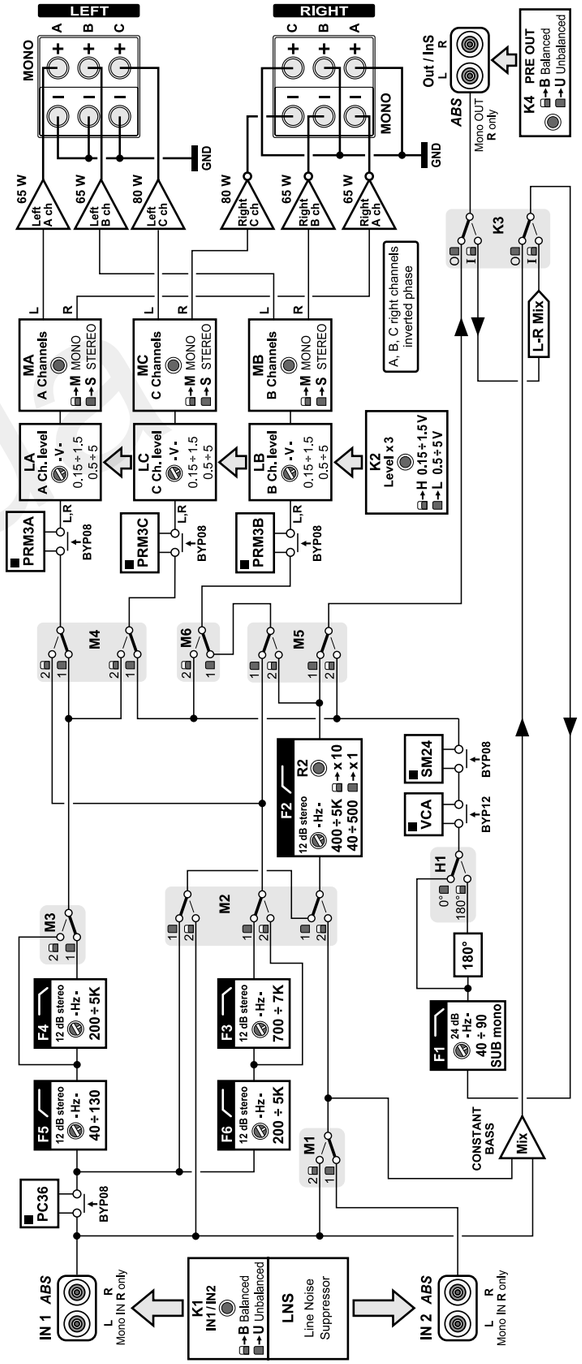


Controls description

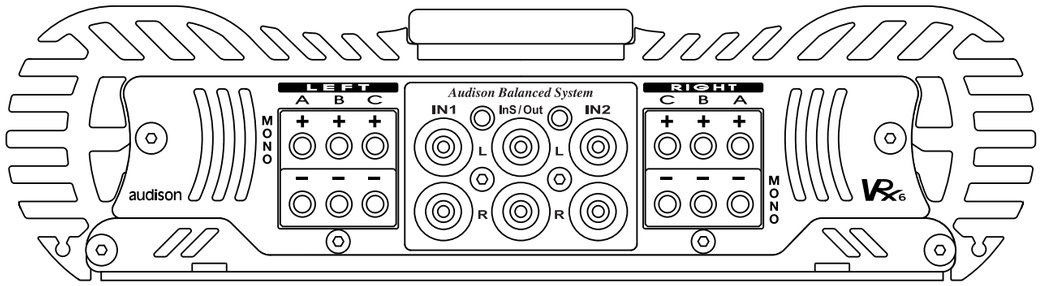
WF - Frequency adjustment.
WB - SM24 ACTIVE **(ON)**/BYPASS **(OFF)** switch.

VRx6.420

Block diagram



VRx6.420



Technical features

POWER SUPPLY . . . . . .11 ÷ 15 VDC
IDLING CURRENT . . . . . .2.6 A
IDLING CURRENT WHEN OFF . . . . . .< 0.04 mA
CONTINUOUS NOMINAL POWER Tol.: (+10%/-5%); 0.3% THD; 12 VDC
A,B,C stereo ch. on 4 Ohms . . . . . .2x65W + 2x65W + 2x80 (RMS)
CONTINUOUS POWER 6 CHANNELS Tol.: (+10%/-5%); 1% THD; 12.6 VDC
A,B,C stereo ch. on 4 Ohms . . . . . 2x75W + 2x75W + 2x85 (RMS)
CONTINUOUS POWER 6 CHANNELS Tol.: (+10%/-5%); 1% THD; 13.8 VDC
1) A,B,C stereo ch. on 4 Ohms . . . . . .2x75W + 2x75W + 2x85 (RMS)
2) A,B,C stereo ch. on 2 Ohms . . . . . .2x120W + 2x120W + 2x150 (RMS)
3) A,B stereo ch. on 4 Ohms, C stereo ch. on 2 Ohms . . . . . .2x75W + 2x75W + 2x165 (RMS)
4) A,B stereo ch. on 4 Ohms, C stereo ch. on 1 Ohm . . . . . .2x75W + 2x75W + 2x250 (RMS)
CONTINUOUS POWER 5 CHANNELS Tol.: (+10%/-5%); 1% THD; 13.8 VDC
5) A,B stereo ch. on 4 Ohms, C bridged ch. on 4 Ohms . . . . . .2x75W + 2x75W + 1x330 (RMS)
6) A,B, stereo ch. on 4 Ohms, C bridged ch. on 2 Ohms . . . . . .2x75W + 2x75W + 1x500 (RMS)
7) A,B stereo ch. on 2 Ohms, C bridged ch. on 2 Ohms . . . . . .2x110W + 2x110W + 1x430 (RMS)
CONTINUOUS POWER 3 CHANNELS Tol.: (+10%/-5%); 1% THD; 13.8 VDC
8) A,B,C bridged ch.on 4 Ohms . . . . . .1x240W + 1x240W + 1x300 (RMS)
9) A,B bridged ch. on 4 Ohms, C bridged ch. on 2 Ohms . . . . . .1x220W + 1x220W + 1x430 (RMS)
THD DISTORTION (1 kHz; 90% Nominal Power) 0.02%
IMD DISTORTION (90% Nominal Power) 0.04%
BANDWIDTH (-3dB; Nominal Power) . . . . . .2 Hz ÷ 70 kHz
S/N RATIO (A weighed - 1 VRMS input) . . . . . .100 dBA
REMOTE IN . . . . . .7 ÷ 15 VDC
REMOTE OUT . . . . . .12 VDC - 150 mA
INPUT SENSITIVITY (high) . . . . . .0.15 ÷ 1.5 VRMS
INPUT SENSITIVITY (low) . . . . . .0.50 ÷ 5.0 VRMS
INPUT IMPEDANCE . . . . . .15 kOhms
LOAD IMPEDANCE (stereo) ch.A and ch.B . . . . . .8 - 4 - 2 Ohms
LOAD IMPEDANCE (bridged) ch.A and ch.B . . . . . .8 - 4 Ohms
LOAD IMPEDANCE (stereo) ch.C . . . . . .8 - 4 - 2 -1 Ohm
LOAD IMPEDANCE (bridged) ch.C . . . . . .8 - 4 - 2 Ohms
SIZE (W x H x D) mm. . . . . .240 x 64 x 585
SIZE (W x H x D) inches . . . . . .9.4 x 2.5 x 23
INTERNAL FUSE 80A

ABSORBED CURRENT AT MAXIMUM MUSICAL POWER - EXTERNAL FUSE CHOICE
13.8V - configuration 1) 33A
13.8V - configurations 2) and 8) 64A
13.8V - configurations 3) and 5) 47A
13.8V - configurations 4) and 6) 66A
13.8V - configurations 7) and 9) 80A

Measures were realised through a test-set consisting of Rohde & Schwarz UPD audio analyser, HP 6453A power supply (200A continuous) and 14F capacitive booster made with ***audison cable*** **Superfarad** capacitors.

Please always choose a fuse of equal or slightly higher value (max 10%) than indicated.

Note:
The use of MAC2 cooling system is strongly recommended when the amplifier is employed at full power with 1 Ohm stereo or 2 Ohm bridged loads.

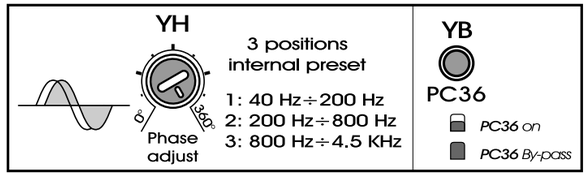
VRx Control Extensions

PC36 Analogue phase controller acting on the higher frequencies of a multiamplified audio chain.

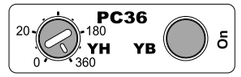
360° phase controller

Phase range: 0°÷360°
Frequencies ranges: 40Hz÷200Hz; 200Hz÷800Hz; 800Hz÷4,5kHz

Functions diagram



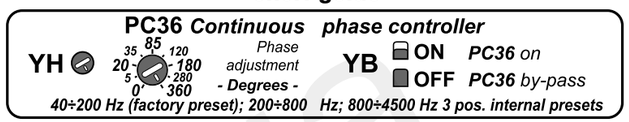
Controls panel



Controls description

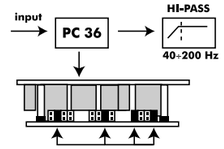
YH - Phase adjustment.
YB - Switch: PC36 ACTIVE **(ON)**/BYPASS **(OFF).**

Short guide

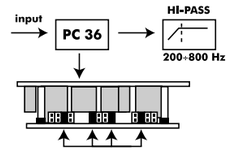


PC36 module is able to vary relative phase between two ways of a multiamplified system. Its purpose is to make the emission of a speakers system, located in different places in car, more homogeneous. Generally speaking, PC36 module allows you to put the HI-PASS filtered way with electronic crossover in phase with regards to the one which is LO-PASS filtered in a bi-amplified system. It is possible to use two PC36 in a three way amplified system: one to align tweeters with regards to midwoofers and one to align midwoofers with regards to subwoofer.
Used into VRx4 and VRx6, PC36 allows the front system phase alignment with regards to subwoofer. Applied into VRx2 and VRx1, it permits to put all crosses of a multiamplified system in phase if it is used together with HI-PASS sections of HL12, HL24, BH12 modules or with BAND-PASS sections of BH12.

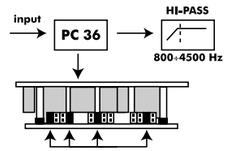
PC36 frequency range must be set according to the cut-off frequency chosen for HI-PASS filter it must be used with.



Freq. range 40Hz÷200Hz

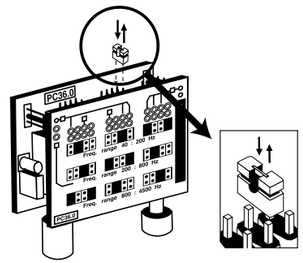


Freq. range 200Hz÷800Hz



Freq. range 800Hz÷4.5kHz

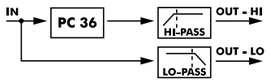
Pre-select frequencies ranges through jumpers according to cut-off frequencies of the HI-PASS filter it is used with. PC36 is originally set on 40 ÷ 200 Hz.



WARNING

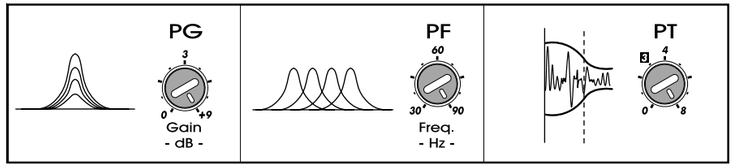
The use of PC36 into VRx1 and VRx2 depends on the installation of HL12, BH12, HL24 multichannel extensions, since PC36 acts only on HI-PASS section.

Where PC36 acts:

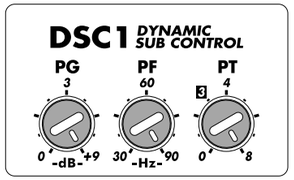


Dynamic Sub Control

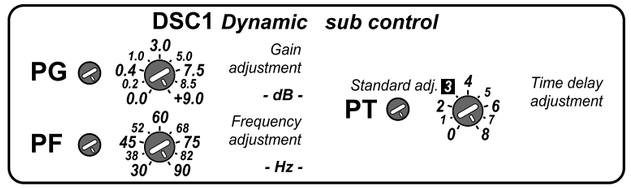
Functions diagram



Controls panel



Short guide



It is a parametric pole which permits to make up for subwoofers volumetric inadequacy by having their low frequencies gain extent and impact.
DSC1 adjusts its intervention by increasing it at low signal levels and avoiding the amplifier saturation. Its controls allow to choose frequency, intervention and gain.

Controls description

PG- Gain adjustment
PF - Frequency adjustment
PT - Time delay adjustement

audison

2000 EDITION **VRx6.420**

VRx Control Extensions VCRDK and VCA1D

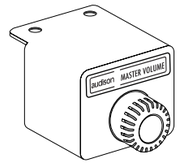
Kit for sub remote volume control, supplied with VCA (Voltage Controlled Amplifier) with digital control.

Digital remote volume control kit

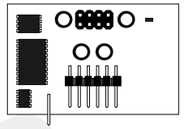
VCRDK

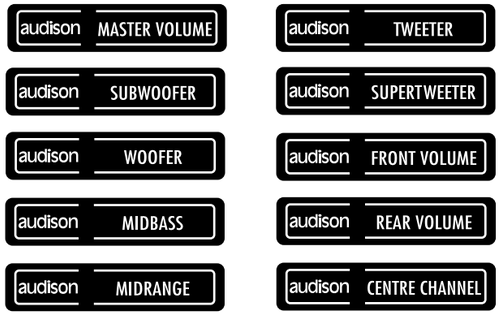
It consists of VCRD adjuster and of VCA1D, a high performances digital control module. It can be used to adjust the volume of sub or of every VRx amplifier in the system. If it is installed into BTX2, it permits to realise Master Volume Control. Thanks to a single VCRD adjuster connected to the main BTX2 (Master), supplied with VCA1D module (VCRKD kit), it is possible to adjust the volume of other stereo ways through as many secondary BTX2 (Slave) connected in cascade and supplied with VCA1D modules. **VCA1D modules are available also individually**. Master Volume Control configuration is necessary when you want to have volume independent general adjustment in multichannel systems for Front, Rear and Sub outputs of head units supplied with them. The control microprocessor permits to store and recall a level; this function is useful to keep the reference calibration in a multiamplified system, for instance. If the latter totally consists of VRx1 or VRx2 amplifiers, the installation of one VCRDK for every amplifier would allow the level adjustment of each way of the system. Some stickers allow VCRD customisation according to its function. It is also possible to remove its housing in order to easily mount it behind a panel, while VCRD front panel stays visible.

VCRD



VCA1D



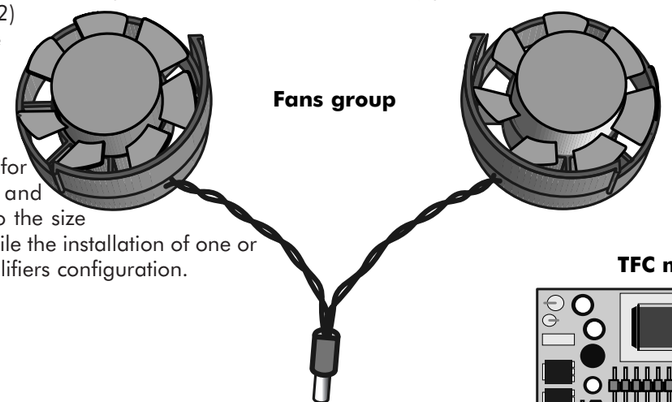


VRx Control Extensions MAC2

System temperature control kit.

Forced air cooling system

It consists of a cooling group formed by a pair of fans with spacers and by a temperature control module (TFC) to put inside VRx amplifiers.
The fans group is placed inside Raccords and Terminals and adapted to several lengths through spacers. VRx amplifiers have a power supply connector dedicated to the cooling group under the power supply terminal blocks panel. Raccords and Terminals act as ducts for cooling air and have the esthetical function of covering connection cables. One terminal (TRM4, TRM6) with MAC2 kit is enough for the cooling system correct functioning. If you like to put two VRx one after the other, you have to use a suitably long Raccord (RC08, RC10, RC12) which, if necessary, can also be supplied with MAC2, installed into the second VRx. The end of the second VRx (inputs and warm air output side) is able to accept another Terminal (TRM4, TRM6) for esthetical reasons. Raccords and Terminals are chosen according to the size of used cables and connectors, while the installation of one or more MAC2 depends on VRx amplifiers configuration.

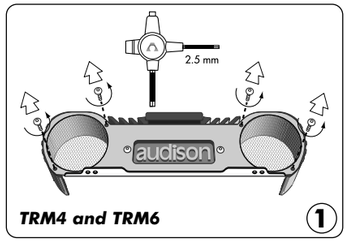


Fans group insertion inside Terminals and Raccords

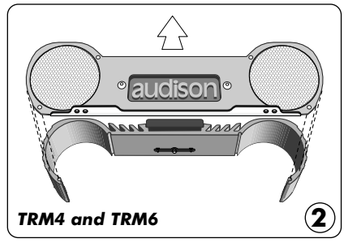
INSTRUCTIONS
Put the Terminal or the Raccord onto a flat surface. (As far as Terminals are concerned, the side with grilles must be facing upwards). Remove the front plate fixed through four screws by using multispanner supplied with the devices (pict. 1 and 2). Place the fans groups onto the flat surface and push them in order to insert them inside the extension body you are using, so that the fans group support guides snap into the slots (pict. 3).

Warning!: Do not push hard onto the fans wheel while mounting the fans group.

General procedure for insertion inside Terminals

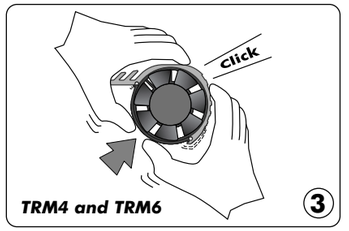


TRM4 and TRM6 ①

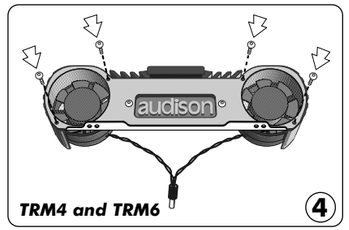


TRM4 and TRM6 ②

After inserting the fans, mount Terminals front plate back again (pict. 4). If parts were assembled in the right way, the fans wheels will be in the same side as the grilles of the plate itself.

