

IBV050Q
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BV050Q

Operating Instructions

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BALDWIN BOX▲LL
C O M M U N I C A T I O N S

VIGIL BV050Q

The Vigil2 BV050Q contains four independent 50 Watt Class “D” Power amplifiers, each with one 500 mV balanced input and a 50 Watt 100V Line output.

The front panel status indicators show “Supply Healthy”, “Overload”, “Over Temperature” and Output Level (10% and 100% max output level) for each amplifier.
The “Active” Indicator illuminates when the amplifier is not in Sleep Mode.

CLASS D amplifiers are 80% efficient therefore reducing unwanted heat dissipation and power input requirements. Rated output power is obtainable using a 22V battery supply. The BV050Q has a Sleep mode automatically reducing the standby current requirement to typically 50mA per amplifier when operating on batteries.

Channel gain may be individually set using the potentiometers on the board behind the front panel.

The audio inputs to the amplifiers are presented on separate RJ45 connectors; each connector providing the balanced audio input and a ground connection.
The outputs are presented on 6-way plug/screw termination connectors providing 50V or 100V output.
The 24V DC input is presented on a 2-way crimp connected plug and socket.

The power output stage of the amplifier is protected against overload conditions (i.e. short circuits or abnormal loads etc). Should the amplifier be subjected to an abnormal load the input to the power amplifier is attenuated to a safe level. The amplifier’s output voltage is also sensed and should it exceed 100V the input signal will be attenuated ensuring safe operation without creating unnecessary distortion.

Over temperature protection is provided using a sensor attached to the output stage heat sink. Should the temperature exceed 90 Degrees Celsius the input signal will be attenuated to a safe level and the “Overtemp” LED will be illuminated.
If the system is under surveillance it will cause the surveillance detector to indicate a fault condition due to the gain reduction.

Up to three BV050Q Amplifier modules may be mounted in one BVMF equipment frame, or more normally, two amplifier modules and one switched mode power supply / charger module.

BV050Q Specification

Rated output power less than 0.2% THD	50W @ 200 Ohms
Output regulation 50W @ 200 Ohms	Better than 2 dB
Output Voltages obtainable	50 & 100V
Frequency response 50W @ 200 Ohms	35 Hz – 20 kHz
Input sensitivity and impedance	500mV @ 40Kohms balanced
Input common mode rejection ratio (50Hz – 30kHz)	Better than 40dB, typically 60dB
Output noise reference to rated output	Better than 80 dB
Cross talk between amplifiers @ 1kHz	Better than 70dB
Supply Voltage	22 – 35V DC

Supply current (all amplifiers):

Sleep mode 26V battery	200mA
Quiescent 30V supply	600mA
Rated output power i.e. 4 x 50W	10A

Output stage protection:

Thermal	Output stage above 90 °C
Load	Output stage current
Action	Reduces input to a safe level using a low distortion voltage controlled attenuator.

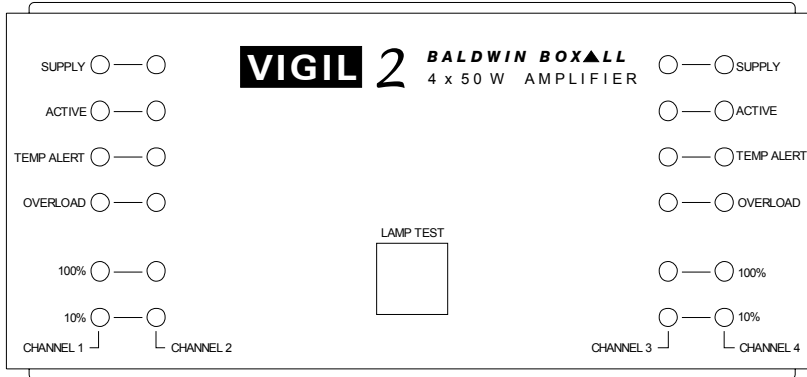
Front panel indicators per amplifier

Supply	DC supply connected
Temperature alert	Output stage above 90 °C
Overload	Protection circuit operating
Active	Amplifier is active, not in sleep mode
100%	100V output Voltage
10%	10V output Voltage
Lamp test switch for the above indicators	

