

## Current Equipment Type



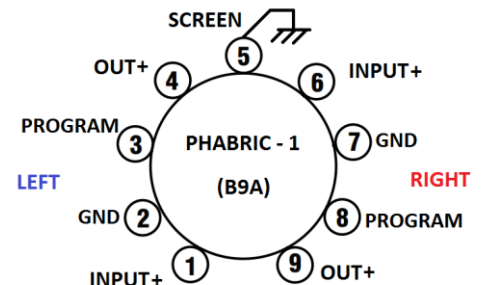
## TYPE: PHABRICS B9A AUDIO BUILDING BLOCKS PHABRIC-1 RIAA NETWORK

The Phædrus Audio PHABRICS are audio building blocks of the highest quality. The PHABRICS are housed in a B9A (Noval) tube format so that external circuitry may be wired point to point on the base; thereby eliminating the need for PCBs.

The Phædrus Audio PHABRIC-1 is a screened, dual, passive RIAA network of exceptional accuracy and stability. The network is suitable for a wide range of preamplifier types; both tube and solid-state.

Although the PHABRIC-1 is termed an RIAA network, this is only true when the PROGRAM pin is pulled low. If this pin is allowed to float, the network reverts to an equalisation network suitable for shellac-era (78 RPM) discs. The addition of external components on this pin allows equalisation of a variety of recording characteristics (see Table 1 and Applications Information). The network may also be forced into full MONO operation.

An evaluation board is available for the PHABRIC-1 RIAA audio building block so that the dual RIAA network may be thoroughly tested and evaluated. For more information contact: [sales@phaedrus-audio.com](mailto:sales@phaedrus-audio.com)



## PHABRIC-1 (RIAA) Technical Specifications

Base type: B9A Noval

Signal level (max): +24dBu (12V RMS)

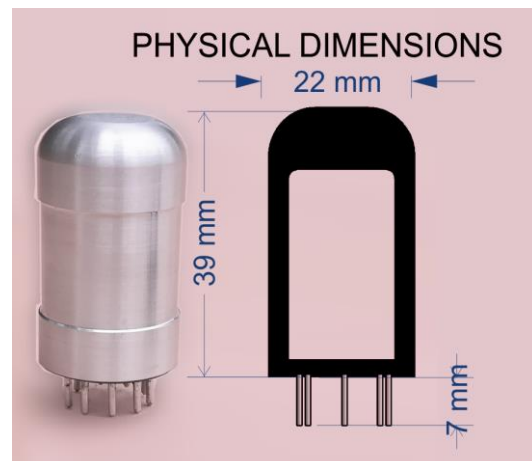
Drive Z & termination Z:  $600\Omega : 1M\Omega^1$

Insertion loss: 21dB

Accuracy:  $\pm 0.1\text{dB}$  (20Hz to 20kHz RIAA)

### Notes:

1. Source and termination impedances should be respected as they affect the accuracy of the equalisation network.



Version 1.3 - March 2019



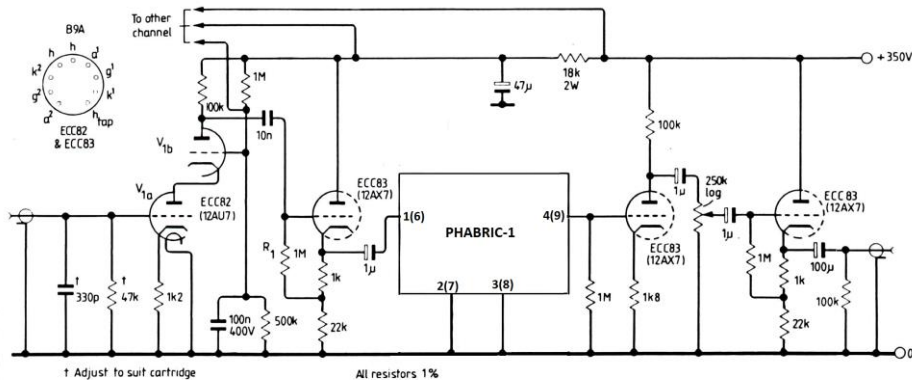
Before using a Phaedrus Audio PHABRICS, please read carefully the specifications and applications information in the datasheet. Improper installation or failure to respect parameter limits may cause damage to the component, modify its characteristics and decrease reliability and useful life. Phaedrus Audio's Limited Warranty does not extend to any Phædrus Audio product that has been damaged or rendered defective due to accident, misuse, or abuse. See [http://www.phaedrus-audio.com/phaedrus\\_t&cs.htm](http://www.phaedrus-audio.com/phaedrus_t&cs.htm) for Phædrus Audio's latest Terms and Conditions.