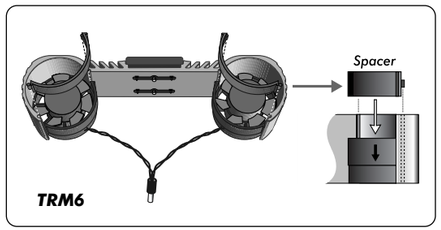


TRM4 and TRM6 ③



TRM4 and TRM6 ④

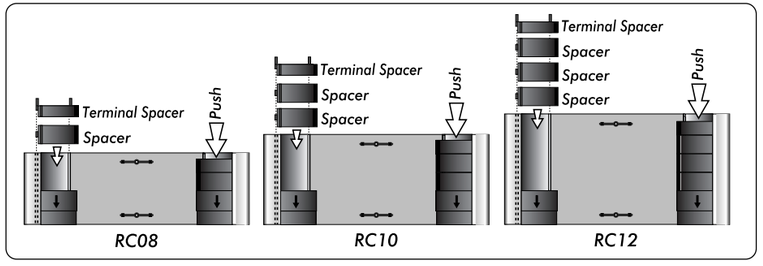
Remark for TRM4:
Do not turn the Terminal body while mounting it. Its correct direction is when the screw in the wooden strip is closer to the flat surface the terminal lies onto (pict. 2).



TRM6

Remark for TRM6:
Insert the special spacers inside TRM6 in order to avoid air flux dispersion by making them slide onto the terminal proper slots until they touch the fans.

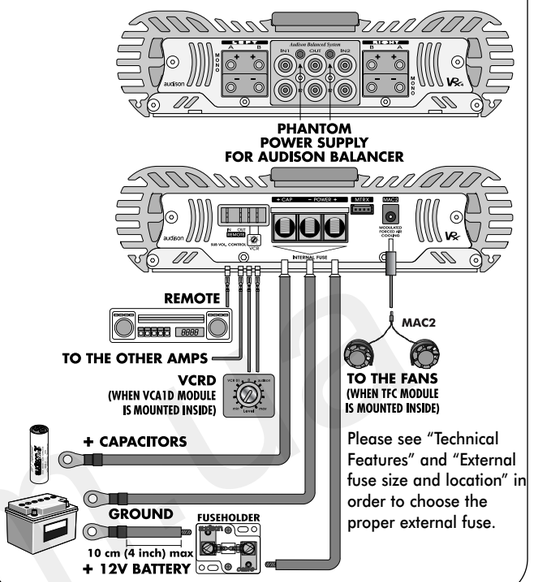
General procedure for insertion inside Raccords



Remark for Raccords:
Insert the fans and a sufficient number of spacers into the Raccord by making them slide onto the proper slots, in order to avoid air flux dispersion. The last spacer must always be a Terminal Spacer.

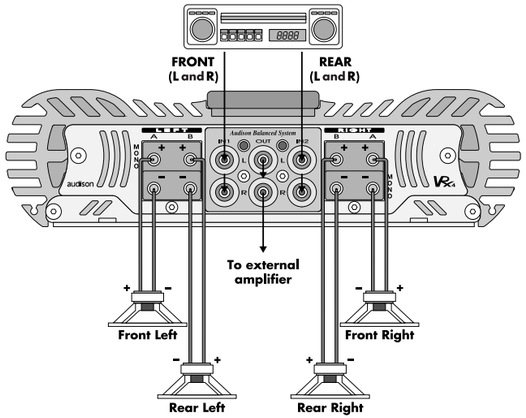
VRx4.300 connections

Power supply, remote and accessories

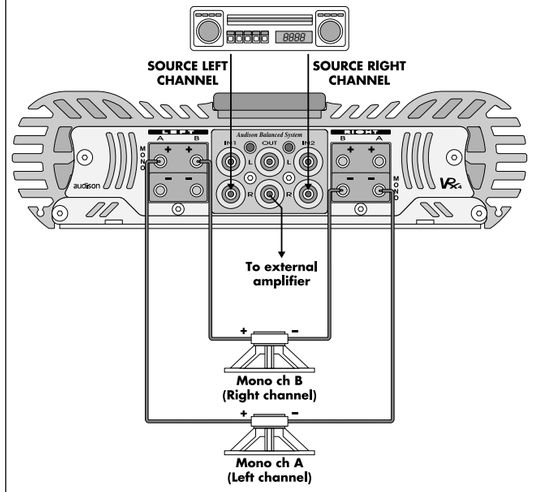


Please see "Technical Features" and "External fuse size and location" in order to choose the proper external fuse.

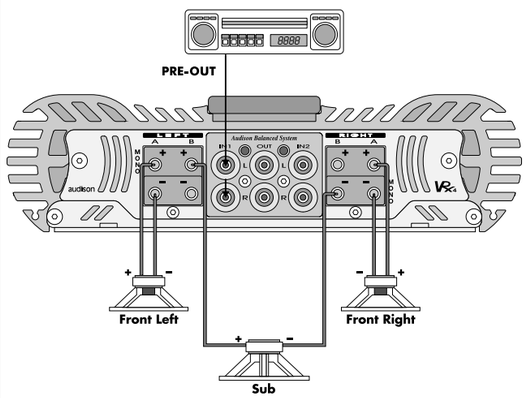
Inputs and outputs: stereo connection



Inputs and outputs: bridge connection

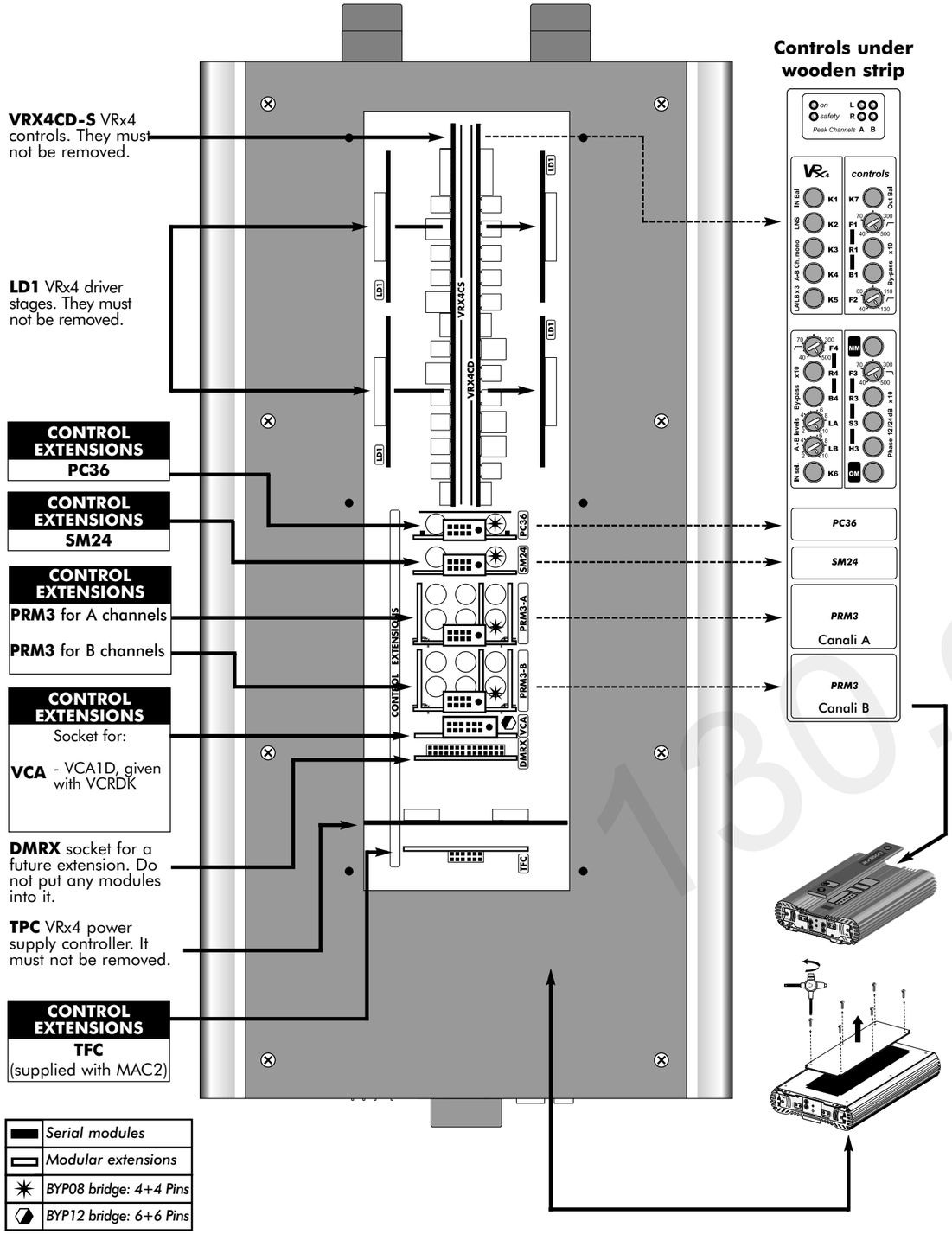


Inputs and outputs: Front + Sub



WHERE TO PUT MODULAR EXTENSIONS

VRx4.300



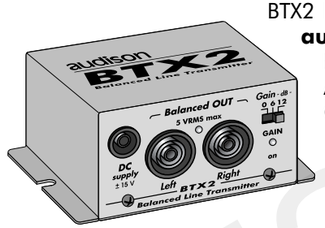
VRx Control Extensions — BTX2

Stereo balancer/preamplifier with audison ABS system.

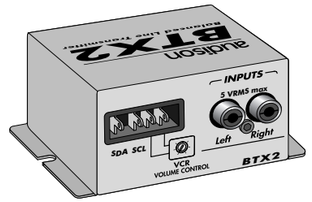
Stereo balancer/preamplifier

FEATURES

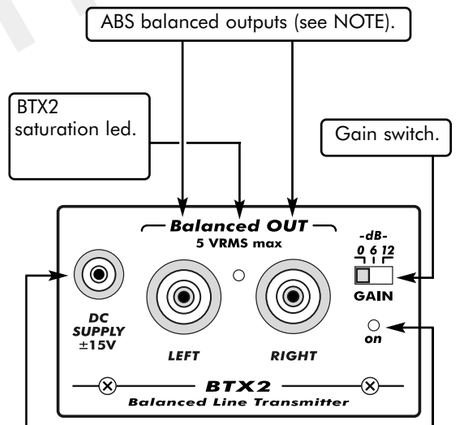
BTX2 is a device which allows you to change a pre output of an ordinary head unit into a balanced output with **audison ABS** system. In this way it is possible to realise an ABS balanced connection between signal source and amplifier input by using **audison cable ABS** extensions.



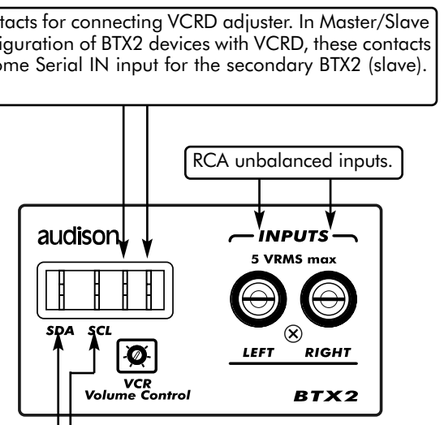
BTX2 has got **phantom power supply**: it is therefore necessary to connect it to **audison VRx** amplifiers proper output through **PH450** cable (given with BTX2). BTX2 has a three-step gain control, in order to interface with various sources. A led indicates outputs saturation (clipping). BTX2 allows also **Remove Volume Control** function, which permits to adjust the level of a stereo or a mono line. In order to activate this function, you need to use the VCR (Remote Volume Control) kits: VCRDK.



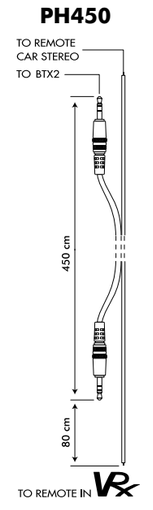
Front panel



Rear panel



PH450



PH150(150cm) and **PH650**(650cm) are available in **audison cable** line, besides **PH450**(450cm)

NOTE:
It is necessary to insert an ABS JACK (**audison cable**) in order to get a balanced signal. It is possible to have an unbalanced signal by inserting a standard PIN RCA into ABS sockets. In this case, output voltage value decreases; it can be increased again through GAIN switch.

VRx4.300

24dB/oct. Mono SUB filter slope configurations

K6= ▯ ***2 INPUTS: IN1*** *Front L and R inputs,* ***IN2*** *Rear L and R inputs; non fading sub.**
K6= ▮ ***1 INPUT: IN*** *L and R inputs,* ***IN2*** *not used; sub mix R+L.*

S3 *(12-24dB/oct. SUB filter slope switch)* = ▮ ***K4*** *(MONO/STEREO switch of B channels)* = ▮
K3 *(MONO/STEREO switch of A channels)* = ▯ ***R3*** *(F3 x 1/x10 LO-PASS frequency switch)* = ▯

Power Outputs	STEREO loudspeakers outputs	MONO loudspeakers outputs	STEREO line outputs	Switch config.	
N°	Ch "A" amps.	Ch "B" amps.	PREAMPLIFIED	MM	OM
3	HI FRONT B1 Filter Bypass / F1 40 Hz ÷ 5 kHz Power: 75 W + 75 W	SUB MONO 24 dB F3 40 Hz ÷ 500 Hz Power: 250W	HI REAR B4 Filter Bypass / F4 40 Hz ÷ 5 kHz	▮	▯

K6 = ▯ ***2 INPUT: IN1*** *input Front L e R,* ***IN2*** *input Rear L e R; non fading sub.**
K6 = ▮ ***1 INPUT: IN1*** *input L e R,* ***IN2*** *not used; sub mix R+L.*

S3 *(12-24dB/oct. SUB filter slope switch)* = ▮ ***K4*** *(MONO/STEREO switch of B channels)* = ▯
K3 *(MONO/STEREO switch of A channels)* = ▯ ***R3*** *(F3 x 1/x10 LO-PASS frequency switch)* = ▯

Power Outputs	STEREO loudspeakers outputs		Signal out on RIGHT ch. (LEFT not used)	Switch config.	
N°	Ch "A" amps.	Ch "B" amps.	PREAMPLIFIED	MM	OM
4	HI FRONT B1 Filter Bypass / F1 40 Hz ÷ 5 kHz Power: 75 W + 75 W	HI REAR B4 Filter Bypass / F4 40 Hz ÷ 5 kHz Power: 75 W + 75 W	SUB MONO 24 dB F3 40 Hz ÷ 500 Hz	▮	▮

K6 = ▯ ***INPUTS:*** *use* ***IN1 (R)*** *for Left ch, use* ***IN2 (R)*** *for Right ch.*

S3 *(12-24dB/oct. SUB filter slope switch)* = ▮ ***K4*** *(MONO/STEREO switch of B channels)* = ▮
K3 *(MONO/STEREO switch of A channels)* = ▮

Power Outputs	MONO loudspeakers outputs		MONO line outputs (LEFT not used)	Switch config.	
N°	Ch "A" amps. Left section	Ch "B" amps. Right section	PREAMPLIFIED	MM	OM
2	HI-PASS B1 Filter Bypass / F1 40 Hz ÷ 5 kHz Power: 250 W	HI-PASS B4 Filter Bypass / F4 40 Hz ÷ 5 kHz Power: 250 W	SUB MONO 24dB (RIGHT) F3 40 Hz ÷ 500 Hz	▮	▮

* *with active Constant Bass*

VRx4.300
12dB/oct. SUB filter slope configurations

* **Warning**: Using B channels in Mono (K4 = ▣) with 12dB/Oct. filter, signal for sub depends on Right input. If you move Balance onto the Left channel in this condition, sub will not play. It is therefore necessary to set B channels in stereo (K4 = □) in order to obtain the sum between Left and Right.

K6= □ ***2 INPUTS: IN1*** *Front L and R inputs,* ***IN2*** *Rear L and R inputs; non fading sub.**
K6= ▣ ***1 INPUT: IN1*** *L and R inputs,* ***IN2*** *not used.*

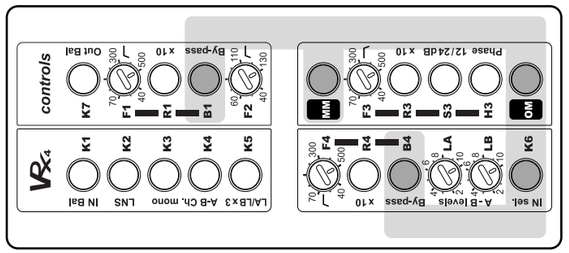
S3 *(12-24dB/oct. SUB filter slope switch)* = □ ***K4*** *(MONO/STEREO switch of B channels)* = □
K3 *(MONO/STEREO switch of A channels)* = □

Power Outputs	***STEREO loudspeakers outputs***		***STEREO line outputs***	***Switch config.***	
N°	***Ch "A" amps.***	***Ch "B" amps.***	***PREAMPLIFIED***	***MM***	***OM***
4	**MID-HI FRONT** B1 F1 Filter Bypass 40 Hz ÷ 5 kHz Power: 75 W + 75 W	**WOOFER FRONT** F2 F3 40 Hz ÷ 130 Hz 40 Hz ÷ 5 kHz Power: 75 W + 75 W	**HI REAR** B4 F4 Filter Bypass 40 Hz ÷ 5 kHz	□	□
4	**MID-HI FRONT** B1 F1 Filter Bypass 40 Hz ÷ 5 kHz Power: 75 W + 75 W	**HI-REAR** B4 F4 Filter Bypass 40 Hz ÷ 5 kHz Power: 75 W + 75 W	**WOOFER FRONT** F2 F3 40 Hz ÷ 130 Hz 40 Hz ÷ 5 kHz	□	▣
4	**HI FRONT** B1 F1 Filter Bypass 40 Hz ÷ 5 kHz Power: 75 W + 75 W	**HI REAR** B4 F4 Filter Bypass 40 Hz ÷ 5 kHz Power: 75 W + 75 W	**SUB** F3 40 Hz ÷ 5 00 Hz	▣	▣
3/4	**HI FRONT** B1 F1 Filter Bypass 40 Hz ÷ 5 kHz Power: 75 W + 75 W	**SUB** F3 40 Hz ÷ 5 00 Hz Power: 250W (Mono) 75W+75W (Stereo)	**HI REAR** B4 F4 Filter Bypass 40 Hz ÷ 5 kHz	▣	□

K6 = □ ***INPUTS:*** *use* ***IN1 (R)*** *for Left ch, use* ***IN2 (R)*** *for Right ch.*

S3 *(12-24dB/oct. SUB filter slope switch)* = □ ***K4*** *(MONO/STEREO switch of B channels)* = ▣
K3 *(MONO/STEREO switch of A channels)* = ▣

Power Outputs	***MONO loudspeakers outputs***		***MONO line outputs***	***Switch config.***	
N°	***Ch "A" amps.*** *Left section*	***Ch "B" amps.*** *Right section*	***PREAMPLIFIED***	***MM***	***OM***
2	**HI-PASS** B1 F1 Filter Bypass 40 Hz ÷ 5 kHz Power: 250 W	**HI-PASS** B4 F4 Filter Bypass 40 Hz ÷ 5 kHz Power: 250 W	**SUB** F3 40 Hz ÷ 500 Hz	▣	▣



▣ = **Pushed switch**
□ = **Released switch**
B1 = F1 filter BYPASS
B4 = F4 filter BYPASS
F1 = HI-PASS filter
F2 = HI-PASS filter of woofer BAND-PASS (MM= □), it does not work if MM= ▣
F3 = LO-PASS filter of woofer BAND-PASS (MM= ▣) or subwoofer LO-PASS filter (MM= □)
F4 = HI-PASS filter

audison

2000 EDITION

VRx MODULAR EXTENSIONS:
MULTICHANNEL EXTENSIONS
(only for models: VRx1.500, VRx2.150, VRXx2.250 and VRx2.400)

- **HL12 12 dB HI/LO-PASS crossover**
- **BH12 12 dB BAND/HI-PASS crossover**
- **LM24 24 dB LO-PASS MONO crossover**
- **HL24 12/24 dB HI/LO-PASS crossover**
- **BSA1 stereo balanced pre out repeater**

WARNING!
Apply to Audison's specialised installation centres for the installation and configuration of modular extensions described in this section

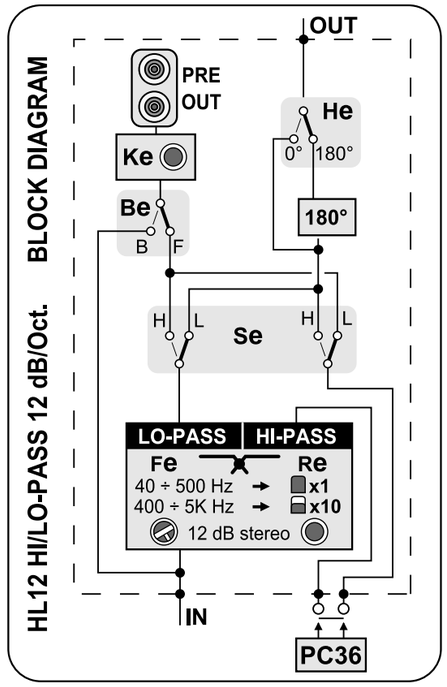
VRx1 - VRx2 Multichannel Extensions HL12

Crossover module for VRx1 and VRx2, with non independent HI/LO-PASS crossover frequency.