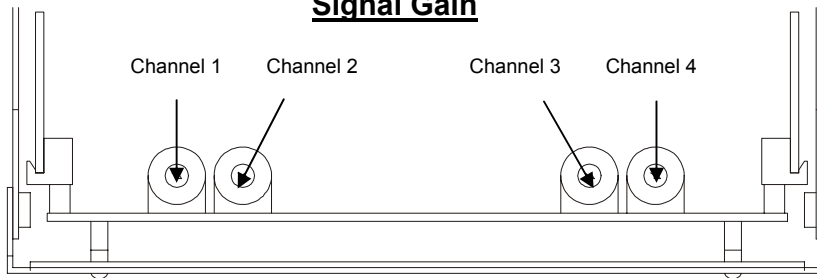
Terminations:

Loudspeaker line output	2 off 6 pin screw terminated connector
Balanced line inputs	4 off RJ45 8 pin connector
DC supply input	2 off 2 pin crimp terminated connector

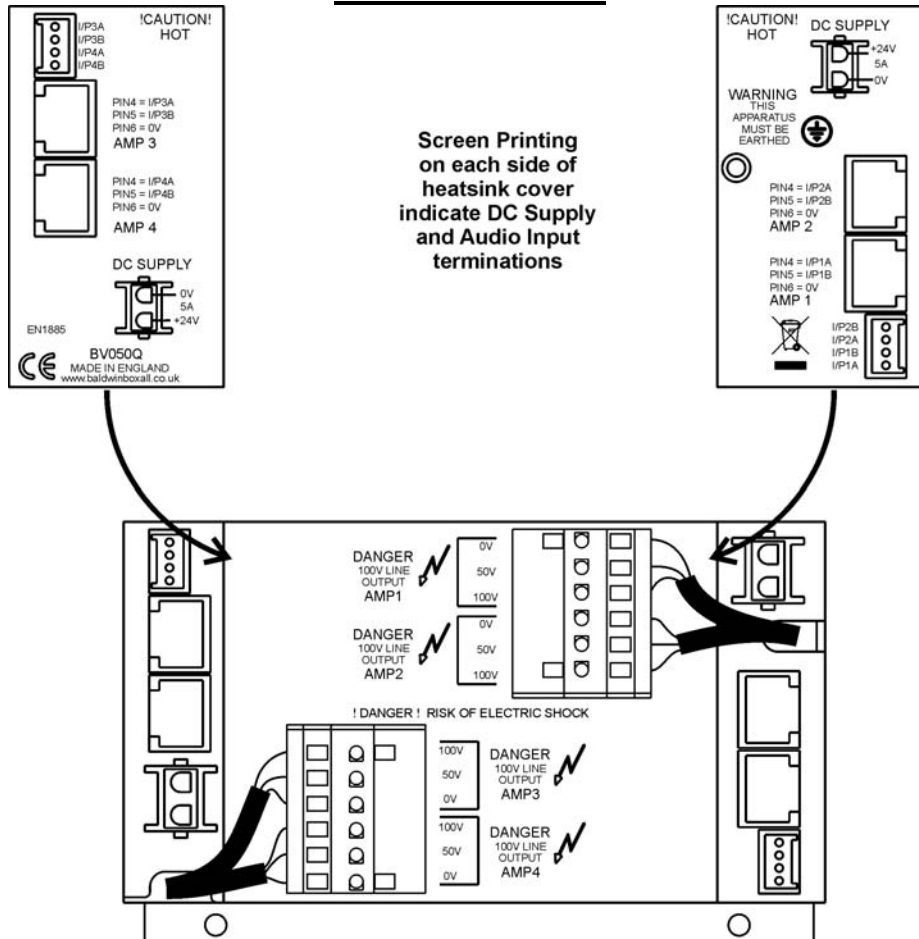
Front Panel



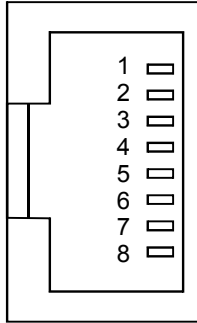
Adjust For Input Signal Gain



Rear Panel View



RJ45 Input Connector Details



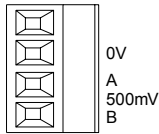
Pin #	Wire Colour	I/P Connector #1
1	Orange / White	NC
2	Orange	NC
3	Green / White	NC
4	Blue	Audio Input 1A
5	Blue / White	Audio Input 1B
6	Green	0V
7	Brown / White	NC
8	Brown	NC

The input connections are identical for all 4 amplifiers.

