

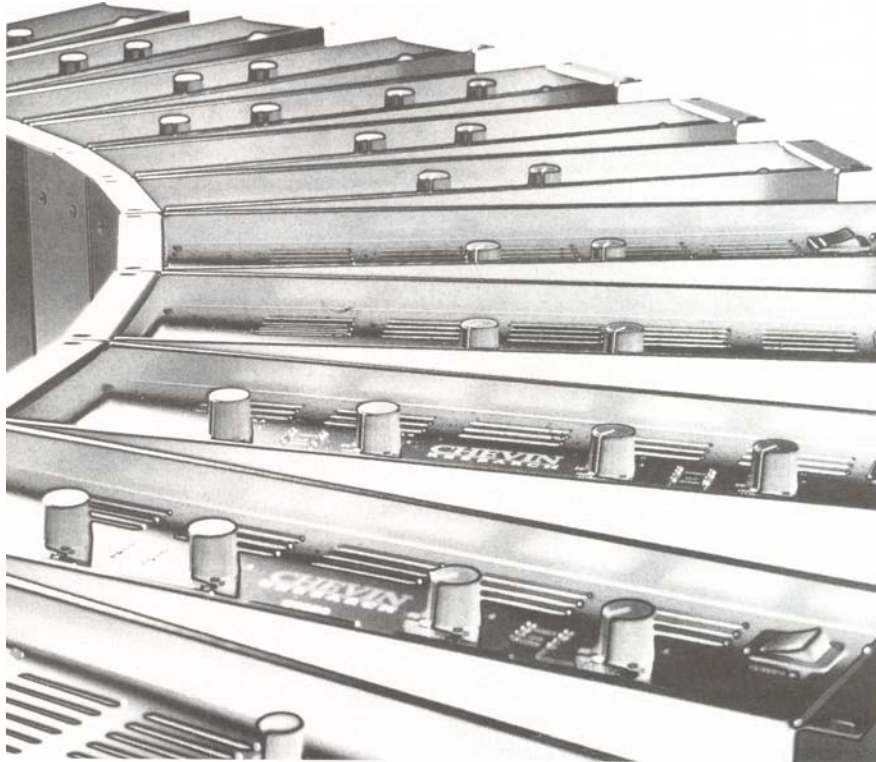
CHEVIN[®]

RESEARCH

USER MANUAL

PROFESSIONAL POWER AMPLIFIERS

A1000♦A1004♦A1500♦A3000♦A5003♦MB3000♦
Q6♦Q1004♦QB1000/600



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Installation

Box Contents

In addition to your amplifier and this manual the carton should contain the following items:

- Q6, Q1004, QB1000/600 four Speakon plugs
- All other models two Speakon plugs
- **Warrenty card** – please complete this card and return it to Chevin Research. Failure to register may result in delays if you require warranty service. See rear cover for warranty.

Positioning

- Your amplifier must have good ventilation. Air is drawn in at the rear panel and is expelled at the front. It is vital to keep front and rear of Unit free from obstruction.
- Your amplifier may be used free-standing or installed in a 19" rack. If installed in a rack, the rear of the chassis should be supported. Rear rack-mount supports are integral on all models

Power

Wiring

- EARTHING: All Chevin amplifiers **must** be earthed.
- The amplifiers have fixed power cables, colour coded European standards:
Green/Yellow = Earth Blue = Neutral Brown = Live
- The live connector in certain 115V models is coloured RED
- The amplifier must be connected to a 3-pin grounded outlet via a 3-pin connector of sufficient voltage and current rating. If the connector has provision for a fuse, a suitable fuse must be fitted.

Mains supply

- The power rating of the supply should be at least twice the total audio output of the system.
- VOLTAGE SELECTION: Your amplifier is factory set to your local supply voltage and should be changed only by an authorised Chevin dealer
- ELECTRIC SHOCK/FIRE HAZARD: The unit must be connected to an adequately rated grounded outlet. All related cables, connectors and switch gear must be sufficiently rated to avoid risk of overheating and fire.

Three phase systems

- IMPORTANT: The neutral current will not balance on three-phase systems.
- Use individual neutral connections from each phase outlet back to distribution point.
- Alternatively, ensure the neutral conductor is of sufficient capacity to handle a return current equal to the sum total of the current in the three phases.