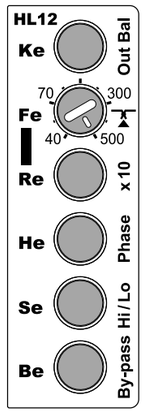
Crossover

12dB/oct. HI-PASS/LO-PASS
Frequencies ranges: 40 Hz ÷ 500 Hz; 400 Hz ÷ 5 kHz

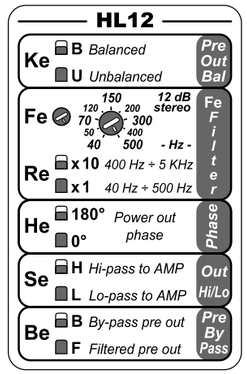
Block diagram



Controls panel



Short guide



Sticker to put onto VRx1 and VRx2 short guide together with Block Diagram one

Controls description

Ke - BALANCED **(B)**/UNBALANCED **(U)** switch for PRE OUT output.
Fe - 12dB/oct. HI/LO-PASS crossover frequency adjustment.
Re - Fe x 10 **(x10)**/x1 **(x1)** frequency switch.
He - 0° **(0°)**/180° **(180°)** phase shifting switch for amplifier output.
Se - HI-PASS **(H)**/LO-PASS **(L)** switch for PRE OUT output.
Be - BYPASS **(B)**/FILTERED **(F)** switch for PRE OUT output.

Module description

Filter slope: 12dB/oct. Continuous adjustment through 2 steps: 40÷500Hz; 400÷5000Hz. HL12 adds one ABS PRE output to the amplifier it is installed into.

Features

Installed into VRx1 or VRx2, HL12 permits to drive stereo/mono SUB section with 12dB cut. HI-PASS output permits to drive an amplifier without crossover (non independent crossover frequency). The BYPASS output of the first amplifier allows the independent control of HI-PASS frequencies by adding a VRx2 supplied with another HL12. In combination with another VRx2 supplied with HL12, the use of HI-PASS output also allows the creation of BAND-PASS sections.

Uses

HL12 is a very versatile and polyvalent module. It can be used in the simplest bi-amplified systems, in REAR section or in high performances multiamplified systems. According to VRx philosophy, it is the "factotum" you have to keep at hand, because it is always possible to filter a system through it. It is the ideal partner for VRx2 and LM24.

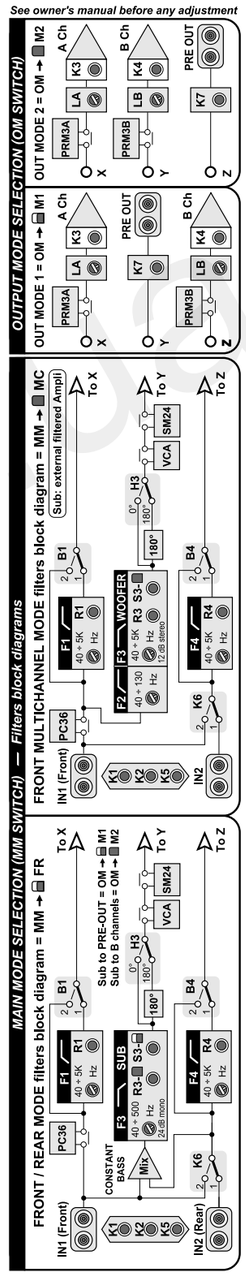
Possible configurations

OUT	*PRE-OUT*	*Se HI/LO-PASS*	*Be BYPASS*
Fe 12 dB/oct.	Fe 12 dB/oct.	■	■
Fe 12 dB/oct.	Bypass	■	□
Fe 12 dB/oct.	Fe 12 dB/oct.	□	■
Fe 12 dB/oct.	Bypass	□	□

VRx4.300

Short guide under wooden strip

It shows internal crossover, outputs configurations and controls meaning



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VRx4 controls

K1 B Balanced / U Unbalanced — Mono in: *R only* — *IN1 IN2 Bal*
K2 OFF / ON — *Line Noise Suppressor* — *LNS*
K3 M Mono - *IN1 Right* / S Stereo — *A Ch*
K4 M Mono - *IN2 Right* / S Stereo — *B Ch*
K5 H *0.15 ÷ 1.5V* / L *0.5 ÷ 5V* — *IN sensitivity range* — *LEVEL x3*
K6 2 *IN2 input not used* / 1 *IN1 Front; IN2 Rear* — *IN Sel.*
K7 B Balanced / U Unbalanced — Mono out: *R only* — *Pre Out Bal*

F1 150 200 120 70 300 50 400 40 500 - Hz - — 12 dB stereo — *F1 Filter*
R1 x 10 *400 Hz ÷ 5 KHz* / x 1 *40 Hz ÷ 500 Hz*
B1 2 *Filter by-pass* / 1 *Filter active*
F2 90 70 100 60 110 50 120 40 130 - Hz - — 12 dB stereo — *F2 Filter*

Main mode selection - MM

F4 150 200 120 70 300 50 400 40 500 - Hz - — 12 dB stereo — *F4 Filter*
R4 x 10 *400 Hz ÷ 5 KHz* / x 1 *40 Hz ÷ 500 Hz*
B4 2 *Filter by-pass* / 1 *Filter active*
LA 6 4 8 2 10 — *A ch. level* — Range *K5* — *A Ch*
LB 6 4 8 2 10 — *B ch. level* — Range *K5* — *B Ch*

MM FR *Front - Rear mode* / MC *Multichannel mode*
F3 150 200 120 70 300 50 400 40 500 - Hz - — 12dB stereo 24dB mono — *F3 Filter*
R3 x 10 *400 Hz ÷ 5 KHz* / x 1 *40 Hz ÷ 500 Hz*
S3 24 *24 dB/Oct. mono* / 12 *12 dB/Oct. stereo* — *Use S3=24 only with R3=x1 and K4=M*
H3 180 *180° Phase delay* / 0 *0° Phase*
OM M1 *Output mode 1* / M2 *Output mode 2*

Out mode selection - OM

PC36 *Continuous phase controller*
YH 85 35 120 20 180 5 280 0 360 — *Phase adjustment* — *- Degrees -* — *40÷200 Hz (factory preset); 200÷800 Hz; 800÷4500 Hz 3 pos. internal presets*
YB ON *PC36 on* / OFF *PC36 by-pass*

SM24 *Subsonic mono filter*
WF 25 23 28 20 30 16 33 14 36 — *Frequency adjustment* — *- Hz -* — *SM24 output: bridged amp (OM on M2)*
WB ON *SM24 on* / OFF *SM24 by-pass* — *or PRE OUT Right Channel (OM on M1)*

PRM3 A - PRM3 B *Parametric equaliser*
JF 70 50 90 35 130 25 190 20 200 — *Frequency adjustment* — *- Hz -*
JB ON *PRM3 on* / OFF *PRM3 by-pass* — *A*
JM ON / OFF — *Activates JX* — *20 Hz ÷ 200 Hz*
JX x100 *2 KHz ÷ 20 KHz* / x10 *200 Hz ÷ 2 KHz*
JL 0 -3 +3 -6 +6 -8 +8 -9 +9 — *Level adjustment* — *- dB -*
JQ 1.2 1.15 1.5 1.1 2.5 1.05 3.4 1 4 — *Q adjustment* — *B*

VRx4.300

Controls and functions

Controls description

K1 - Bal/Unbal inputs switch.

K2 - LNS circuit **ON/OFF** switch for line noise suppression.

K3, K4 - Mono / Stereo switch for A and B amplifiers pairs respectively.

K5 - It selects **sensitivity range** of all inputs.

LA, LB - Input **sensitivities adjustment** of A and B amplifiers pairs respectively.

K6 - 1/2 inputs pairs switch.

K7 - Bal/Unbal switch for PRE output. It is possible to have a balanced output signal even with an unbalanced input one.

F2 - Filter used only in **Multichannel** mode in order to have a BAND-PASS.

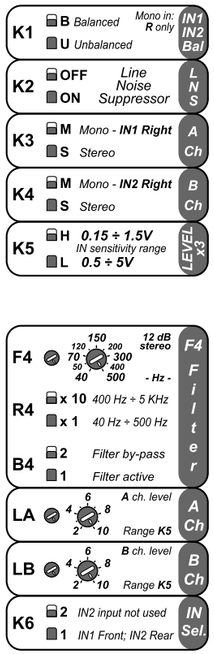
F3 - LO-PASS filter which can be set at **24dB/oct. slope ONLY in mono configuration**, 40-500 Hz range, for subwoofer (**F/R** mode).

MM and OM - They select **internal crossover functioning modes**. Please see VRx block diagram and uses in order to understand how they act.

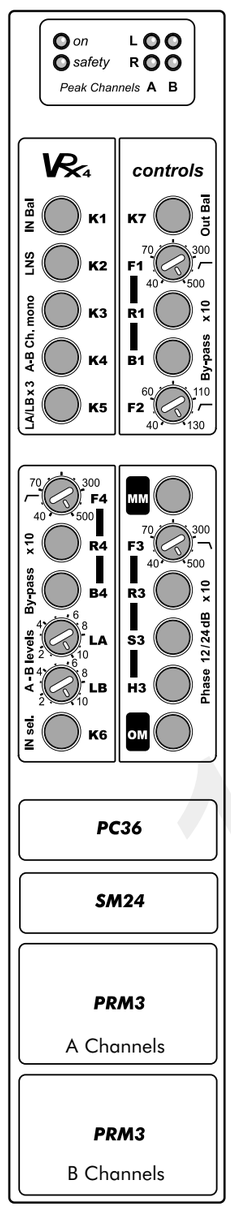
Warning: -
When SM24 is used for B Channels, the latter will have to be configured in mono. **K4** must be put onto **Mono**.

Note: In case of installations with more amplifiers connected in cascade, we recommend to put **K2** onto **ON** in the device which receives the signal from the head unit, leaving it onto **OFF** in the others.
If disturbance persists, please try to activate **LNS** anti-noise circuit also in the other amplifiers.

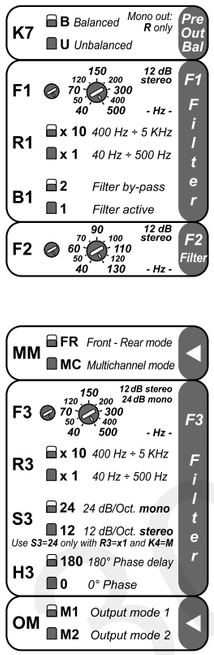
Short guide



Controls under wooden strip



Short guide



Leds

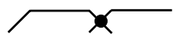
ON - Green led
It indicates the amplifier is on.

SAFETY - Red led
It indicates protection intervention: excessively high temperature or output anomalies (direct current, short circuit or dangerously low load impedance). Protection intervention stops the amplifier functioning. Switch the amplifier off; when anomaly is eliminated, switch the amplifier on again.

PEAK LA - LB - RA - RB - Orange leds
They are on when one or more VRx amplifiers are about to reach distortion threshold. They are useful to adjust inputs sensitivity.

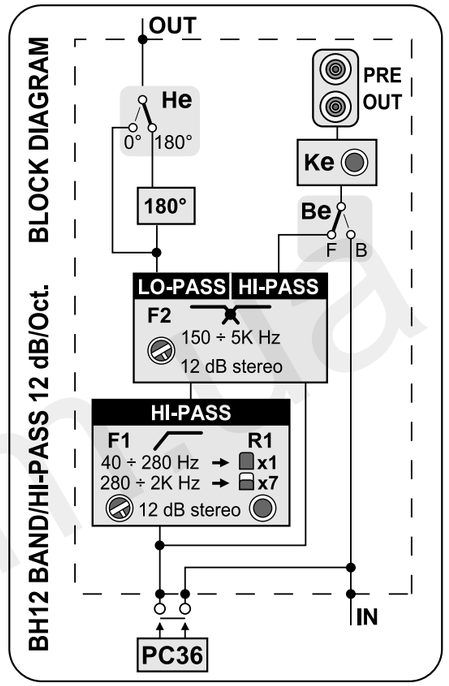
VRx2 Multichannel Extensions BH12

Crossover module for VRx2 with BAND-PASS filter with independent adjustments and non independent HI-PASS crossover frequency.

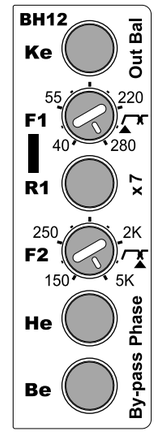
Crossover 

12dB/oct. BAND-PASS/HI-PASS
F1 frequencies ranges: 40 Hz ÷ 280 Hz; 280 Hz ÷ 2 kHz
F2 frequency range:150 Hz ÷ 5 kHz

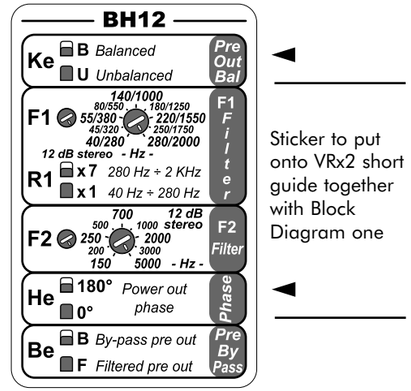
Block diagram



Controls panel



Short guide



Sticker to put onto VRx2 short guide together with Block Diagram one

Controls description

Ke - BALANCED **(B)**/UNBALANCED **(U)** switch for PRE OUT output.
F1 - 12dB/oct. BAND-PASS lower frequency adjustment.
R1 - F1 x 7 **(x7)**/x1 **(x1)** frequency switch.
F2 - 12dB/oct. BAND-PASS higher frequency and 12dB/oct. HI-PASS lower frequency adjustment.
He - 0° **(0°)**/180° **(180°)** phase shifting switch for amplifier output.
Be - BYPASS **(B)**/HI-PASS **(F)** switch for PRE OUT output.

Module description

BAND/HI-PASS section (Lower frequency): 12dB/oct. filter slope. Variable frequency between 40Hz and 2kHz, through 2 steps: 40Hz÷280Hz; 280Hz÷2kHz. Continuous adjustment.
BAND/LO-PASS (Higher frequency) and HI-PASS section: 12dB/oct. filter slope. Variable frequency between 150 and 5000Hz. Continuous adjustment. BH12 adds one ABS PRE output to the amplifier it is installed into.

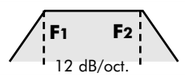
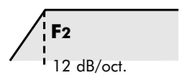
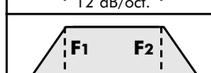
Features

It allows the extension to higher frequency ranges in multiamplified systems. Together with HL12, it permits the frequencies total independent control.

Uses

BH12 is especially designed for multiamplification. Its high internal complexity makes its use simple and evident. It is VRx2 partner and it is ideal for HL12 and LM24.

Possible configurations

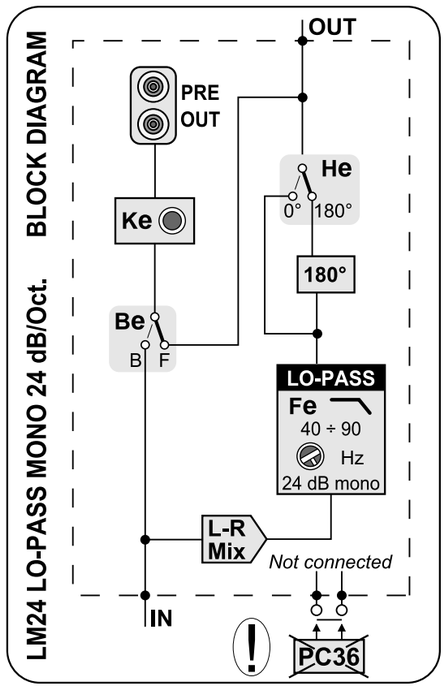
OUT	*PRE OUT*	*Be BYPASS*
		
	Bypass	

VRx1 - VRx2 Multichannel Extensions LM24

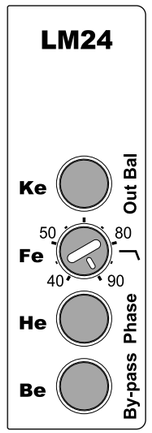
Crossover module for VRx1 and VRx2 with LO-PASS MONO cut and L/R channels mixing.

Crossover — **24dB/oct. mono LO-PASS**
Frequency range: 40 Hz ÷ 90 Hz

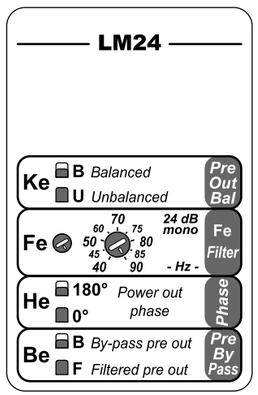
Block diagram



Controls panel



Short guide



Sticker to put onto VRx1 and VRx2 short guide together with Block Diagram one.