Connection details if using a “QLCONV” RJ45 Conversion Lead

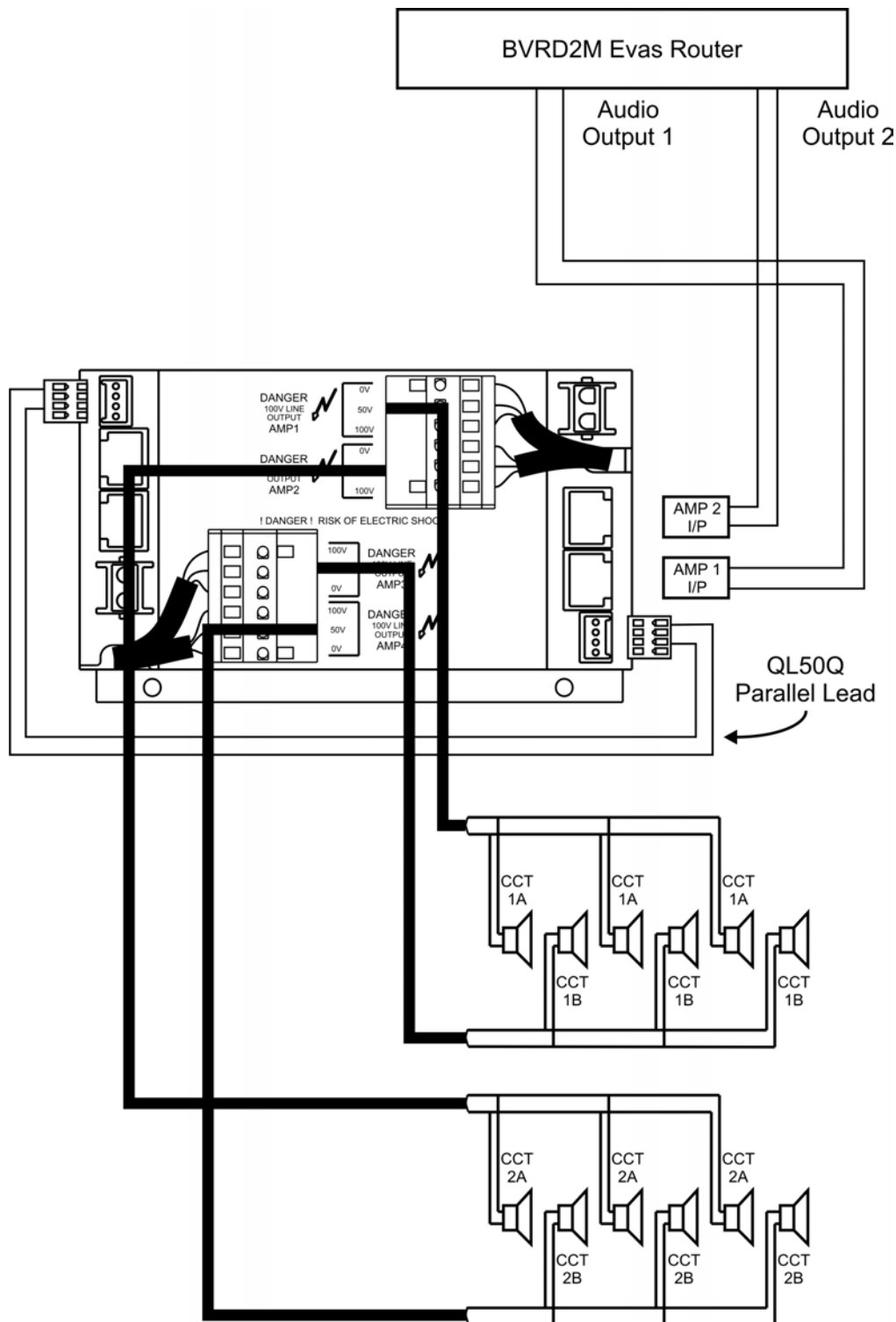
The QLCONV lead enables an amplifier with RJ45 input connections to be used in an existing system without modifying the system wiring. The Conversion lead can be used on all input connections on the BV050Q and changes the input configuration to a 4 way screw terminal.

The terminations are shown below as they would appear when the QLCONV is connected to one of the inputs on the BV050Q.



Ident	Wire Colour	RJ45 Pin	Input Connector
NC	Green / White	3	NC
0V	Green	6	0V
I/P A	Blue	4	Audio Input A
I/P B	Blue / White	5	Audio input B

Wiring Example for 2 x Dual CCT System using a Single BV050Q



CCT 1 is fed from amplifier 1 and 3, and CCT2 is fed from amplifier 2 and 4.

The Audio Input for amplifiers 3 and 4 is received via the optional QL50Q Parallel lead.