Inputs

- XLR connectors are used on all amplifier inputs.
- Do not directly connect any channel to more than one signal source, these are **not** mixing amplifiers.
- All inputs are electronically balanced and can accept signals from balanced and unbalanced sources. Maintain the same phase polarity on all equipment in the signal chain.

Inputs from balanced sources

Use shielded cable with an XLR connector at the amplifier and either a jack plug, phono plug or XLR connector, as appropriate:

- Ground/screen and COLD (-): At the source end, connect the COLD signal wire cable braid to the sleeve of jack plug or phono connector, or pin 1 of an XLR connector (if used).
- At the source end of the cable, connect HOT (+) signal to the tip of the jack plug, the pin of the phono plug or pin 2 of an XLR connector (if used)
- Connect the XLR at the amplifier end as per 'Inputs from balanced sources' above.

Mono bridging

Various models can have their channels bridged together (except MB3000, QB 1000/600). For details about necessary wiring, see page 2

Speakon is a registered trademark of Neutrik AG
XLR is a registered trademark of ITT Cannon Ltd.

Outputs

Connections are made to the amplifier load using Neutrik Speakon sockets. As with input connectors, maintain phase polarity throughout the system.

IMPORTANT: High voltages are present at output terminals during operation and for a period afterwards. Do not connect the amplifier to any other amplifier output or to any equipment other than a speaker system.

Take great care to note the wiring specifications particular to your amplifier model:

A1000♦A1004♦A1500♦A3000♦A5003

Two parallel-connected Speakon sockets per channel, wired as follows:

1+ = HOT	2+ = NO CONNECTION
1- = COLD	2- = COLD (not Ground)

MB3000

Two parallel-connected Speakon sockets, wired as follows:

1+ = HOT	2+ = NO CONNECTION
1- = COLD (not Ground)	2- = COLD

WARNING: The MB3000 outputs are permanently connected in bridge mode. Both hot and cold outputs carry high level signal. Further bridging is impossible. Do not connect any part of the MB3000 outputs to ground. Take care when using loudspeaker controllers or processors.

Q6♦Q1004

One Speakon socket per channel, parallel connected in channel pairs: A&B, C&D. Each socket in pair carries the output of both channels, wired as follows:

Channel A&B sockets:	Channels C&D sockets:
1+ = HOT A 2+ = HOT B	1+ = HOT C 2+ = HOT D
1- = GROUND 2- = GROUND	1- = GROUND 2- = GROUND

QB1000/600

One Speakon socket per channel, parallel connected in pairs: A&C, C&D. Each socket in the pair carries the output of both channels. Wired as follows:

Channel A&B sockets:	Channels C&D sockets:
1+ = HOT B 1000W 2+ = HOT A 600W	1+ = HOT C 1000W 2+ = HOT D 600W
1- = GROUND 2- = GROUND	1- = GROUND 2- = GROUND

Speaker power ratings

Suggested speaker ratings per amplifier channel, in watts.

Model		16Ω	8Ω	4Ω	2Ω
A1000♦Q6		230	450	900	-
A1004♦Q1004		400	750	1500	-
A1500		500	1000	1900	-
QB1000/600	A&D	230	450	900	-
	B&C	400	750	1500	-
A3000		350	650	1300	-
A5003		500	1000	2000	3600
MB3000		800	1200	2600	4500

Speaker impedances

Correct loadings for all models are shown here. Multiple speakers are connected parallel.

A1000♦A1004♦A1500♦Q6♦Q1004♦QB1000/600 (per channel)

WARNING: Do not use a system with total impedance per channel less than 4Ω.

4 or less speakers of 16Ω OR 2 or less speakers of 8Ω OR 1 speaker of 4Ω

A3000♦A5003(per channel)♦MB3000

WARNING: Do not use a system with a total impedance per channel less than 2 Ω

8 or less speakers of 16Ω OR 4 or less speakers of 8Ω OR 2 or less speakers of 4Ω OR 1 speaker of 2 Ω

Note: The MB3000 incorporates an adjustable output limiting control, concealed behind the front panel. Consult an authorised Chevin dealer to enable this feature.