Controls description

Ke - BALANCED **(B)**/UNBALANCED **(U)** switch for PRE OUT output.
Fe - 24dB/oct. LO-PASS filter adjustment.
He - 0° **(0°)**/180° **(180°)** phase shifting switch for amplifier output.
Be - BYPASS **(B)**/LO-PASS **(F)** switch for PRE OUT output.

Module description

24dB/oct. filter slope. Variable frequency between 40Hz and 90Hz. Continuous adjustment. LM24 adds one ABS PRE output to the amplifier it is installed into.

Features

Installed onto VRx1 or VRx2, it permits to drive SUB section in MONO with cut at 24dB. BYPASS output allows the addition of another VRx2 filtered with HL12 or BH12 in order to have independent HI-PASS control.
LO-PASS output permits to add another amplifier to boost SUB section; naturally, in this case, a full range signal coming from a VRx2 with HL12 must be sent to the input of the amplifier where LM24 is installed, and VRx2 and HL12 will handle HI-PASS section.

Note: LM24 includes only a LO-PASS section and, thus, it does not permit to use PC36 since the latter must be employed together with a HI-PASS section in order to function in the right way (see part B, p. 5).

Uses

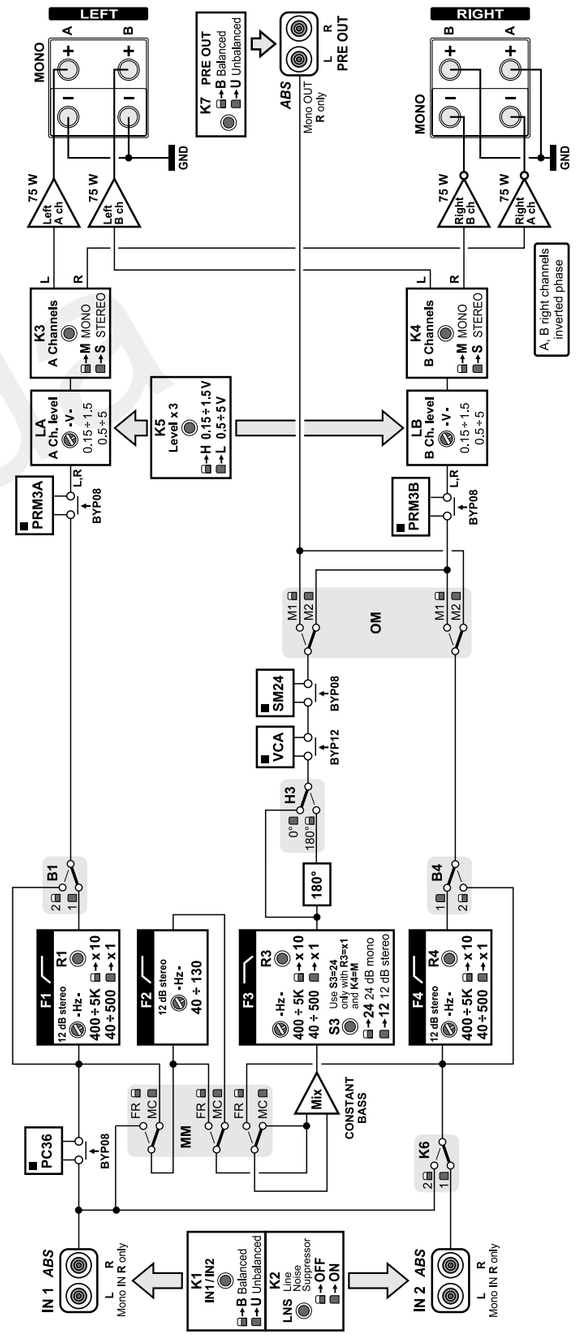
LM24 is especially designed for SUB section and has the advantages of cut at 24dB. It is indispensable both in bi-amplified systems and multiamplified ones. It is the ideal partner of VRx1 and HL12.

Possible configurations

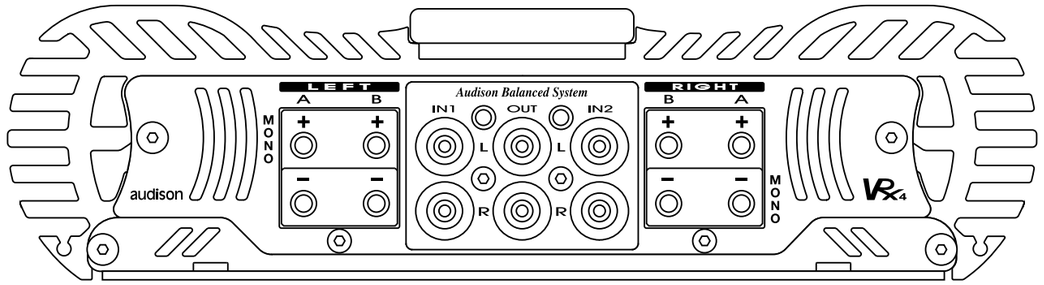
OUT	*PRE OUT*	*Be BYPASS*
Fe 24 dB/oct.	Fe 24 dB/oct.	
Fe 24 dB/oct.	Bypass	

VRx4.300

Block diagram



VRx4.300



Technical features

POWER SUPPLY	11 ÷ 15 VDC
IDLING CURRENT	2.2 A
IDLING CURRENT WHEN OFF	< 0.04 mA
CONTINUOUS NOMINAL POWER Tol.: (+10%/-5%); 0.3% THD; 12 VDC	
4 ch on 4 Ohms	75 W x 4 (RMS)
CONTINUOUS POWER Tol.: (+10%/-5%); 1% THD; 12.6 VDC	
4 ch on 4 Ohms	110 W x 4 (RMS)
CONTINUOUS POWER Tol.: (+10%/-5%); 1% THD; 13.8 VDC	
4 ch on 4 Ohms	110 W x 4 (RMS)
4 ch on 2 Ohms	175 W x 4 (RMS)
4 ch on 1 Ohm	220 W x 4 (RMS)
2 ch bridged on 4 Ohms + 2 ch bridged on 4 Ohms	350 W + 350 W (RMS)
2 ch bridged on 2 Ohms + 2 ch bridged on 2 Ohms	440 W + 440 W (RMS)
2 ch on 4 Ohms + 2 ch bridged on 4 Ohms	102 W x 2 + 380 W (RMS)
2 ch on 4 Ohms + 2 ch bridged on 2 Ohms	90 W x 2 + 530 W (RMS)
THD DISTORTION (1 kHz; 90% Nominal Power)	0.02 %
IMD DISTORTION (90% Nominal Power)	0.04 %
BANDWIDTH (-3dB; Nominal Power)	2 Hz ÷ 70 kHz
S/N RATIO (A weighed - 1 VRMS input)	100 dBA
REMOTE IN	7 - 15 VDC
REMOTE OUT	12 VDC ÷ 150 mA
INPUT SENSITIVITY (high)	0.15 ÷ 1.5 VRMS
INPUT SENSITIVITY (low)	0.50 ÷ 5.0 VRMS
INPUT IMPEDANCE	15 kOhms
LOAD IMPEDANCE (stereo)	8 - 4 - 2 - 1 Ohm
LOAD IMPEDANCE (bridged)	8 - 4 - 2 Ohms
SIZE (W x H x D) mm	240 x 64 x 499
SIZE (W x H x D) inches	9.4 x 2.5 x 19.6
INTERNAL FUSE	70A

ABSORBED CURRENT AT MAXIMUM MUSICAL POWER - EXTERNAL FUSE CHOICE

13.8V - 4 ch. x 4 Ohms or 2 bridged ch. x 8 Ohms + 2 bridged ch.x 8 Ohms	27 A
13.8V - 4 ch. x 2 Ohms or 2 bridged ch. x 4 Ohms + 2 bridged ch. x 4 Ohms	47 A
13.8V - 4 ch. x 1 Ohm or 2 bridged ch.x 2 Ohms + 2 bridged ch. x 2 Ohms	70 A
13.8V - 2 ch. x 4 Ohms + 2 bridged ch. x 4 Ohms	38 A
13.8V - 2 ch. x 4 Ohms + 2 bridged ch. x 2 Ohms	52 A

Measures were realised through a test-set consisting of Rohde & Schwarz UPD audio analyser, HP 6453A power supply (200A continuous) and 14F capacitive booster made with ***audison cable*** **Superfarad** capacitors.

Please always choose a fuse of equal or slightly higher value (max 10%) than indicated.

Note: The use of MAC2 cooling system is strongly recommended when the amplifier is employed at full power with 1 Ohm stereo or 2 Ohm bridged loads.

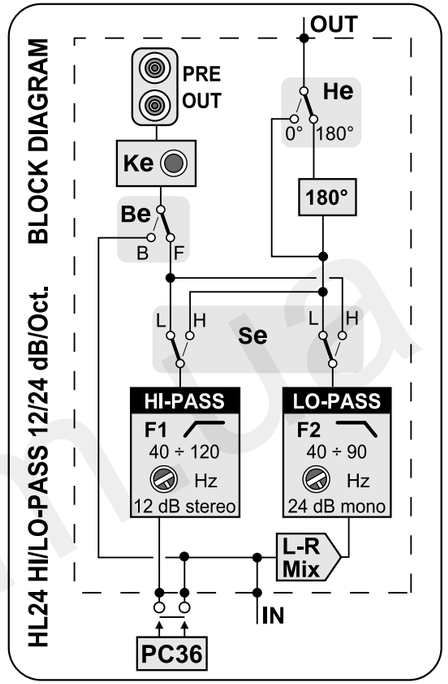
VRx1 - VRx2 Multichannel Extensions HL24

Crossover module for VRx1 and VRx2 with independent HI/LO-PASS crossover frequency.

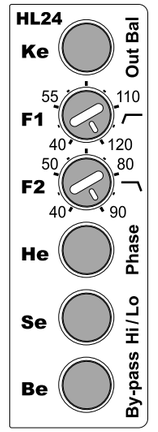
Crossover

12dB/oct. HI-PASS - 24dB/oct. LO-PASS
F1 frequency range: 40 Hz ÷ 120 Hz
F2 frequency range : 40 Hz ÷ 90 Hz

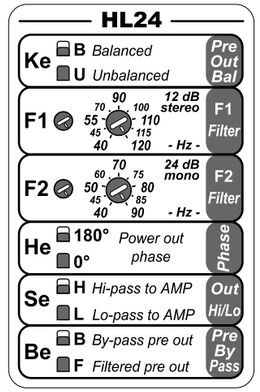
Block diagram



Controls panel



Short guide



Sticker to put onto VRx1 and VRx2 short guide together with Block Diagram one.

Controls description

Ke - BALANCED **(B)**/UNBALANCED **(U)** switch for PRE OUT output.
F1 - 12dB/oct. HI-PASS filter adjustment.
F2 - 24dB/oct. LO-PASS filter adjustment.
He - 0° **(0°)**/180° **(180°)** phase shifting switch for amplifier output.
Se - HI-PASS **(H)**/LO-PASS **(L)** switch for PRE OUT output.
Be - BYPASS **(B)**/FILTERED **(F)** switch for PRE OUT output.

Module description

LO-PASS section is MONO and mixes R and L channels. HI-PASS section is Stereo. HL24 adds an ABS PRE output to the amplifier it is installed into.

Features

It permits to drive SUB section in MONO with cut at 24dB. Its preamplified HI-PASS output can be sent to another amplifier without crossover or to a VRx2 with HL12 module in order to realise a BAND-PASS section. Module outputs can be exchanged one with the other; in this way, the amplifier where the module is installed can be used for front system; the PRE output can be employed to drive an external amplifier dedicated to SUB.

Uses

HL24 is especially designed for bi-amplified systems since it handles SUB crossover point. It is, however, a very flexible device which allows its use also when other functions are needed. It is the ideal partner for VRx1 and VRx2.

Possible configurations

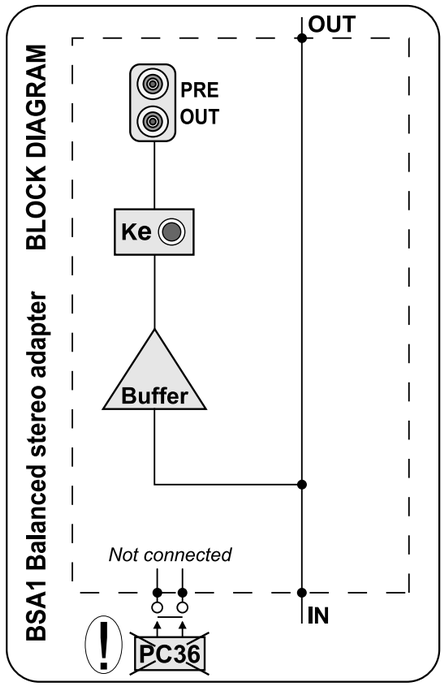
OUT	*PRE OUT*	*Se HI/LO-PASS*	*Be BYPASS*
F2 24 dB/oct.	F1 12 dB/oct.	▮	▮
F2 24 dB/oct.	Bypass	▮	▯
F1 12 dB/oct.	F2 24 dB/oct.	◧	▮
F1 12 dB/oct.	Bypass	◧	▯

VRx1 - VRx2 Multichannel Extensions BSA1

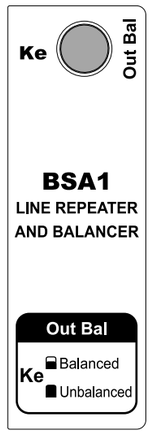
Pre input repeater stereo module (BYPASS) for VRx1 and VRx2.

Stereo balanced line repeater

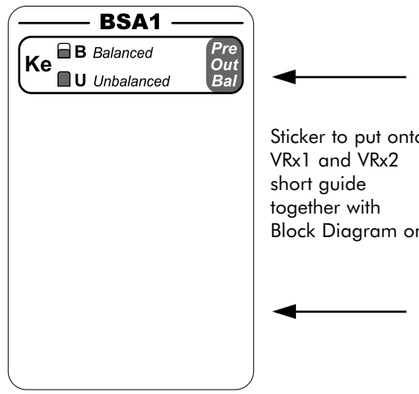
Block diagram



Controls panel



Short guide



Sticker to put onto VRx1 and VRx2 short guide together with Block Diagram one

Controls description

Ke - BALANCED **(B)**/UNBALANCED **(U)** switch for PRE OUT output.

Module description

BSA1 adds an ABS PRE output to the amplifier it is installed into. It permits to amplify and repeat the same frequencies range as VRx amplifier it is installed into.

Note: BSA1 does not have crossover sections; it is therefore not possible to use it with PC36 since the latter must be employed together with a HI-PASS section in order to function in the right way (see part B, p. 5).

Uses

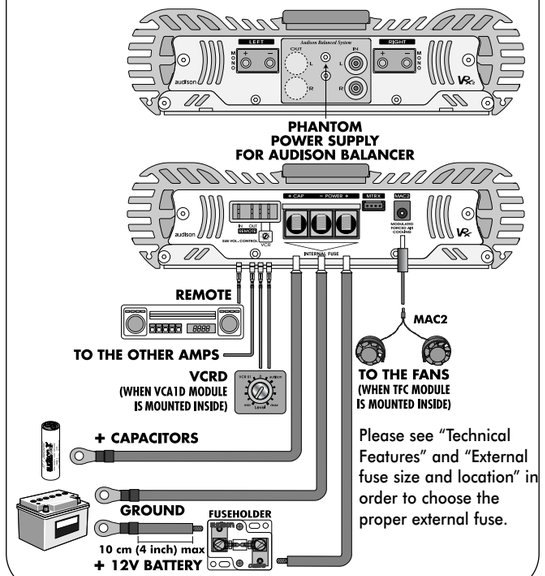
It is especially recommended for VRx1 and VRx2, dedicated to SUB through an external filtered source, when you like to increase the system power. You can add as many amplifiers as you like, connected in cascade.

audison

2000 EDITION **VRx4.300**

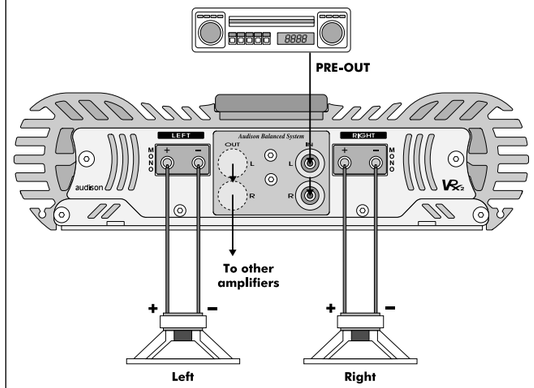
VRx 2.150 - VRx2.250 - VRx2.400 connections

Power supply, remote and accessories

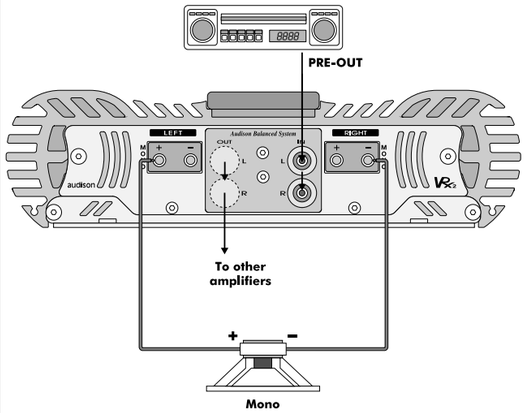


Please see "Technical Features" and "External fuse size and location" in order to choose the proper external fuse.

