The CHILTON VCA 4 OUT Headphone Amplifier allows balanced or unbalanced stereo line inputs with MASTER VOLUME control and MONO select to 4 separate stereo output jacks with VOLUME level control.
The source signal is normally connected to the rear XLR inputs or front panel jack sockets, the latter has priority, outputs are either by front panel jack sockets or rear XLR's. *See Flow Diagram.*

Each VCA can be controlled from 3 summing inputs.

1.Front panel VOLUME.

2.Remote port for each stereo output.

3. Remote port for master control of all outputs.
Normally the master volume control is turned fully up and is adjusted for very high input levels, maximum input +26dBu.

1. Can be used as manual VOLUME control or limit level to headphones.

2. Used by either control-room to adjust level or headphone user preference.

3. Allows remote setting of maximum level or fade of all outputs simultaneously from level set by front panel VOLUME control.

The REMOTE PORT 15way 'D' connector allows 4 stereo and 1 master each with 3 wire connections to a standard 10k ohm linear potentiometer or fader. No additional common or supply is required. Each has a separate 5volt regulator with 100 ohm limit resistor.

## Updated information Version 5

Table of maximum power and voltage outputs
Per channel (total 8) for various HP Impedance.

| | | |
|---|---|---|
| 50ohms | 652mW | 5.7volts AC |
| 100ohms | 413mW | 6.4volts AC |
| 300ohms | 216mW | 8.0volts AC |
| 600ohms | 108mW | 8.0volts AC |

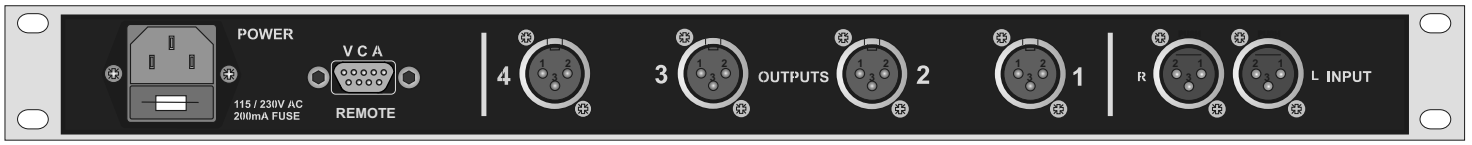
Below Power and Voltage requirements for Various Headphones to achieve 110 S.P.L. Considered maximum as a safe sound level. Headphones are rated in both 1V and mW

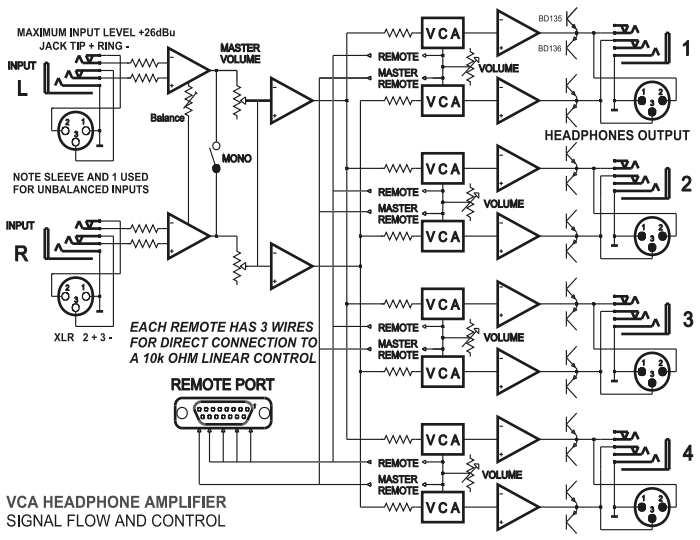
| | | | |
|---|---|---|---|
| K702 | @ 62Z | 1.78V | 50.1mW |
| K701 | @ 55Z | 2.0V | 79.4mW |
| K712 | @ 62Z | 1.78V | 50.1mW |
| HD590 | @ 120Z | 1.58V | 19.9mW |
| HD280 | @ 64Z | 0.71V | 7.9mW |
| HD555 | @ 120Z | 2.24V | 50.1mW |
| K501 | @ 120Z | 2.18V | 39.8mW |
| HD650 | @ 300Z | 2.24V | 19.95mW |

These results are not claimed to be accurate but as a guide to indicate variations in both power and impedance to reach the required level.
To adjust for max level, change gain only, and not a series resistor as this will degrade damping.

*Measured @ 6.4v True RMS Load 100ohm
No measurable cross-over distortion @ 1 mW

**All Volume Controls @ maximum level
with 13M Cable Length (1mm sq. 3 core Lighting)




## Specification updated 01-09-14

**Damping Ratio 600.Source Impedance 0.2 ohms.**
**Maximum Power Output various H.P. Ohms. See above**

**Power Response -0.5dB 5Hz - 30kHz based on AKG K501 120Z Impedance**

***Distortion @ 40Hz-10kHz < -86dBm (0.005%) inc. Noise**

**Output Noise 0dBm in/out V.C.A unity -91dBm**

****Cross-Talk @ 40Hz to10kHz -65dBm 120Z HP Load**
**Summing Amplifier Limiter to V.C.A Port -90dBm Max.**

**Separate Regulated Power Supply +/- 12-15VDC adjustable. Allows sustained output of 110SPL on all 8 channels, and Peak power of 115SPL (This level can damage hearing)**

**Power input 230v 50Hz AC as standard. Fused 500mA SP. Can be supplied 115v 60Hz AC on requested.**