Mono bridge mode

WARNING: You cannot bridge the A6000, QB1000/600

Inputs

Q6♦Q1004

1. Make two leads, one for each source channel. Each lead needs 2 XLR plugs at the amplifier end.
2. In each lead, HOT output from the source goes to pin 2 of the first XLR & pin 3 of the second XLR.
3. In each lead, COLD output from the source goes to pin 3 of first XLR & pin 2 of second XLR.
4. The cablescreen goes to pin 1 of both XLR plugs.
5. In each lead, first XLR goes to INPUT A (INPUT C) and second XLR goes to INPUT B (INPUT D).

A1000♦A1004♦A1500♦A3000♦A5003

1. Split the speaker cable by separating the two conductors for a distance of 20 cm along cable.
 2. Connect the red conductor to terminal 1+ of the channel A Speakon connector.
 3. Connect the black conductor to terminal 1+ of the channel B Speakon connector.
- Do not make connections to any other terminals.

Q6♦Q1004

1. Connect the red conductor of the speaker cable to terminal 1+ of channel A (C) Speakon connector.
2. Connect the black conductor of the speaker cable to terminal 2+ of channel B (D) Speakon connector.

WARNING: Do not make connections to terminals 1- or 2-.

Operation

Set the gain controls of both channels in the same position (preferably at maximum), and control the gain from elsewhere in the system. This ensures the load is shared equally between channels.

Loading and power output

Please see rear page for mono bridge loading and power values.

Operation & Servicing

Switching on

1. Turn the gain controls to the minimum positions.
2. Connect the unit to a mains supply of sufficient power and click the front panel switch(es) to the ON position. Depending on the internal temperature, the fans may run.
 - The green *Power* indicators will illuminate.
 - The red *Clip* indicators will illuminate if overdriving is imminent .

WARNING: Keep sound levels down High levels of sound can damage hearing.

Sitching off

- Turn the gain control(s) to the minimum position(s). Click the front panel switch(es) to the OFF position and disconnect from the mains supply.

WARNING: High voltages are present at output terminals for a period after sitching off.

Protection systems

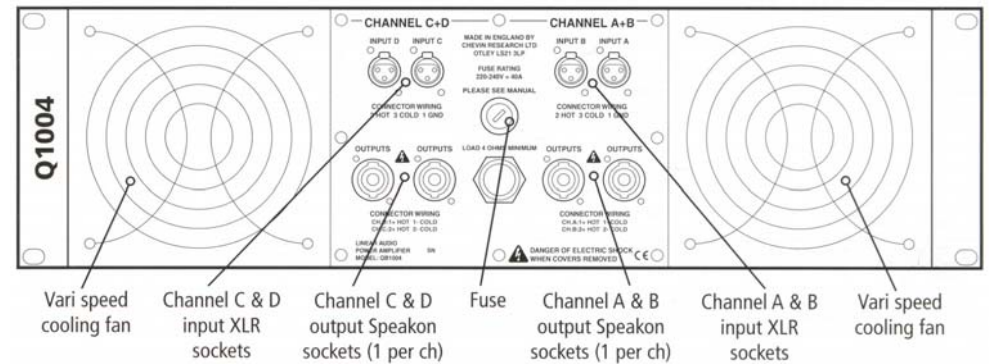
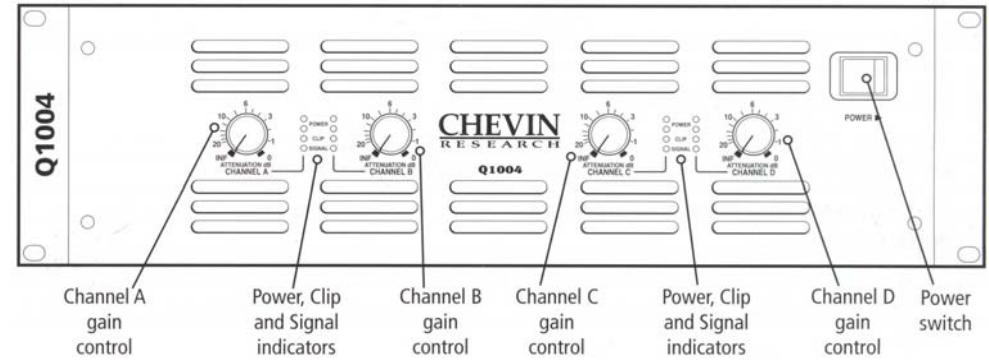
- Mains power supply failure: When power is restored, the amp will AutoMute for five seconds. Do not increase gain settings during this period.
- Shorted output: The unit can operate indefinitely into a shorted output. Normal operation will resume upon removal of the short circuit.
- Low load impedance: Protection is immediate
- Clipping: The affected channel's red Clip indicator will illuminate shortly before clipping. A further increase in signal level will activate the SoftClip circuit.
- RF, DC or very low frequency signal at output: A self resetting circuit will activate to protect the load.
- Cooling systems: The internal fans react to both high signal level and temperature inside the unit. If the ambient temerature is high, fan speed will increase even in the absence of a signal.