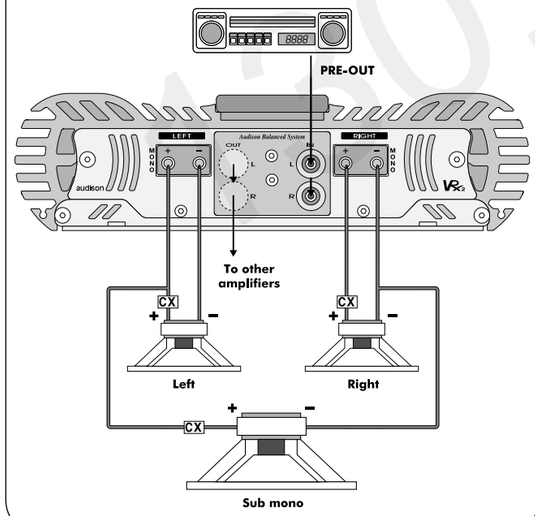
Inputs and outputs: stereo connection



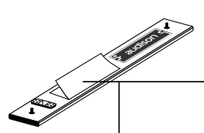
Inputs and outputs: bridge connection



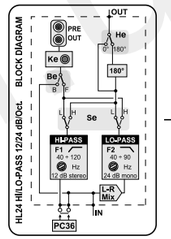
Inputs and outputs: Tri-mode connection

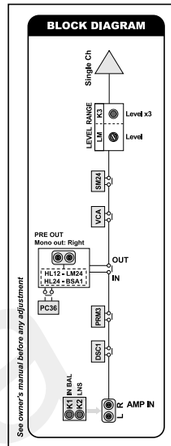


Updating of short guide under wooden strip



→ VRx1





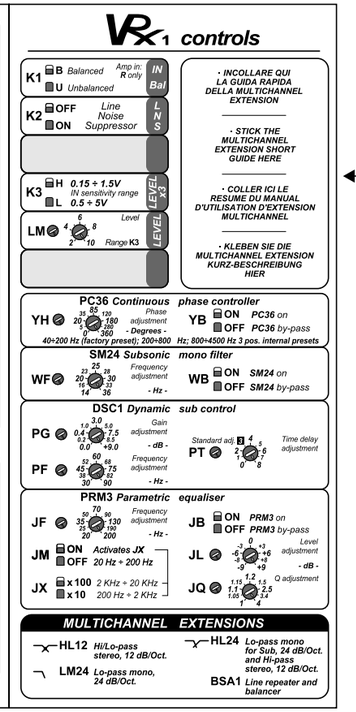
· INCOLLARE QUI LO SCHEMA A BLOCCHI DELLA MULTICHANNEL EXTENSION

· STICK THE MULTICHANNEL EXTENSION BLOCK DIAGRAM HERE

· COLLER ICI LE SCHEMA DE BRANCHEMENT D'EXTENSION MULTICHANNEL

· KLEBEN SIE DAS MULTICHANNEL EXTENSION BLOCK DIAGRAM HIER

10125741 A

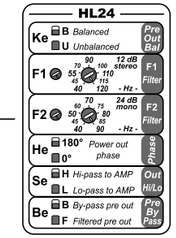


· INCOLLARE QUI LA GUIDA RAPIDA DELLA MULTICHANNEL EXTENSION

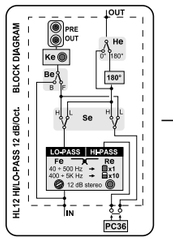
· STICK THE MULTICHANNEL EXTENSION SHORT GUIDE HERE

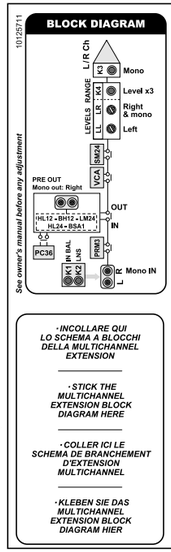
· COLLER ICI LE RESUME DU MANUAL D'UTILISATION D'EXTENSION MULTICHANNEL

· KLEBEN SIE DIE MULTICHANNEL EXTENSION KURZ-BESCHREIBUNG HIER



→ VRx2





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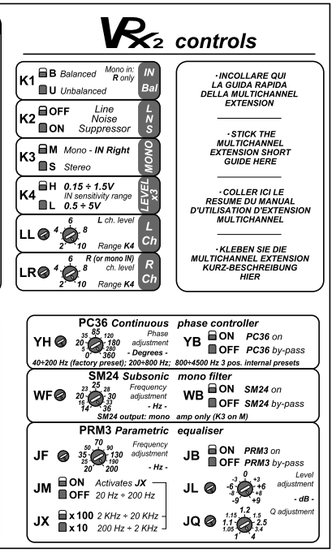
· STICK THE MULTICHANNEL EXTENSION BLOCK DIAGRAM HERE

· COLLER ICI LE SCHEMA DE BRANCHEMENT D'EXTENSION MULTICHANNEL

· KLEBEN SIE DAS MULTICHANNEL EXTENSION BLOCK DIAGRAM HIER

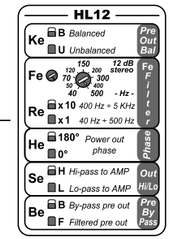


· INCOLLARE QUI LA GUIDA RAPIDA DELLA MULTICHANNEL EXTENSION

· STICK THE MULTICHANNEL EXTENSION SHORT GUIDE HERE

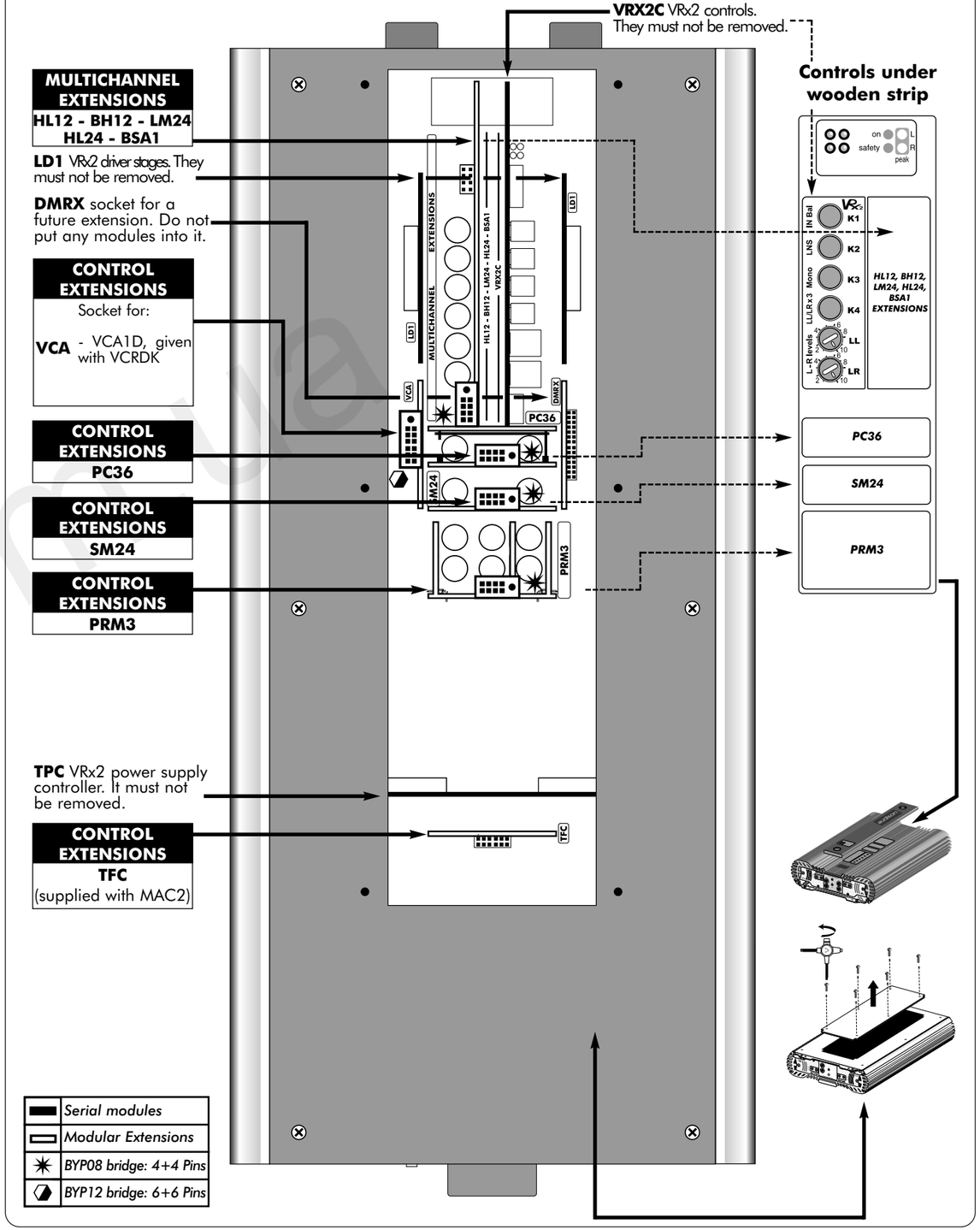
· COLLER ICI LE RESUME DU MANUAL D'UTILISATION D'EXTENSION MULTICHANNEL

· KLEBEN SIE DIE MULTICHANNEL EXTENSION KURZ-BESCHREIBUNG HIER



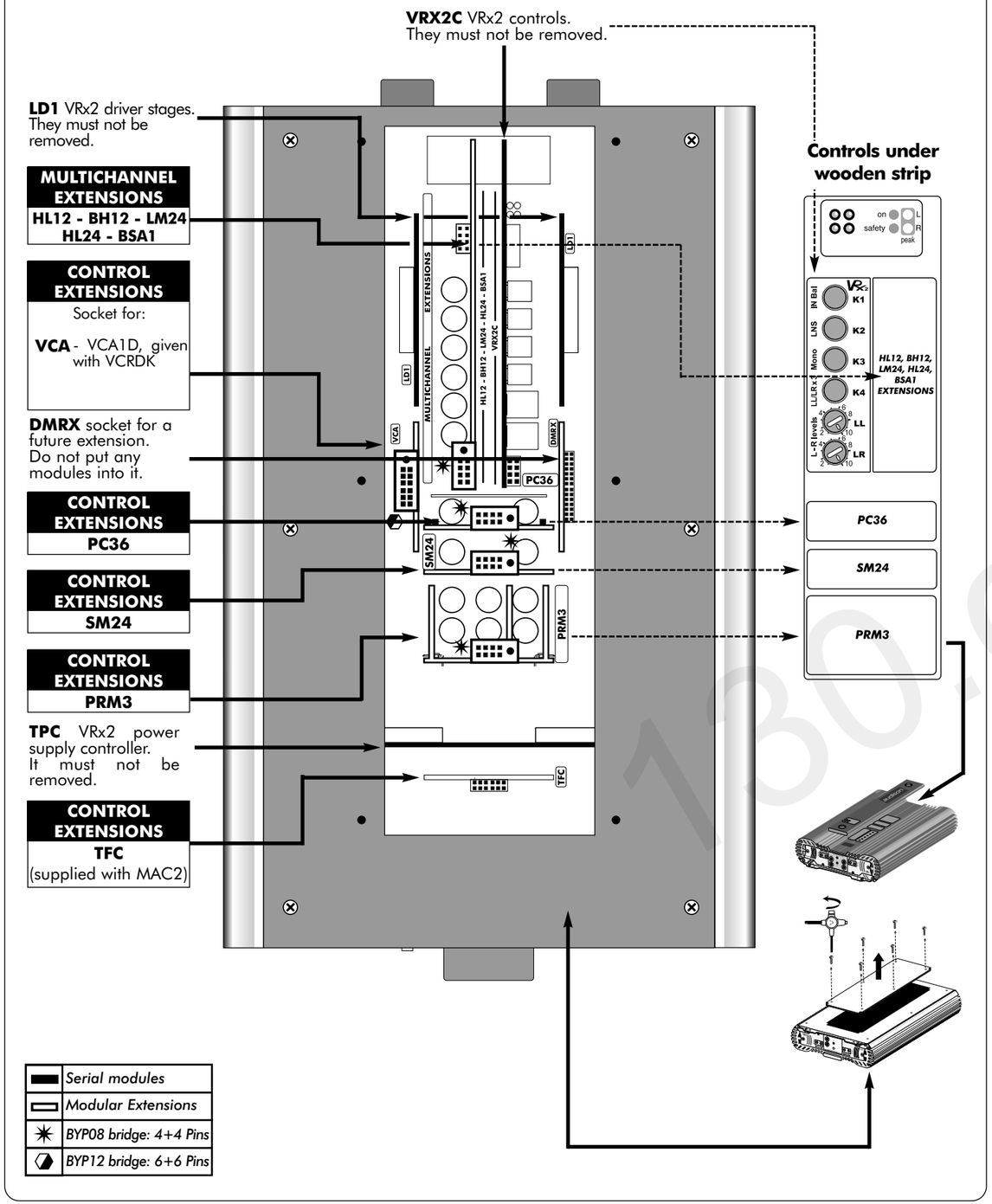
WHERE TO PUT MODULAR EXTENSIONS

VRx2.400



WHERE TO PUT MODULAR EXTENSIONS

VRx2.150 - VRx2.250



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2000 EDITION

MODULAR EXTENSIONS:
COOLING DUCT EXTENSIONS

- Raccords: RC08 - RC10 - RC12

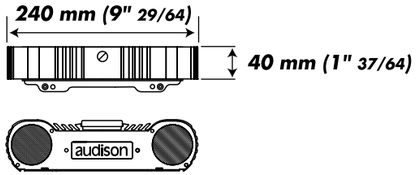
- Terminals: TRM4 - TRM6

WARNING!
Apply to Audison's specialised installation centres for the installation and configuration of modular extensions described in this section

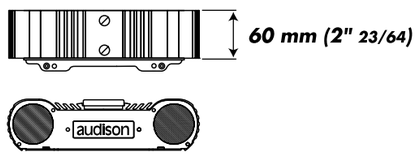
VRx Cooling duct extensions TRM4 - TRM6 - RC08 - RC10 - RC12

Terminals and Raccords

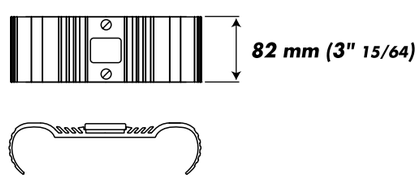
TRM4



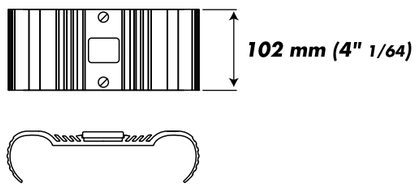
TRM6



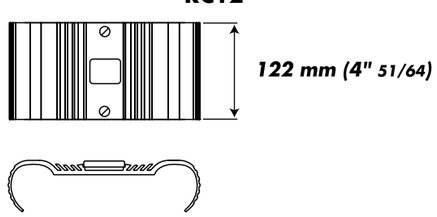
RC08



RC10



RC12



Cooling Duct Extensions are terminals and raccords which have two functions:
- Esthetical
- Technical

Esthetical function: they cover connections and make installation more elegant.

Technical function: they contain MAC2 kit fans and drive air into the heat sink hollows.

Terminals and Raccords are available in different lengths, in order to be able to realise a system which privileges space for connections or compactness.

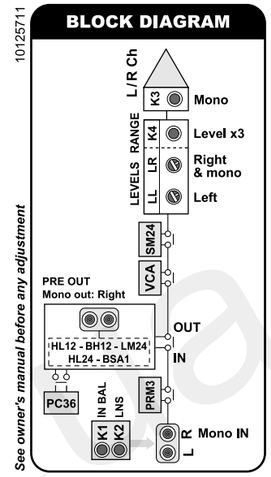
VRx2.150 - VRx2.250 - VRx2.400

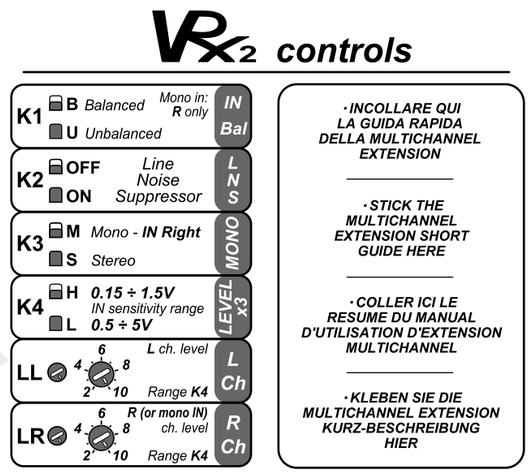
Short guide under wooden strip

It shows output configurations and meaning controls

10125711

See owner's manual before any adjustment





·INCOLLARE QUI LA GUIDA RAPIDA DELLA MULTICHANNEL EXTENSION

·STICK THE MULTICHANNEL EXTENSION SHORT GUIDE HERE

·COLLER ICI LE RESUME DU MANUAL D'UTILISATION D'EXTENSION MULTICHANNEL

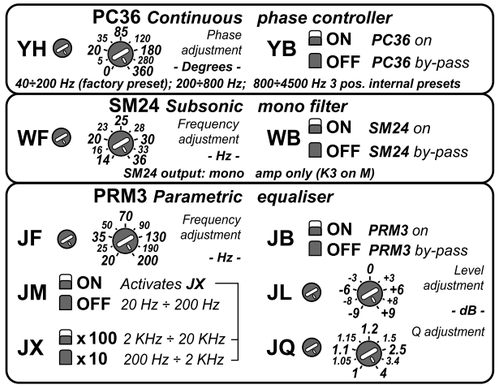
·KLEBEN SIE DIE MULTICHANNEL EXTENSION KURZ-BESCHREIBUNG HIER

·INCOLLARE QUI LO SCHEMA A BLOCCHI DELLA MULTICHANNEL EXTENSION

·STICK THE MULTICHANNEL EXTENSION BLOCK DIAGRAM HERE

·COLLER ICI LE SCHEMA DE BRANCHEMENT D'EXTENSION MULTICHANNEL

·KLEBEN SIE DAS MULTICHANNEL EXTENSION BLOCK DIAGRAM HIER



MULTICHANNEL EXTENSIONS

HL12 *Hi/Lo-pass stereo, 12 dB/Oct.*

BH12 *Band/Hi-pass stereo, 12 dB/Oct.*

LM24 *Lo-pass mono, 24 dB/Oct.*

HL24 *Lo-pass mono for Sub, 24 dB/Oct. and Hi-pass stereo, 12 dB/Oct.*

BSA1 *Line repeater and balancer*

VRx2.150 - VRx2.250 - VRx2.400

Controls and functions

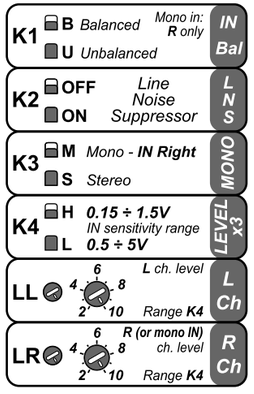
Leds

ON - Green led
It indicates the amplifier is on.

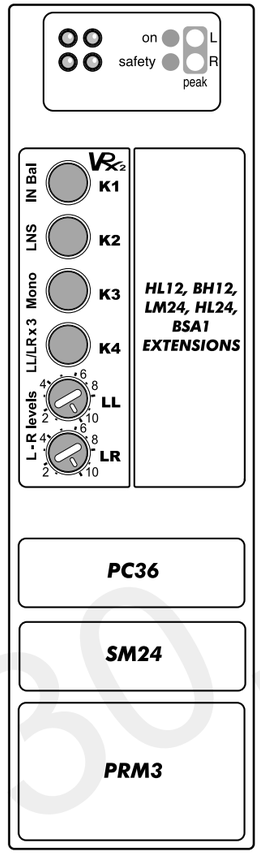
SAFETY - Red led
It indicates protection intervention: excessively high temperature or output anomalies (direct current, short circuit or dangerously low load impedance). Protection intervention stops the amplifier functioning. Switch the amplifier off; when anomaly is eliminated, switch the amplifier on again.

PEAK L - R - Orange leds
They are on when one or more VRx amplifiers are about to reach distortion threshold. They are useful to adjust inputs sensitivity.

Short guide



Controls under wooden strip



Controls description

K1 - Bal/Unbal inputs switch.

K2 - LNS circuit **ON/OFF** switch for line noise suppression.

K3 - Mono/Stereo switch. In mono, the amplifier input is the one which is commonly used for right channel (**R**).