**TYPE: PHABRICS**  
**B9A AUDIO BUILDING BLOCK**  
**PHABRIC-1 RIAA NETWORK**

**OPERATION IN A TUBE BASED PREAMPLIFIER**

The operation of the PHABRIC-1 equalisation network in a tube preamplifier is illustrated below. The output impedance of the 12AX7 as a cathode-follower provides the required driving impedance. The termination impedance is defined by the grid resistor of the following gain-makeup stage.



**EVALUATION BOARD (PHABRIC-EVAL)**

An evaluation board is available for the PHABRIC-1 RIAA audio building block so that the dual equalisation network may be thoroughly tested and evaluated. The board may be externally powered by a bench power-supply or with batteries. A full schematic is given overleaf.

The evaluation board supports both moving-magnet and moving-coil type and with Phædrus Audio's PHLUX-II active cartridge. Links are available to test the PHABRIC-1 as a RIAA equaliser and as a modified equaliser suitable for American 78s.

**Table 1**

PROGRAM pin	Pulled low	470Ω to GND	Floating	2.2nF to GND	10nF to GND	To Input
Equalisation	RIAA ±0.15dB	Neumann Pole (eRIAA)	European 78s (reduced bass-boost; no de-emphasis).	American 78s (reduced bass-boost; -5dB de-emphasis).	Pre RIAA LPs & Late 78RPMs TELDEC/DIN/AES/CCIR/Coarse Groove (-11dB de-emphasis).	Displacement sensitive cartridge EQ. eg. <b>DisC</b>