Servicing

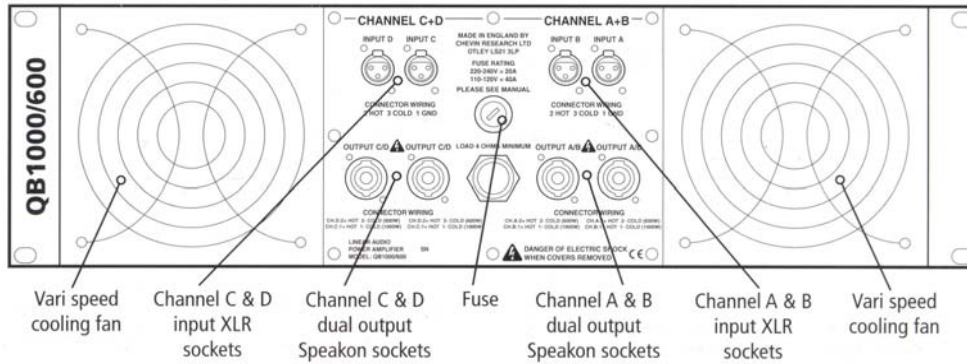
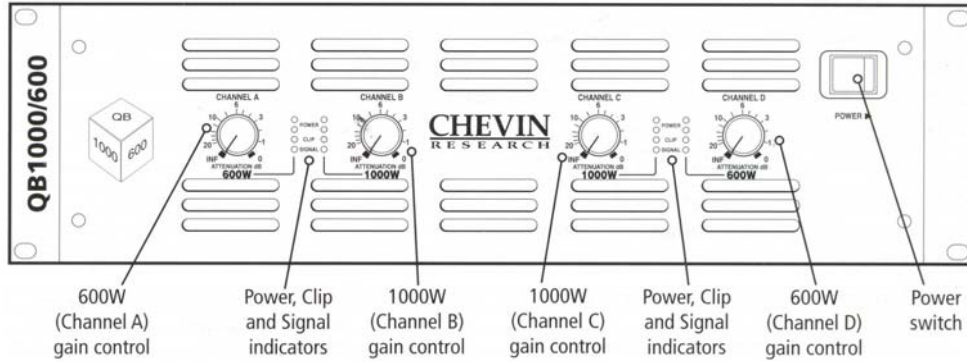
WARNING. All servicing and internal maintenance must be referred to an authorised Chevin dealer. Chevin Research accepts no responsibility or liability relating to injury or damages suffered as a result of mususe or unauthorised tampering with amplifiers.

- Do not remove any covers or touch any internal parts. Do not allow any objects (e.g. screwdrivers, cable ends, etc.) to enter the unit
- If the unit or any other electrical equipment in the system becomes wet during operation, disconnect the power source immediately. Do not touch the amplifier. Consult qualified engineer.