K4 - It selects **sensitivity range.**

LR, LL - Input **sensitivities adjustment** of right and left channel respectively. When the amplifier is in mono, adjustment is made through **LR**.

Warning - When SM24, mono subsonic filter for SUB, is employed, the amplifier cannot be used in stereo. **K3** has to be set on **Mono**.

Note: In case of installations with more amplifiers connected in cascade, we recommend to put **K2** onto **ON** in the first device (i.e. the one which receives the signal from the head unit), leaving it onto **OFF** in the others.
If disturbance persists, you can activate **LNS** anti-noise circuit also in the other amplifiers.

Terminals: installation of TRM4 and TRM6

Note: Please use the special multispanner supplied with the devices in order to carry out these operations.

How to put logo in the right way in case the amplifier is mounted upside down

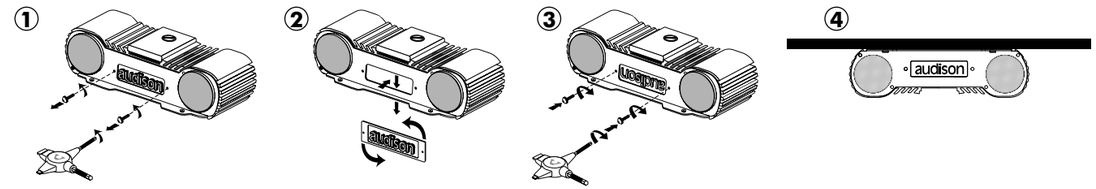
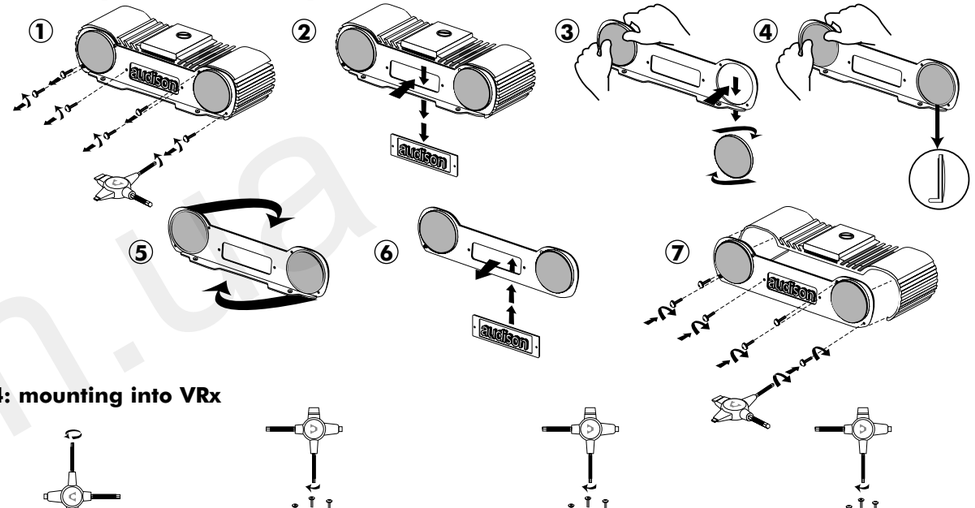
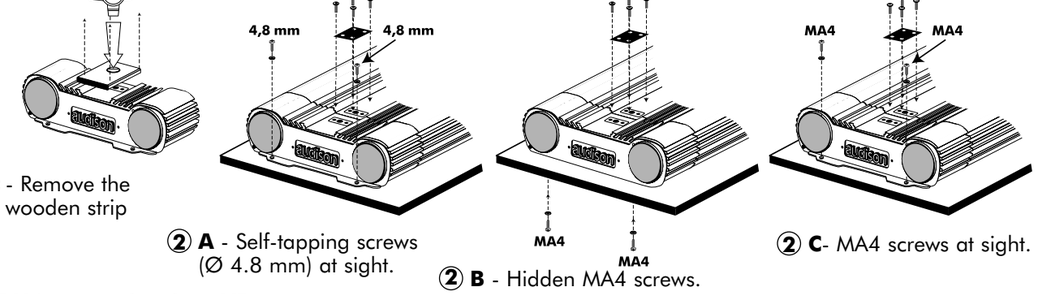


Plate mounting with hidden fixing screws



TRM4: mounting into VRx



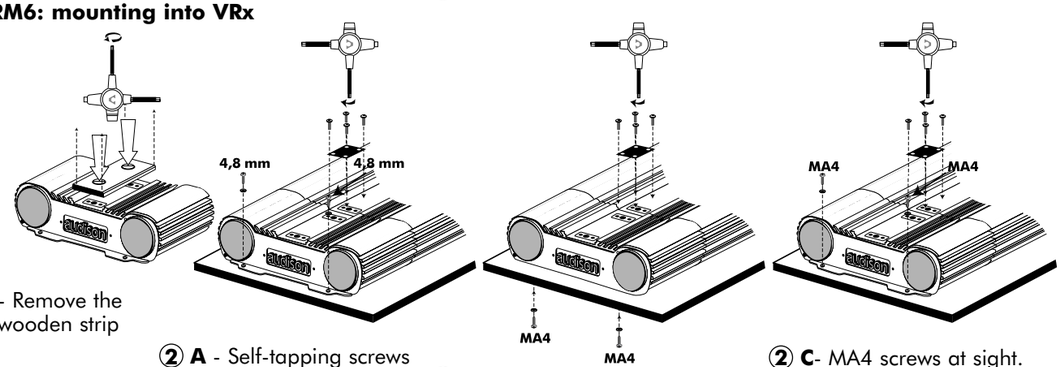
① - Remove the wooden strip

② **A** - Self-tapping screws (Ø 4.8 mm) at sight.

② **B** - Hidden MA4 screws.

② **C**- MA4 screws at sight.

TRM6: mounting into VRx



① - Remove the wooden strip

② **A** - Self-tapping screws (Ø 4.8 mm) at sight.

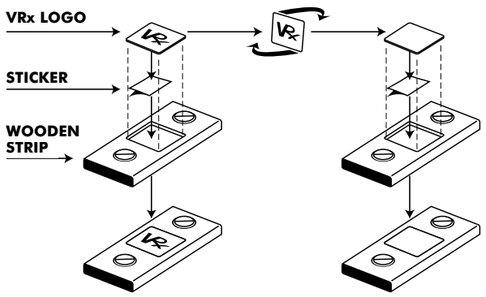
② **B** - Hidden MA4 screws.

② **C**- MA4 screws at sight.

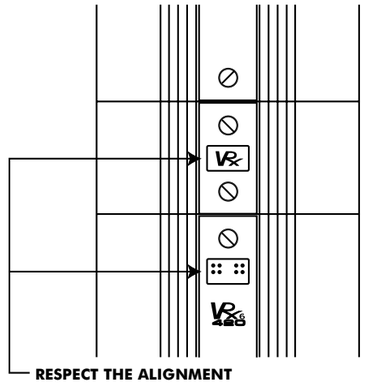
Raccords: installation of RC08, RC10 and RC12

Note: Please use the special multispanner supplied with the devices in order to carry out these operations.

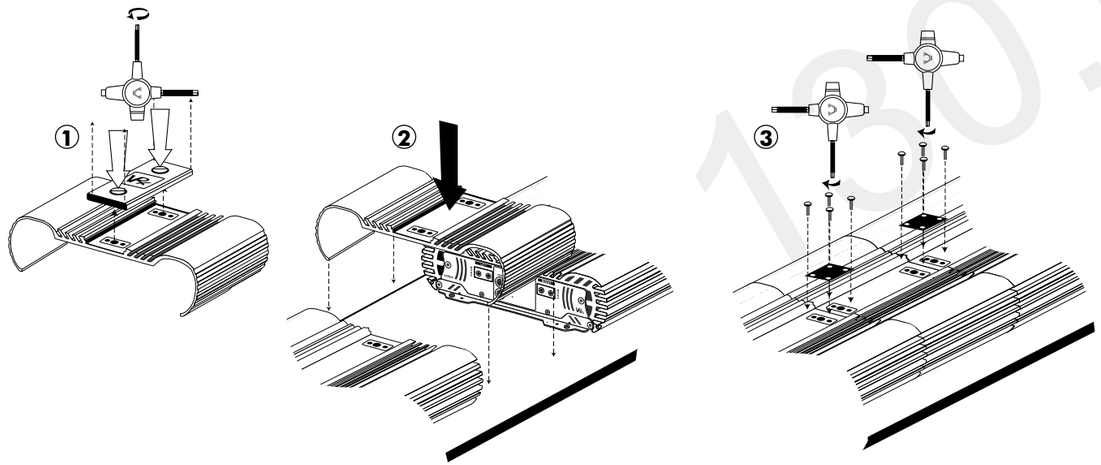
VRx logo fixing into wooden strip



① Side with customised inscription ② Side without customised inscription

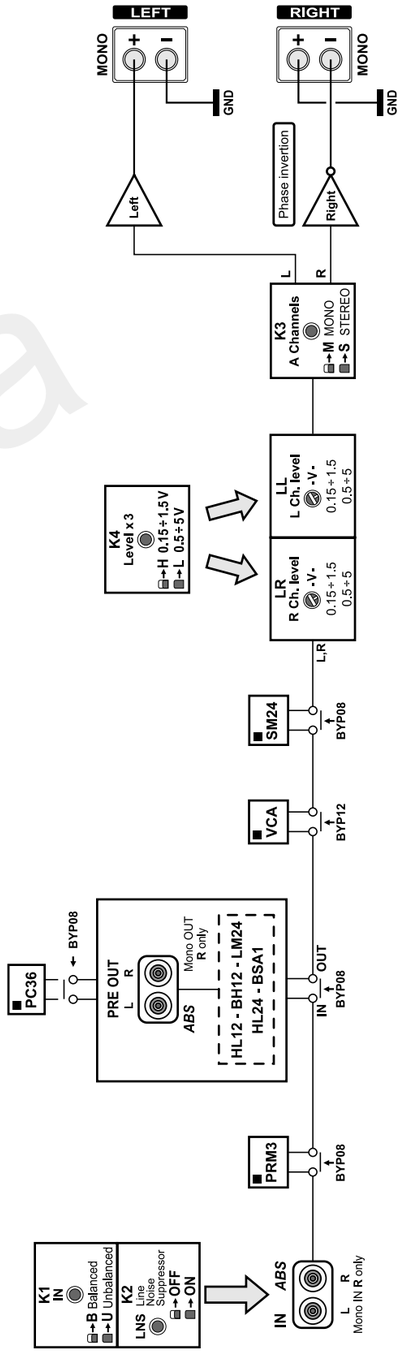


RC08 – RC10 – RC12: fixing onto VRx

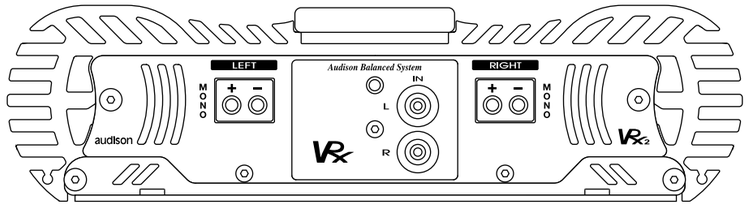


VRx2.150 - VRx2.250 - VRx2.400

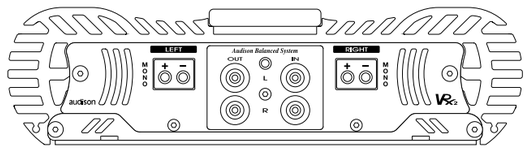
Block diagram



VRx2.400



Inputs panel with multichannel extensions:
HL12 - BH12 - LM24
HL24 - BSA1



Technical features

POWER SUPPLY . . . . . .11 ÷ 15 VDC
IDLING CURRENT . . . . . .2.1 A
IDLING CURRENT WHEN OFF . . . . . .< 0.04 mA
CONTINUOUS NOMINAL POWER Tol.: (+10%/-5%); 0.3% THD; 12 VDC
2 ch on 4 Ohms . . . . . .200 W + 200 W (RMS)
CONTINUOUS POWER Tol.: (+10%/-5%); 1% THD; 12.6 VDC
2 ch on 4 Ohms . . . . . .250 W + 250 W (RMS)
CONTINUOUS POWER Tol.: (+10%/-5%); 1% THD; 13.8 VDC
2 ch on 4 Ohms . . . . . .250 W + 250 W (RMS)
2 ch on 2 Ohms . . . . . .450 W + 450 W (RMS)
2 ch on 1 Ohm . . . . . .580 W + 580 W (RMS)
1 ch bridged on 4 Ohms . . . . . .900 W (RMS)
1 ch bridged on 2 Ohms . . . . . .1160 W (RMS)
THD DISTORTION (1 kHz; 90% Nominal Power) . . . . . .0.02 %
IMD DISTORTION (90% Nominal Power) . . . . . .0.06 %
BANDWIDTH (-3dB; Nominal Power) . . . . . .2 Hz ÷ 70 kHz
S/N RATIO (A weighed - 1 VRMS input) . . . . . .100 dBA
REMOTE IN . . . . . .7 ÷ 15 VDC
REMOTE OUT . . . . . .12 VDC - 150 mA
INPUT SENSITIVITY (high) . . . . . .0.15 ÷ 1.5 VRMS
INPUT SENSITIVITY (low) . . . . . .0.50 ÷ 5.0 VRMS
INPUT IMPEDANCE . . . . . .15 kOhms
LOAD IMPEDANCE (stereo) . . . . . .8 - 4 - 2 - 1 Ohm
LOAD IMPEDANCE (bridged) . . . . . .8 - 4 - 2 Ohms
SIZE (W x H x D) inches . . . . . .240 x 64 x 432
SIZE (W x H x D) inches . . . . . .9.4 x 2.5 x 17
INTERNAL FUSE 100A

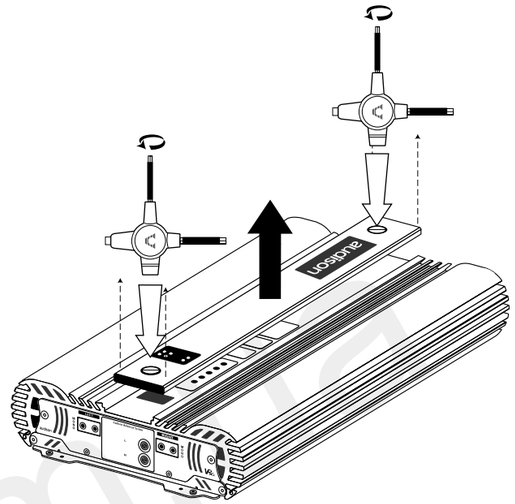
ABSORBED CURRENT AT MAXIMUM MUSICAL POWER - EXTERNAL FUSE CHOICE
13.8V - 4 Ohms stereo or 8 Ohms bridged . . . . . .35 A
13.8V - 2 Ohms stereo or 4 Ohms bridged . . . . . .65 A
13.8V - 1 Ohm or 2 Ohms bridged . . . . . .97 A

Measures were realised through a test-set consisting of Rohde & Schwarz UPD audio analyser, HP 6453A power supply (200A continuous) and 14F capacitive booster made with ***audison cable*** **Superfarad** capacitors.

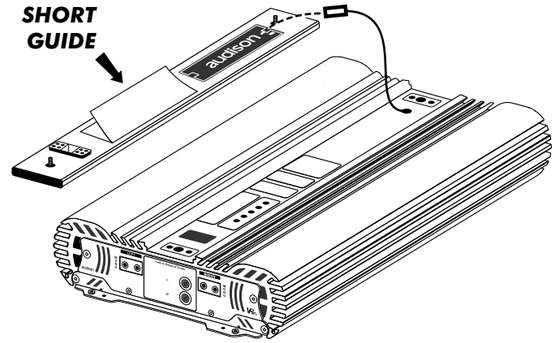
Please always choose a fuse of equal or slightly higher value (max 10%) than indicated.
Note: The use of MAC2 cooling system is strongly recommended when the amplifier is employed at full power with 1 Ohm stereo or 2 Ohm bridged loads.

Wooden strip removal

You need to remove the wooden strip which protects calibration and configuration controls in order to act onto them. The wooden strip removal is also necessary to install modular extensions which require the plate replacement: PRM3, SM24, PC36, DSC1, HL12, BH12, HL24, LM24, BSA1.



Unscrew the two fixing screws.

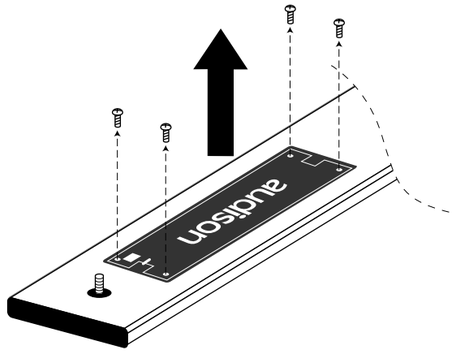


Disconnect the wire for logo illumination.

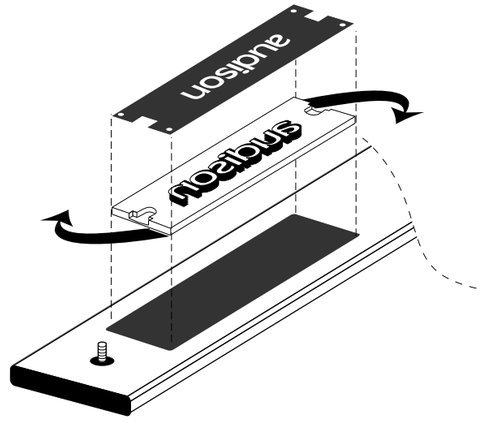
Illuminated logo rotation

It is sometimes necessary to install VRx so that its **audison** logo is upside down. Rotate it of 180° according to the instructions written below in order to have it in the right position again.

① Remove the wooden strip.

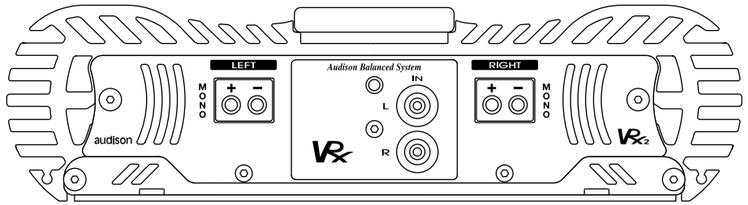


② Turn the wooden strip upside down and unscrew the four screws.

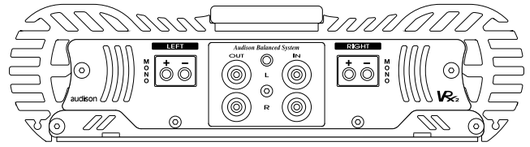


③ Lift the printed circuit and rotate the transparent inscription of 180° (as from drawing). Mount everything back again.

