

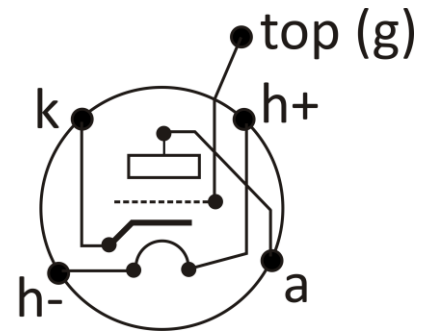
Current Equipment Type



TYPE: 6D-H3 (AC701 ●) SUBMINIATURE AUDIO TRIODE

The Phædrus Audio 6D-H3 is suitable for direct replacement of the Nippon Electric (NEC) 6D-H3 tube in microphones employing this device in a cathode follower configuration: see technical specification below. For more information and enquiries, email sales@phaedrus-audio.com.

The Phædrus Audio 6D-H3 matches the dimensions of the original tube and is supplied with long 38mm leads. The electrodes connections are marked on the base of the tube, so that lead-identification is straightforward. The top connection is the grid to isolate this high-impedance node from the other connections.



● The Phædrus Audio 6D-H3 is alternatively known as the AC701 Green Dot because may also be used as a replacement for the AC701 tube when used as a cathode follower (as in SONY CU-2 microphone). This tube will not fit the AKG C60 PCB without modification: email sales@phaedrus-audio.com

6D-H3 Electronic Tube™ Technical Specifications

Recommended operating conditions

Heater voltage (current): 4V (100mA) to 6.5V (150mA)

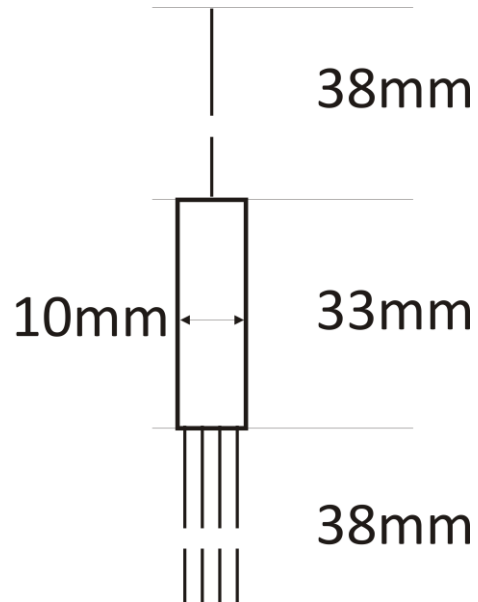
HT Supply: 130 to 230V (nominal)

Grid circuit: $\approx 100M$ to $180M$

Cathode circuit: See applications information.

Notes (see applications diagram):

1. Heater supply may be biased (as in SONY designs) or unbiased.
2. A wide range of values of R2 and R3 are possible. As with the original tube, these should be chosen to give appropriate capsule polarization voltage and best headroom: see Table 1.
3. R1 should be $100M\Omega$ – $180M\Omega$. Ionization and initial velocity current are both modelled in this tube so the grid may be left floating as in the original SONY designs.



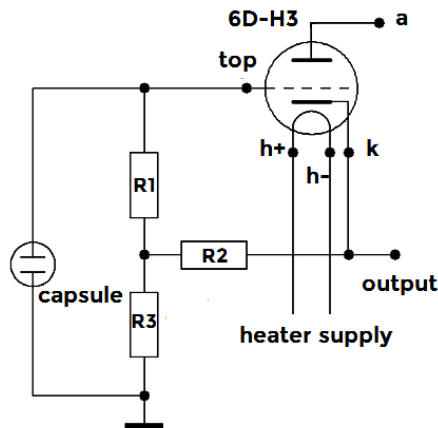
Version 1.4 - November 2021

Before using a Phædrus Audio Electronic Tube, 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 for Phædrus Audio's latest Terms and Conditions.



TYPE: 6D-H3 (AC701 ●) SUBMINIATURE AUDIO TRIODE

Applications information



In order to avoid over-biasing the microphone capsule, it is recommended that the capsule be disconnected whilst the replacement tube's DC conditions are verified and/or optimised by the adjustment of R1, 2 & 3 (see diagram and table below). The capsule may then be re-connected once the appropriate capsule bias volts have been obtained.

SONY microphone manuals carry the warning that microphone power supplies must not be energised without a microphone connected. Excessive voltages result from running the power supply without a load. A power supply

must be checked by a technician if it is accidentally operated without a microphone load as insulation and capacitor dielectrics may have been compromised.

NEVER connect a microphone to an energised power supply. To do so will present the microphone with a sudden voltage surge which can damage the microphone capsule and the Phaedrus Audio 6D-H3 electronic tube.

Table 1 (R1 is 100M, output swing is open-circuit value)

R3	R2	Capsule volts	Output pk-pk
HT = 230V			
100k	1k	75V	>10V
100k	3k	74V	>10V
200k	1k	135V	>10V
200k	3k	132V	>10V
200k	0	142V	>10V
82k	1.5k	63V	>10V
HT = 130V			
100k	1k	64V	>10V
100k	3k	63V	>10V
200k	1k	116V	>10V
200k	3k	112V	>10V
100k	0	68V	>10V
82k	1.5k	53V	>10V



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