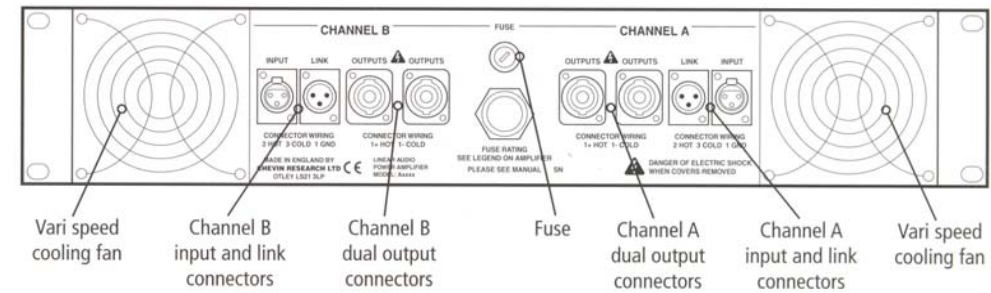
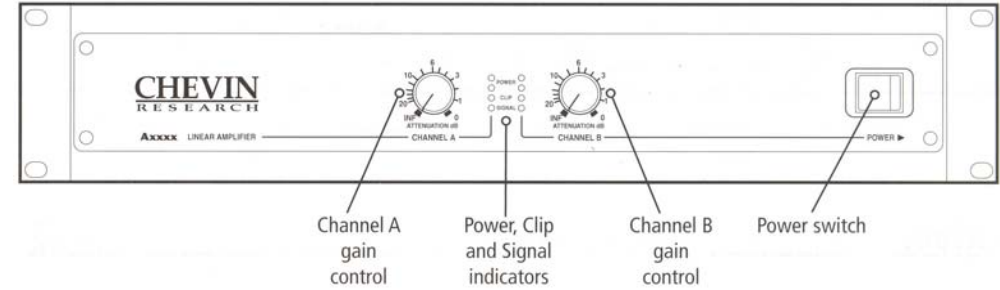
If there are any signs of mechanical damage, disconnect the power and consult a qualifies engineer.



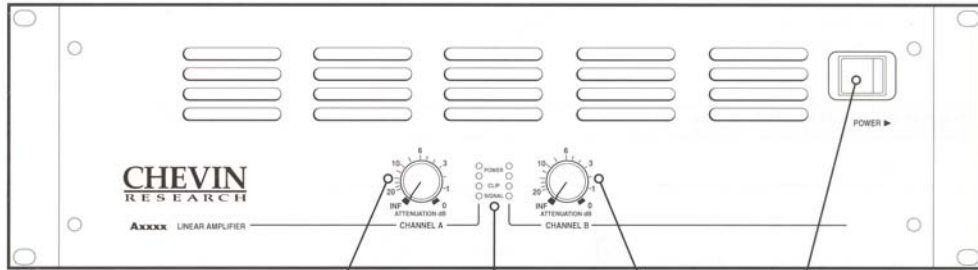
QB1000/600



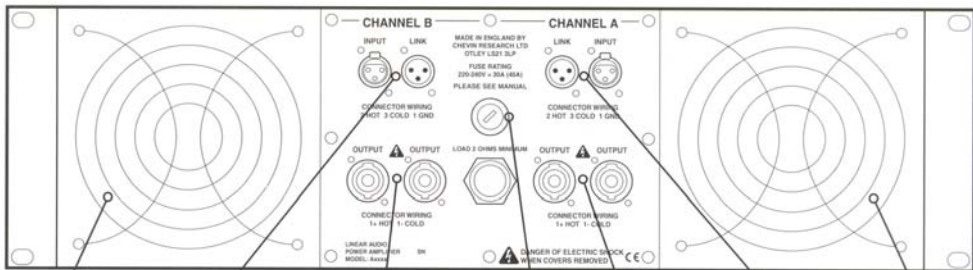
A1000♦A1004♦A1500♦A3000



A5003



Channel A gain control
 Power, Clip and Signal indicators
 Channel B gain control
 Power switch

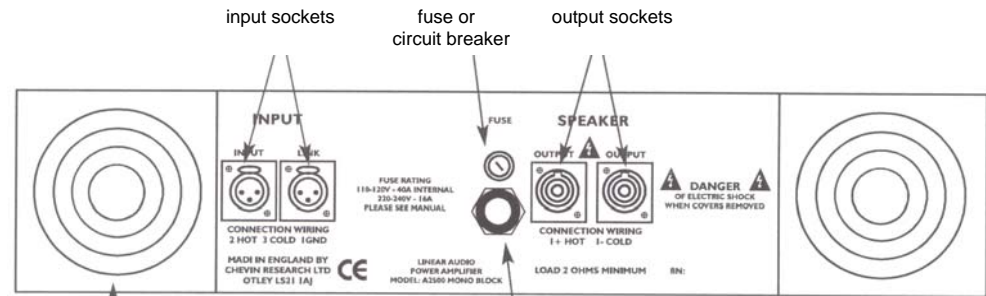


Vari speed cooling fan
 Channel B input and link connectors
 Channel B dual output connectors
 Fuse
 Channel A dual output connectors
 Channel A input and link connectors
 Vari speed cooling fan