VRx2.250



Inputs panel with multichannel extensions:
HL12 - BH12 - LM24
HL24 - BSA1



Technical features

POWER SUPPLY . . . . . 11 ÷ 15 VDC
IDLING CURRENT . . . . . 1.7 A
IDLING CURRENT WHEN OFF . . . . . < 0.04 mA
CONTINUOUS NOMINAL POWER Tol.: (+10%/-5%); 0.3% THD; 12 VDC
2 ch on 4 Ohms . . . . . 125 W + 125 W (RMS)
CONTINUOUS POWER Tol.: (+10%/-5%); 1% THD; 12,6 VDC
2 ch on 4 Ohms . . . . . 160 W + 160 W (RMS)
CONTINUOUS POWER Tol.: (+10%/-5%); 1% THD; 13,8 VDC
2 ch on 4 Ohms . . . . . 160 W + 160 W (RMS)
2 ch on 2 Ohms . . . . . 280 W + 280 W (RMS)
2 ch on 1 Ohm . . . . . 420 W + 420 W (RMS)
1 ch bridged on 4 Ohms . . . . . 560 W (RMS)
1 ch bridged on 2 Ohms . . . . . 840 W (RMS)
THD DISTORTION (1 kHz; 90% Nominal Power) . . . . . 0.02 %
IMD DISTORTION (90% Nominal Power) . . . . . 0.06 %
BANDWIDTH (-3dB; Nominal Power) . . . . . 2 Hz - 70 kHz
S/N RATIO (A weighed - 1 VRMS input) . . . . . 100 dBA
REMOTE IN . . . . . 7 ÷ 15 VDC
REMOTE OUT . . . . . 12 VDC - 150 mA
INPUT SENSITIVITY (high) . . . . . 0.15 ÷ 1.5 VRMS
INPUT SENSITIVITY (low) . . . . . 0.50 ÷ 5.0 VRMS
INPUT IMPEDANCE . . . . . 15 kOhms
LOAD IMPEDANCE (stereo) . . . . . 8 - 4 - 2 - 1 Ohm
LOAD IMPEDANCE (bridged) . . . . . 8 - 4 - 2 Ohms
SIZE (W x H x D) mm . . . . . 240 x 64 x 382
SIZE (W x H x D) inches . . . . . 9.4 x 2.5 x 15
INTERNAL FUSE 60A

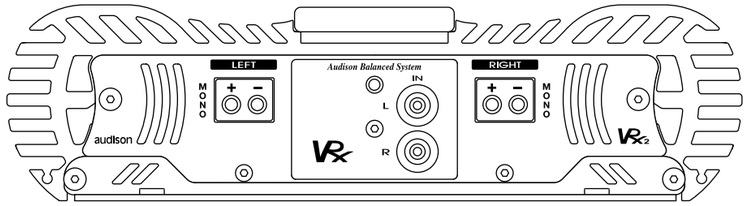
ABSORBED CURRENT AT MAXIMUM MUSICAL POWER - EXTERNAL FUSE CHOICE
13.8V - 4 Ohms stereo or 8 Ohms bridged . . . . . 19 A
13.8V - 2 Ohms stereo or 4 Ohms bridged . . . . . 36 A
13.8V - 1 Ohm or 2 Ohms bridged . . . . . 59 A

Measures were realised through a test-set consisting of Rohde & Schwarz UPD audio analyser, HP 6453A power supply (200A continuous) and 14F capacitive booster made with ***audison cable*** **Superfarad** capacitors.

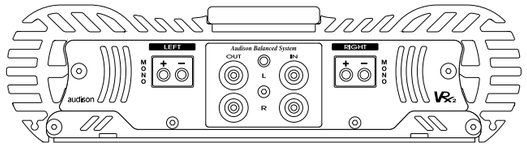
Please always choose a fuse of equal or slightly higher value (max 10%) than indicated.

Note: The use of MAC2 cooling system is strongly recommended when the amplifier is employed at full power with 1 Ohm stereo or 2 Ohm bridged loads.

VRx2.150



Inputs panel with multichannel extensions:
HL12 - BH12 - LM24
HL24 - BSA1



Technical features

POWER SUPPLY	11 ÷ 15 VDC
IDLING CURRENT	1.4 A
IDLING CURRENT WHEN OFF	< 0.04 mA
CONTINUOUS NOMINAL POWER Tol.: (+10%/-5%); 0.3% THD; 12 VDC	
2 ch on 4 Ohms	75 W + 75 W (RMS)
CONTINUOUS POWER Tol.: (+10%/-5%); 1% THD; 12,6 VDC	
2 ch on 4 Ohms	110 W + 110 W (RMS)
CONTINUOUS POWER Tol.: (+10%/-5%); 1% THD; 13,8 VDC	
2 ch on 4 Ohms	110 W + 110 W (RMS)
2 ch on 2 Ohms	180 W + 180 W (RMS)
2 ch on 1 Ohm	240 W + 240 W (RMS)
1 ch Bridged on 4 Ohms	360 W (RMS)
1 ch Bridged on 2 Ohms	480 W (RMS)
THD DISTORTION (1 kHz; 90% Nominal Power)	0.02 %
IMD DISTORTION (90% Nominal Power)	0.04 %
BANDWIDTH (-3dB; Nominal Power)	2 Hz ÷ 70 kHz
S/N RATIO (A weighed - 1 VRMS input)	100 dBA
REMOTE IN	7 ÷ 15 VDC
REMOTE OUT	12 VDC - 150 mA
INPUT SENSITIVITY (high)	0.15 ÷ 1.5 VRMS
INPUT SENSITIVITY (low)	0.50 ÷ 5.0 VRMS
INPUT IMPEDANCE	15 kOhms
LOAD IMPEDANCE (stereo)	8 - 4 - 2 - 1 Ohm
LOAD IMPEDANCE (bridged)	8 - 4 - 2 Ohms
SIZE (W x H x D) mm	240 x 64 x 332
SIZE (W x H x D) inches	9.4 x 2.5 x 13
INTERNAL FUSE	40A

ABSORBED CURRENT AT MAXIMUM MUSICAL POWER - EXTERNAL FUSE CHOICE

13.8V - 4 Ohms stereo or 8 Ohms bridged	14 A
13.8V - 2 Ohms stereo or 4 Ohms bridged	23 A
13.8V - 1 Ohm stereo or 2 Ohms bridged	37 A

Measures were realised through a test-set consisting of Rohde & Schwarz UPD audio analyser, HP 6453A power supply (200A continuous) and 14F capacitive booster made with ***audison cable*** **Superfarad** capacitors.

Please always choose a fuse of equal or slightly higher value (max 10%) than indicated.

Note:
The use of MAC2 cooling system is strongly recommended when the amplifier is employed at full power with 1 Ohm stereo or 2 Ohm bridged loads.

audison

2000 EDITION

VRx INSTALLATION

- **General recommendations**
- **Cables size**
- **External fuse size and location**
- **Internal fuse replacement**
- **VRx size**

GENERAL RECOMMENDATIONS

Audison would like to thank you for choosing this product.
Before the information relative to its use, please carefully read the safety norms you have to respect in order to avoid unpleasant inconveniences and to get the best enjoyment.

WARNING!

- Do not remove the cover in order to reduce the risk of serious technical inconveniences.
- Please apply to qualified staff for every necessary intervention inside the amplifier.
- For safe driving, we advise to listen to music at a volume level which won't draw external traffic sounds.

WARNINGS

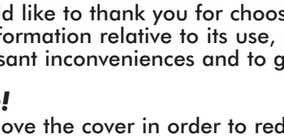
INPUTS: If the source does not share the output ground with the chassis and if you hear parasite noise, the braided shield of the shielded cable has to be connected to the source chassis.
OUTPUTS: Never connect –R and –L outputs to ground or to each other. If a crossover filter is used, be sure its two channels do not have a common ground.
ADJUSTMENTS: Please act as follows in order to calibrate the amplifiers level in the right way:
- Select the most suitable sensitivity range (0.15÷1.5V or 0.5÷5.0V) to the source you want to use through the proper switch.
- Turn the amplifiers level controls towards minimum sensitivity (range ref.: 2).
- Put the source volume control around 3/4 of maximum level and start a very dynamic musical track.
- Turn the amplifiers level controls towards maximum sensitivity (range ref: 10) in order to cause the intermittent lighting of the proper saturation leds (peak).

In multichannel amplification, levels adjustment must be optimised in order to get the maximum balance between the different ways of the system.

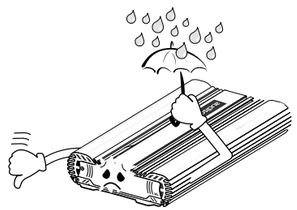
PRECAUTIONS

WARNING!

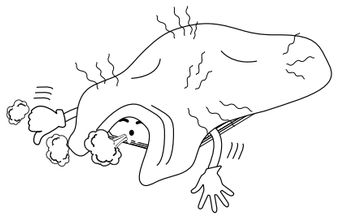
This amplifier must be exclusively used into vehicles and boats with 12 Volt power supply in direct current (12V d.c.), with negative to ground. It is IMPORTANT NOT TO USE any other kinds of electric power supply in order to avoid fires or possible electrocutions.



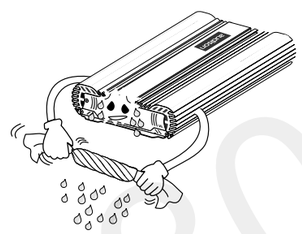
Do not use VRx if temperature is below 0°C (32°F) or above 55°C (131°F).



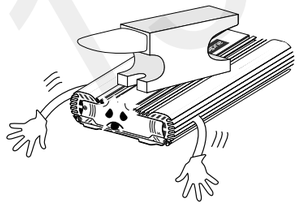
Do not make VRx touch liquids.



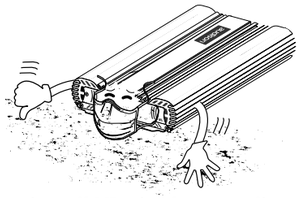
Do not cover VRx heat sink and do not obstruct its cooling ducts.



Do not use VRx in case of extreme humidity conditions (<10% or >90%).



Do not put heavy objects onto VRx.



Avoid to install VRx in dusty or dirty places.

audison

2000 EDITION ***VRx2.150***
VRx2.250
VRX2.400

CABLES SIZE

Power supply cables

Power supply cables size is very important since quality of the amplifier performances, reliability and, above all, installation safety depend on it. As this matter is complex, varied and important, we recommend you to address ***audison***'s specialised centres, where highly qualified professionals will be able to carry out these operations in the best way, realising a state-of-the-art installation.

Signal cables

Used signal cables must be of the highest quality in order to allow music perfect reproduction preserving it from disturbances or dispersion.
VRx amplifiers perform at their best when they are used in balanced configuration, which minimises the problems due to disturbances and noise. ***audison cable*** catalogue makes the exclusive **ABS** connections system available in order to realise it.
It is also possible to opt for an unbalanced connection system; you can choose among a wide variety of good quality models in ***audison cable*** catalogue to make it.

audison cable **ABS** connections (international patent) solve the problems relative to the big size of connectors normally used for balanced configuration in an extremely reliable, elegant and practical way. Their compatibility with standard RCA connectors allows the user to act freely during the installation. 24K gold-plated and mechanically refined, they are a reference for really hi-end systems.

Speaker cables

Speaker cables section will have to be as big as possible and anyway not lower than 2.1mm^2 (14 AWG) in order to obtain:
- excellent damping on the speaker;
- wide safety margin;
- very good transfer of musical signal.

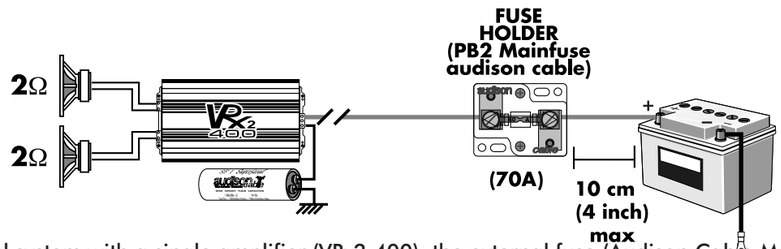
audison cable catalogue includes a wide choice of models which can satisfy all needs.
We recommend you to apply to ***audison***'s specialised centres where highly qualified professionals will be able to carry out these operations in the best way, realising a state-of-the-art installation.

EXTERNAL FUSE SIZE AND LOCATION

External fuse size must be calculated according to the type of system you want to realise and to its being made of a single amplifier or multiamplified.

System with a single amplifier

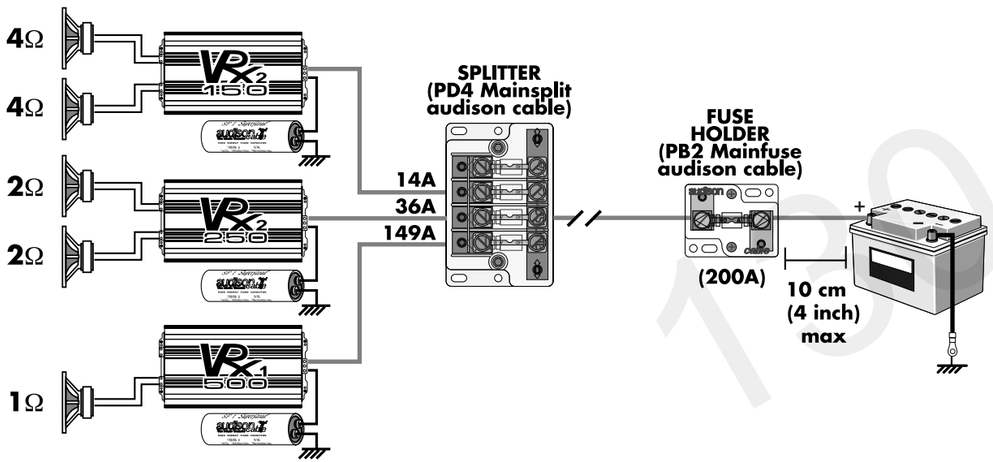
In case of a system with a single amplifier, please refer to item: "Absorbed current at maximum musical power", written in the Technical Features of the used amplifier, in order to calculate the external fuse value.



In a hypothetical system with a single amplifier (VRx2.400), the external fuse (Audison Cable MAINFUSE) value for a 2 Ohm load would be 70A, rounding off what written in the Technical Features (65A).
Note: Values and models of the example are purely indicative and **only used to explain the calculation procedure**.
We recommend to use Audison Cable MAINFUSE devices as fuse holder.

Multiamplified system

In case of a multiamplified system, you have to sum the absorption of every used amplifier according to the applied load in order to get the external fuse value.



In a hypothetical system consisting of three amplifiers (VRx2.150 – VRx2.250 – VRx1.500), the external fuse value would be thus defined by the sum:

14A (VRx2.150 on 4Ω load, see Technical Features)
36A (VRx2.250 on 2Ω load)
149A (VRX1.500 on 1Ω load)

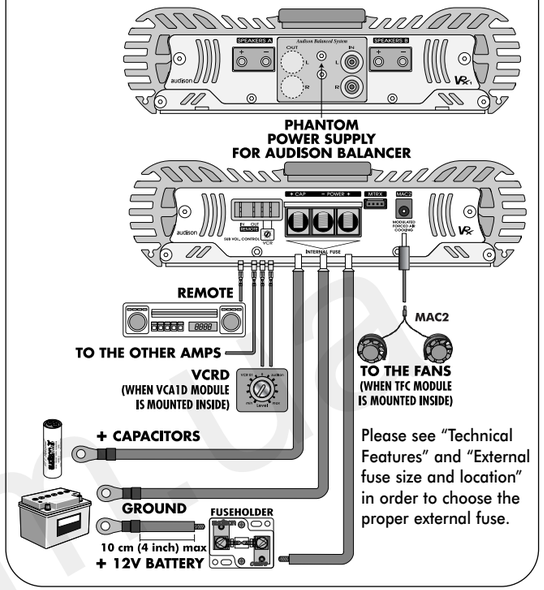
→ (14+36+149)A= 199A → 200A

Note: Values and models of the example are purely indicative and **only used to explain the calculation procedure**.

We recommend to use Audison Cable MAINSPLIT as splitter (power distribution block), which contains proper locations for further fuses. Obviously, the size of the latter will have to be defined according to the single amplifier absorption, depending on applied load.
We recommend to use Audison Cable MAINFUSE devices as fuse holder.

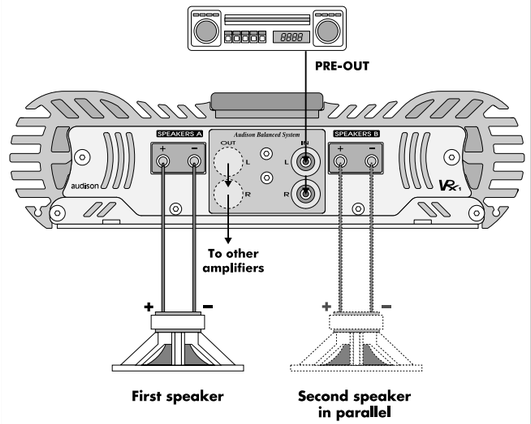
VRx1.500 connections

Power supply, remote and accessories

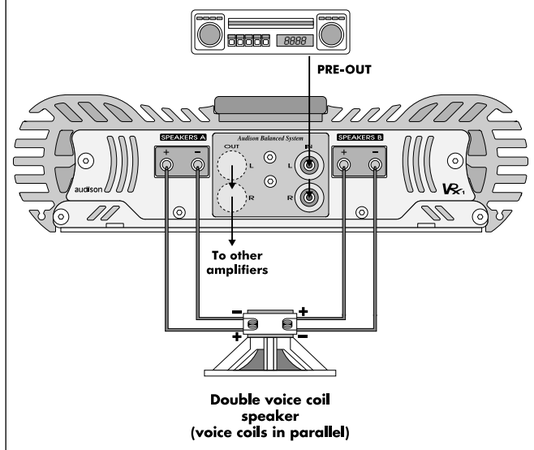


Please see "Technical Features" and "External fuse size and location" in order to choose the proper external fuse.