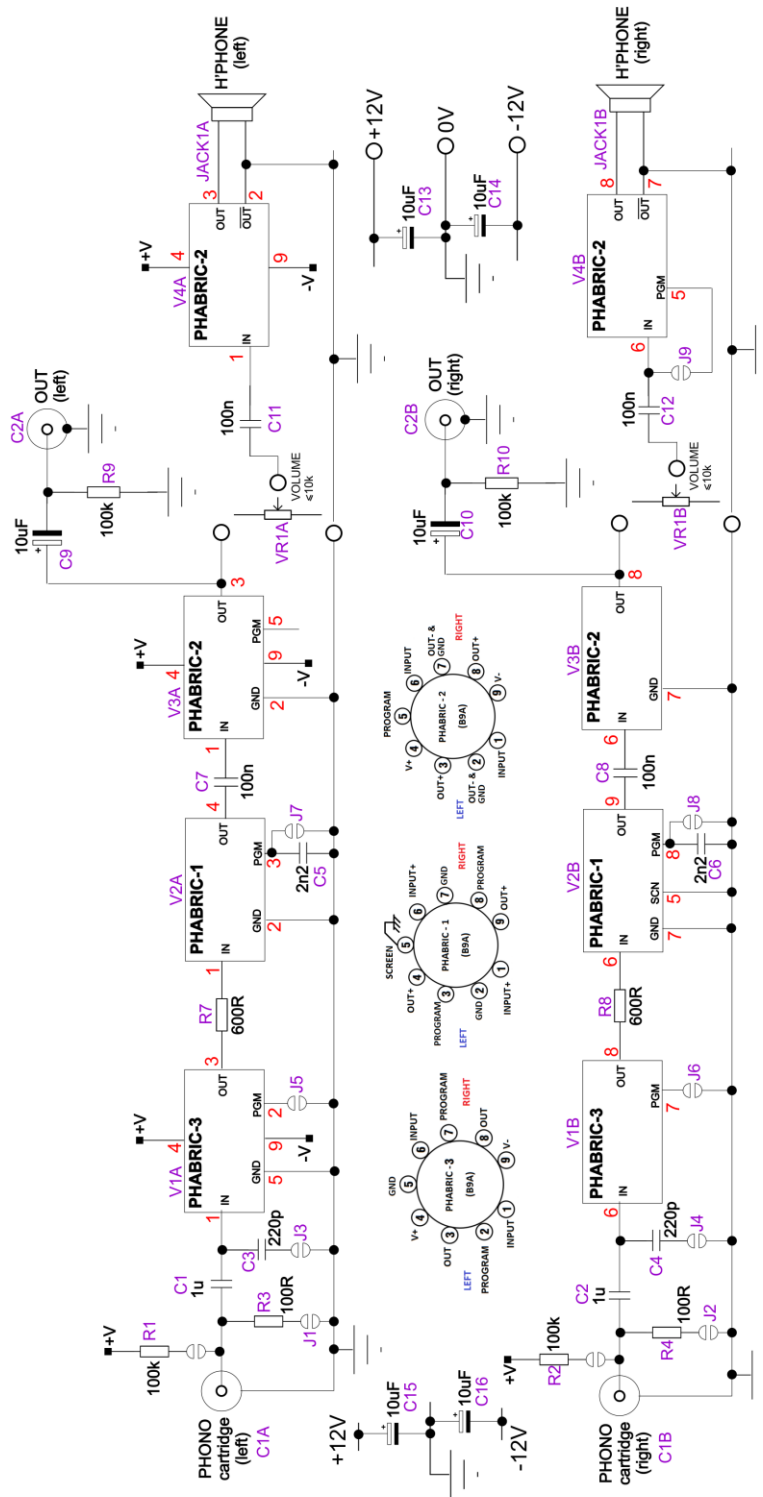


Version 1.3 - March 2019



Before using a Phædrus Audio PHABRICS, please read carefully the specifications and applications information in the datasheet. Improper installation or failure to respect parameter limits may cause damage to the component, modify its characteristics and decrease reliability and useful life. Phædrus Audio's Limited Warranty does not extend to any Phædrus Audio product that has been damaged or rendered defective due to accident, misuse, or abuse. See [http://www.phaedrus-audio.com/phaedrus\\_t&cs.htm](http://www.phaedrus-audio.com/phaedrus_t&cs.htm) for Phædrus Audio's latest Terms and Conditions.

# Current Equipment Type



Version 1.3 - March 2019

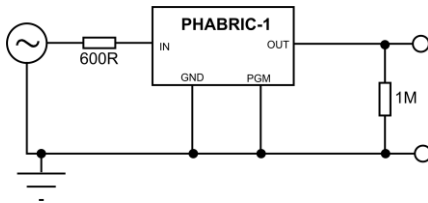


Before using a Phaedrus Audio PHABRICS, please read carefully the specifications and applications information in the datasheet. Improper installation or failure to respect parameter limits may cause damage to the component, modify its characteristics and decrease reliability and useful life. Phaedrus Audio's Limited Warranty does not extend to any Phaedrus Audio product that has been damaged or rendered defective due to accident, misuse, or abuse. See [http://www.phaedrus-audio.com/phaedrus\\_t&cs.htm](http://www.phaedrus-audio.com/phaedrus_t&cs.htm) for Phaedrus Audio's latest Terms and Conditions.

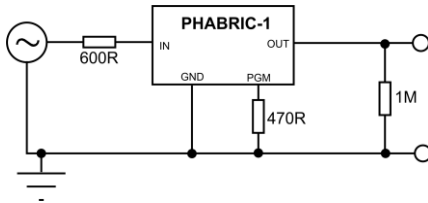


## Applications Information

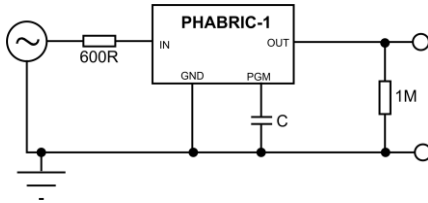
Below are a series of connection diagrams illustrating how the PHABRIC-1 may be employed very simply in a wide range of equalisation duties.



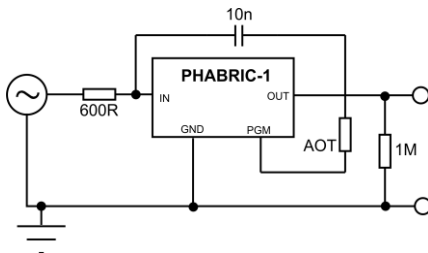
Standard RIAA



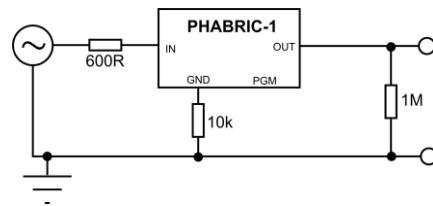
eRIAA (Neumann Pole)



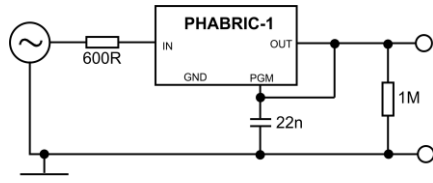
Various historical curves (see Table 1)



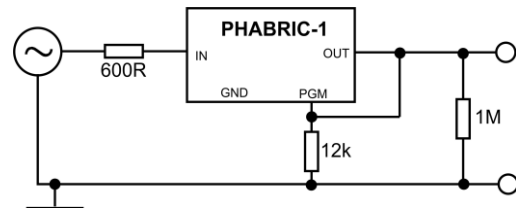
Disc cartridge EQ  
(AOT value depends of cartridge)



Precise Blumlein 300N



Ceramic cartridge (velocity to displacement conversion)



Acoustic discs (flat response, -21dB loss)

Other variations are possible: contact [sales@phaedrus-audio.com](mailto:sales@phaedrus-audio.com)

### MONO OPERATION

Mono operation is accomplished in all cases by connecting pin 4 to pin 9. In this condition, the output is an accurate sum signal of a stereo input. This is therefore useful in deriving a lateral only signal from a stereo input.



Version 1.3 - March 2019