MB3000

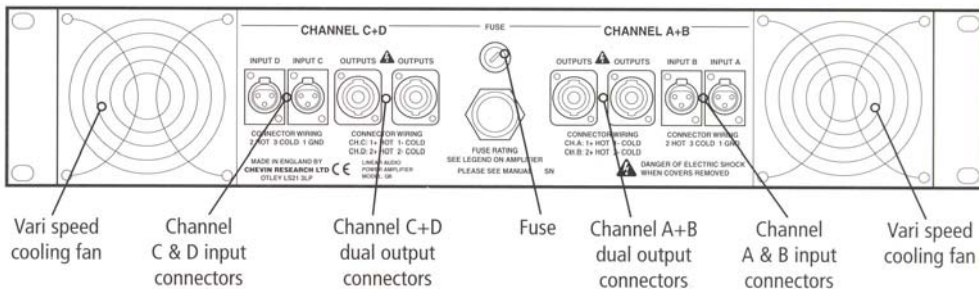
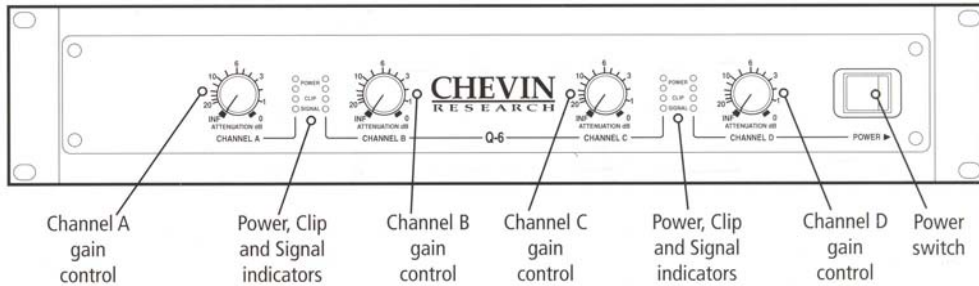


output barograph
 power signal and clip
 gain control
 power switch



vari speed cooling fans
 power cable

Q6



Mono bridge loading and power outputs

Model	Minimum load	Power output
A1000	1 load of 8Ω	1200W
A1004	1 load of 8Ω	2000W
A1500	1 load of 8Ω	2500W
A3000	1 load of 4Ω	3000W
A5003	1 load of 4Ω	5000W
Q6	1 load of 8Ω per channel pair	1200W per channel pair
Q1004	1 load of 8Ω per channel pair	2000W per channel pair

Warranty

This precision engineered CHEVIN product is guaranteed against defects due to faulty materials and workmanship for a period of twenty four (24) months from the date of the original purchase, subject to the following restrictions:

- This warranty is only valid in the country of purchase.
- The equipment has not been abused or opened in conjunction with unsuitable or faulty apparatus. The equipment has not been disassembled, modified or tampered with by any person other than our CHEVIN staff or overseas by our own or distributors' staff.
- The equipment has not suffered damage in transit.

Should service be required, notify the dealer from whom you purchased the equipment to arrange for an authorised CHEVIN agent to confirm the need for attention.

- Do not dispatch the goods without the prior approval of CHEVIN or its authorised agents. If asked to return the goods, pack them carefully (preferably in the original carton) and return pre-paid. Insurance is recommended as goods are returned at owner's risk.
- Packing insurance and freight on the return journey will be paid for by CHEVIN or its authorised agents only if warranty work proves necessary. If warranty work proves unnecessary, goods will be released upon payment by owner for charges for non-warranty repair work and return packing, insurance and freight.
- The attached warranty card should be completed and returned to CHEVIN RESEARCH.
- Failure to register by not returning the warranty card in no way limits or invalidates the warranty, but in the event of service being required, delay may result since warranty work cannot begin until the original sale has been verified.
- In case of difficulty, contact CHEVIN RESEARCH. This warranty in no way affects your statutory rights.

This manual is intended for informational purposes only. All details included herein are subject to change without notice. Chevin Research shall not be held responsible for any damages, direct or indirect, arising from or relating to the use of this manual.