Inputs and outputs: one or two speakers in parallel



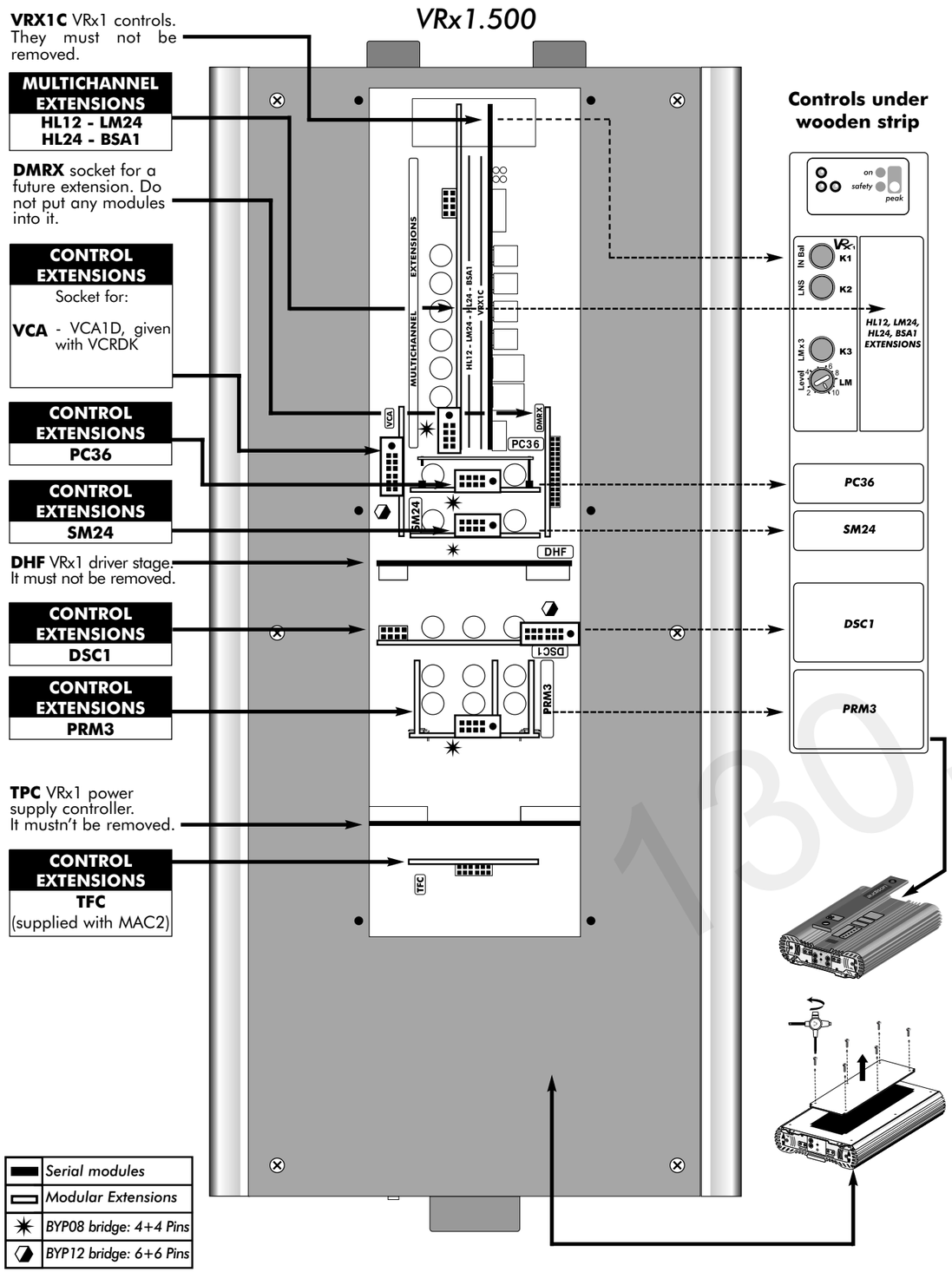
Inputs and outputs: double voice coil speaker with voice coils in parallel



WARNING

When VRx1.500 is used with low impedance loads (1 Ohm), it supplies 2000W approx. and absorbs high currents (300 A approx. in impulsive functioning). In order to get the best performances by the system and the **car safety**, it is necessary to carefully choose the right size of power supply and speaker cables, fuse and fuse holder, battery and power supply distribution systems. **Connections safety** must be also carefully checked in order to avoid voltage drops implying **overheating**.

WHERE TO PUT MODULAR EXTENSIONS

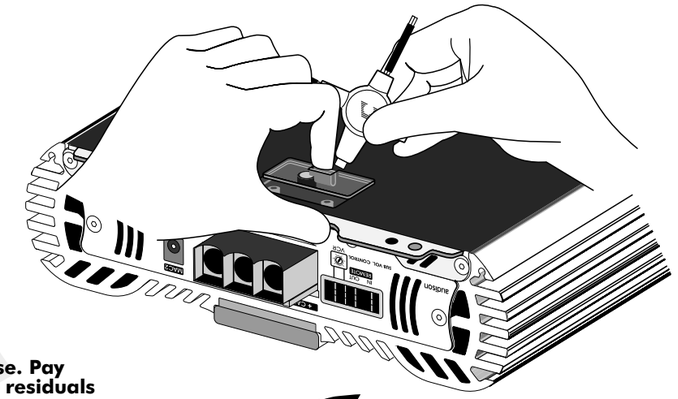


INTERNAL FUSE REPLACEMENT

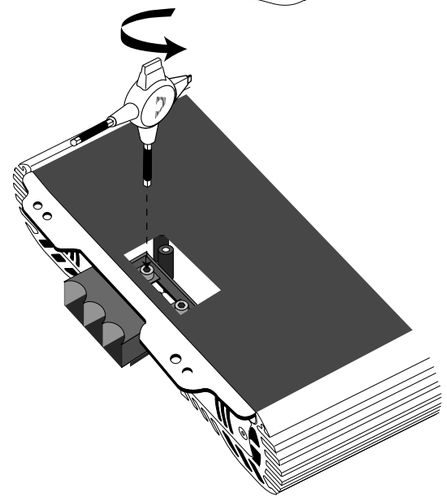
WARNING!

Before installing a new fuse, please remember to charge the external capacitor (if it is installed) through the special charge-discharge device supplied with Audison Cable Superfarad models. This procedure will prevent all current destined to the external capacitor from passing through the new fuse instantaneously, causing dangerous sparks.

1 – Remove the transparent cover which protects fuse holder location.



2 – Remove the screws which fasten the fuse. Pay attention not to throw the interrupted fuse residuals inside the device.

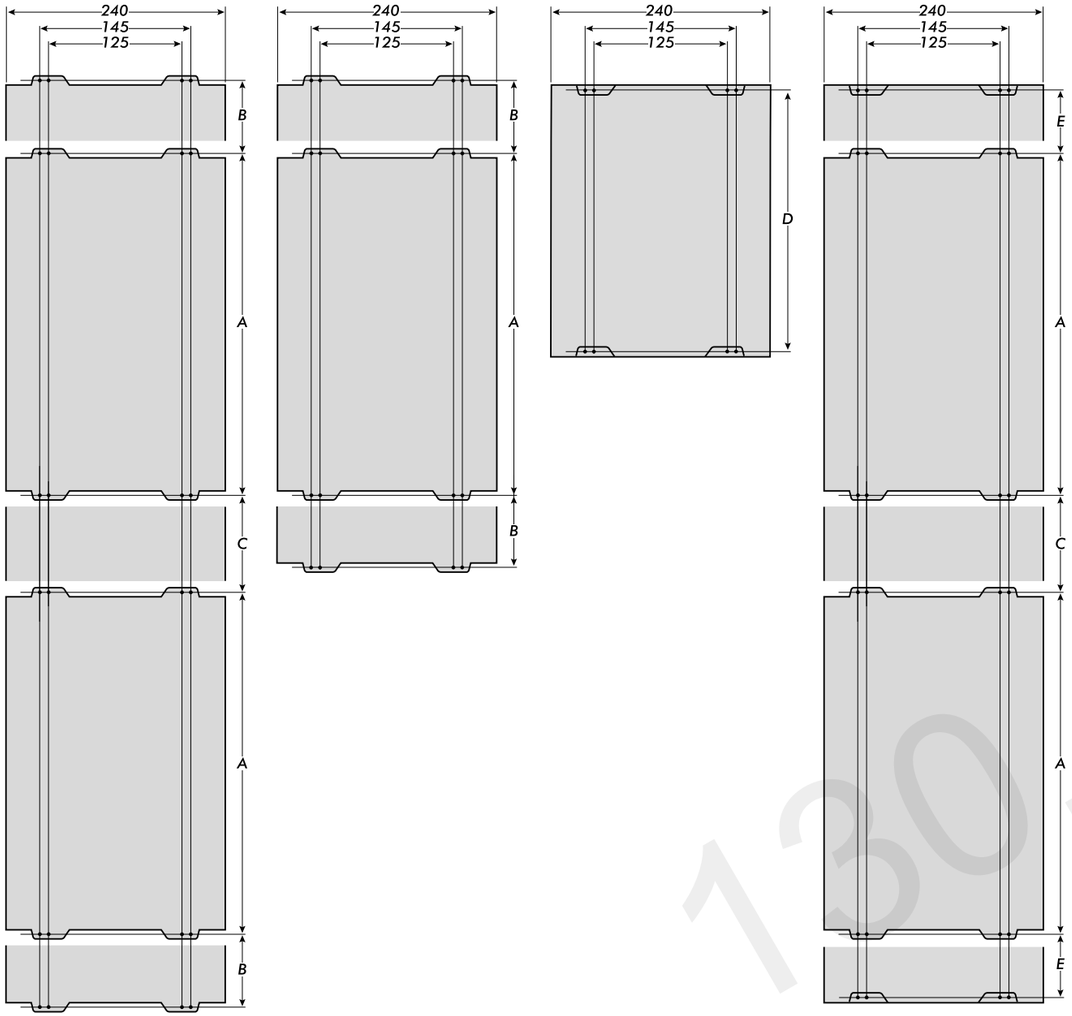


3 – Check the value of the fuse you have to insert (refer to the value indicated in the fuse location if it is used with not particularly difficult loads).

4 – Insert and fix the new fuse by fastening the two screws gradually and alternately, in order to avoid voltage drops along the line and to make the device perfect functioning easier.

5 – Close the location through the transparent cover.

VRx size



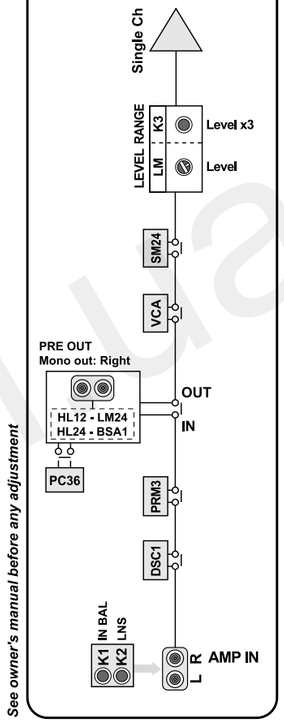
mm	VRx1 500	VRx2 150	VRx2 250	VRx2 400	VRx4 300	VRx6 420	TRM4	TRM6	RC08	RC10	RC12
A	420	320	370	420	475	560					
B							39,5	59,5			
C									62	82	102
D	383	283	333	383	438	523					
E							22	42			

VRx1.500

Short guide under wooden strip

It shows outputs configurations and controls meaning

BLOCK DIAGRAM



· *INCOLLARE QUI LO SCHEMA A BLOCCHI DELLA MULTICHANNEL EXTENSION*

· *STICK THE MULTICHANNEL EXTENSION BLOCK DIAGRAM HERE*

· *COLLER ICI LE SCHEMA DE BRANCHEMENT D'EXTENSION MULTICHANNEL*

· *KLEBEN SIE DAS MULTICHANNEL EXTENSION BLOCK DIAGRAM HIER*

10125741 A

VRx1 controls

K1 B *Balanced* / U *Unbalanced* — *Amp in: R only* — IN Bal

K2 OFF / ON — *Line Noise Suppressor* — LNS

K3 H *0.15 ÷ 1.5V* / L *0.5 ÷ 5V* — *IN sensitivity range* — LEVEL x3

LM — *Level* — *Range* K3 — LEVEL

· *INCOLLARE QUI LA GUIDA RAPIDA DELLA MULTICHANNEL EXTENSION*

· *STICK THE MULTICHANNEL EXTENSION SHORT GUIDE HERE*

· *COLLER ICI LE RESUME DU MANUAL D'UTILISATION D'EXTENSION MULTICHANNEL*

· *KLEBEN SIE DIE MULTICHANNEL EXTENSION KURZ-BESCHREIBUNG HIER*

PC36 *Continuous phase controller*

YH — *Phase adjustment* — *- Degrees -* — *40÷200 Hz (factory preset); 200÷800 Hz; 800÷4500 Hz 3 pos. internal presets*

YB ON *PC36 on* / OFF *PC36 by-pass*

SM24 *Subsonic mono filter*

WF — *Frequency adjustment* — *- Hz -*

WB ON *SM24 on* / OFF *SM24 by-pass*

DSC1 *Dynamic sub control*

PG — *Gain adjustment* — *- dB -*

PF — *Frequency adjustment* — *- Hz -*

PT — *Standard adj.* 3 — *Time delay adjustment*

PRM3 *Parametric equaliser*

JF — *Frequency adjustment* — *- Hz -*

JB ON *PRM3 on* / OFF *PRM3 by-pass*

JM ON *Activates JX* / OFF *20 Hz ÷ 200 Hz*

JX x100 *2 KHz ÷ 20 KHz* / x10 *200 Hz ÷ 2 KHz*

JL — *Level adjustment* — *- dB -*

JQ — *Q adjustment*

MULTICHANNEL EXTENSIONS

- **HL12** *Hi/Lo-pass stereo, 12 dB/Oct.*
- **HL24** *Lo-pass mono for Sub, 24 dB/Oct. and Hi-pass stereo, 12 dB/Oct.*
- **LM24** *Lo-pass mono, 24 dB/Oct.*
- **BSA1** *Line repeater and balancer*

VRx1.500

Controls and functions

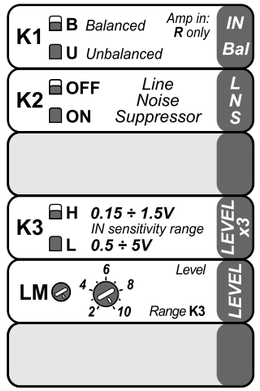
Leds

ON - Green led
It indicates the amplifier is on.

SAFETY - Red led
It indicates protection intervention: excessively high temperature or output anomalies (direct current, short circuit or dangerously low load impedance). Protection intervention stops the amplifier functioning. Switch the amplifier off; when anomaly is eliminated, switch the amplifier on again.

PEAK - Orange led
It is on when VRx amplifier is about to reach distortion threshold. It is useful to adjust inputs sensitivity.

Short guide



Controls description

K1 - Bal/Unbal inputs switch.

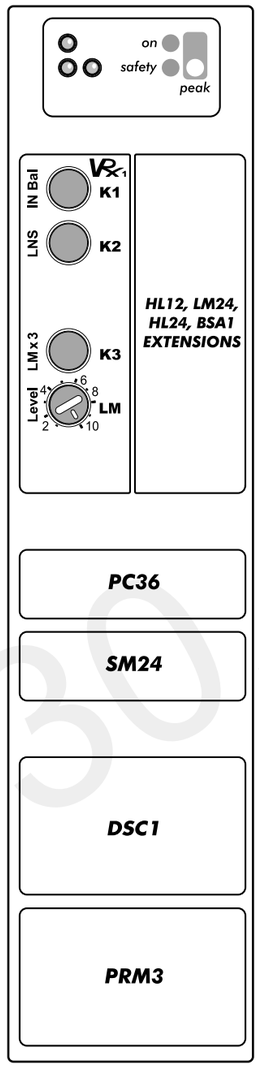
K2 - LNS circuit **ON/OFF** switch for line noise suppression.

K3 - It selects **sensitivity range.**

LM - Amplifier input **sensitivity adjustment.**

Note: In case of installations with more amplifiers connected in cascade, we recommend to put **K2** onto **ON** in the first device (i.e. the one which receives the signal from the head unit), leaving it onto **OFF** in the others.
If disturbance persists, you can activate **LNS** anti-noise circuit also in the other amplifiers.

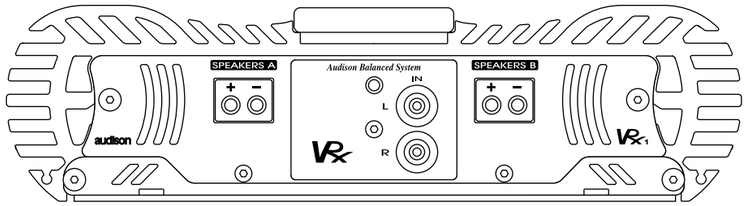
Controls under wooden strip



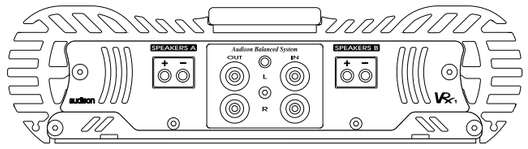
audison

2000 EDITION ***VRx1.500***

VRx1.500



Inputs panel with multichannel extensions:
HL12 - LM24
HL24 - BSA1



Technical features

POWER SUPPLY . . . . . .11 ÷ 15 VDC
IDLING CURRENT . . . . . .1.8 A
IDLING CURRENT WHEN OFF . . . . . .< 0.04 mA
CONTINUOUS NOMINAL POWER Tol.: (+10%/-5%); 0.3% THD; 12 VDC
1 ch on 4 Ohms . . . . . .500 W (RMS)
CONTINUOUS POWER Tol.: (+10%/-5%); 1% THD; 12,6 VDC
1 ch on 4 Ohms . . . . . .560 W (RMS)
CONTINUOUS POWER Tol.: (+10%/-5%); 1% THD; 13,8 VDC
1 ch on 4 Ohms . . . . . .560 W (RMS)
1 ch on 2 Ohms . . . . . .1080 W (RMS)
1 ch on 1 Ohm . . . . . .2000 W (RMS)
THD DISTORTION (1 kHz; 90% Nominal Power) . . . . . .0.01 %
IMD DISTORTION (90% Nominal Power) . . . . . .0.05 %
BANDWIDTH (-3dB; Nominal Power) . . . . . .2 Hz ÷ 50 kHz
S/N RATIO (A weighed - 1 VRMS input) . . . . . .100 dBA
REMOTE IN . . . . . .7 ÷ 15 VDC
REMOTE OUT . . . . . .12 VDC - 150 mA
INPUT SENSITIVITY (high) . . . . . .0.15 ÷ 1.5 VRMS
INPUT SENSITIVITY (low) . . . . . .0.50 ÷ 5.0 VRMS
INPUT IMPEDANCE . . . . . .15 kOhms
LOAD IMPEDANCE . . . . . .8 - 4 - 2 - 1 Ohm
SIZE (W x H x D) mm . . . . . .240 x 64 x 432
SIZE (W x H x D) inches . . . . . 9.4 x 2.5 x 17
INTERNAL FUSE 150A

ABSORBED CURRENT AT MAXIMUM MUSICAL POWER - EXTERNAL FUSE CHOICE
13,8V - 4 Ohm . . . . . .32 A
13,8V - 2 Ohm . . . . . .68 A
13,8V - 1 Ohm . . . . . .149 A

Measures were realised through a test-set consisting of Rohde & Schwarz UPD audio analyser, HP 6453A power supply (200A continuous) and 14F capacitive booster made with ***audison cable*** **Superfarad** capacitors.

Please always choose a fuse of equal or slightly higher value (max 10%) than indicated.

Note:
The use of MAC2 cooling system is strongly recommended when the amplifier is employed at full power with 2 Ohm or 1 Ohm loads.

VRx1.500

Block diagram