General Specifications	A1000	A1004	A1500	Q6	Q1004	QB1000/ 600	A3000	A5003	MB3000
RMS power output into 8Ω (per chan.) into 4Ω (per chan.) into 2Ω (per chan.) No. of channels	350W 600W 2	600W 1000W 2	750W 1500W 2	350W 600W 4	600W 1000W 4	2x600/350W 2x1000/600W 4	500W 900W 1600W 2	900W 1500W 2500W 2	1200W 2000W 3000W 1
Power bandwidth +0db,-3db Slew rate in excess of Gain	2Hz-80KHz 75V/μS x50	2Hz-80KHz 75V/μS x65	2Hz-80KHz 60V/μS x70	2Hz-80KHz 75V/μS x50	2Hz-80KHz 75V/μS x65	2Hz-80KHz 75V/μS x65/x50	2Hz-80KHz 50V/μS x60	2Hz-80KHz 65V/μS x70	2Hz-50KHz 50V/μS x90
Total harmonic distortion typical@ 1db below clip 20 kHz @ 1dB below clip	0,04% 0,07%	0,04% 0,07%	0,04% 0,07%	0,04% 0,07%	0,04% 0,07%	0,04% 0,07%	0,04% 0,07%	0,04% 0,07%	0,04% 0,07%
Signal to noise ratio typ. ref. full output, unweighted worst case 10 Hz – 30 kHz	- 125 dB - 95 dB	- 125 dB - 95 dB	- 125 dB - 95 dB	- 125 dB - 95 dB	- 125 dB - 95 dB	- 125 dB - 95 dB	- 125 dB - 95 dB	- 125 dB - 95 dB	- 125 dB - 95 dB
Crosstalk typical worst case 10 Hz – 30 kHz	- 115 dB - 95 dB	- 115 dB - 95 dB	- 115 dB - 95 dB	- 115 dB - 95 dB	- 115 dB - 95 dB	- 115 dB - 95 dB	- 115 dB - 95 dB	- 115 dB - 95 dB	- 115 dB - 95 dB
Damping factor Input impedance electronically balanced	400 10 KΩ	400 10 KΩ	400 10 KΩ	400 10 KΩ	400 10 KΩ	400 10 KΩ	400 10 KΩ	400 10 KΩ	400 10 KΩ
Common mode rejection (typ.) Input sensitivity ref. full output into 4	- 70 dB 1V RMS	- 70 dB 1V RMS	- 70 dB 1V RMS	- 70 dB 1V RMS	- 70 dB 1V RMS	- 70 dB 1V RMS	- 70 dB 1V RMS	- 70 dB 1V RMS	- 70 dB 1V RMS
Protection clipping load below 2.4 shorted output, DC or RF at output	soft dynamic linear immediate	soft dynamic linear immediate	soft dynamic linear immediate	soft dynamic linear immediate	soft dynamic linear immediate	soft dynamic linear immediate	soft dynamic linear immediate	soft dynamic linear immediate	soft dynamic linear immediate
Power consumption 50/60 Hz AC in Volts internally selectable for	220-240V 100-120V	220-240V 100-120V	220-240V 100-120V	220-240V 100-120V	220-240V n/a	220-240V 100-120V	220-240V 100-120V	220-240V n/a	220-240V 100-120V
Dimensions/weight rack units height x width x depth (inches) height x width x depth (mm) gross weight net weight	2U 3,5x19x15 88x483x381 10 kg/22 lbs 8,5 kg/19 lbs	2U 3,5x19x15 88x483x381 13,3kg/29 lbs 11,7kg/26 lbs	2U 3,5x19x15 88x483x381 14 kg/31 lbs 12,4kg/27 lbs	2U 3,5x19x15 88x483x381 14 kg/31 lbs 12,3kg/27lbs	3U 5,25x19x15 132x483x381 16 kg/34 lbs 14kg/29,6 lbs	3U 5,25x19x15 132x483x381 20 kg/44 lbs 18 kg/40,5 lbs	2U 3,5x19x15 88x483x381 14 kg/31 lbs 12,4kg/27lbs	3U 5,25x19x15 132x483x381 16 kg/34 lbs 14kg/29,6 lbs	2U 3,5x19x15 88x483x381 14 kg/31 lbs 12,4 kg/27 lbs