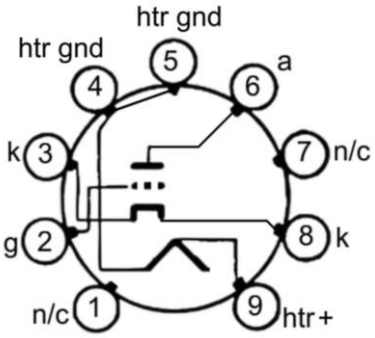
Current Equipment Type

TYPE: **SPIRIT**
B9A LOW-NOISE
48V AUDIO TRIODE

The Phædrus Audio **SPIRIT** is designed to operate as a tube impedance converter in microphones supplied with 48V phantom power. Heater current is reduced to 400µA so that the nominal 6V heater may be supplied from the 48V via a 100k resistor.



pinout (from below)

The Phædrus Audio **SPIRIT** Supertube™ matches the dimensions of a standard B9A base device.

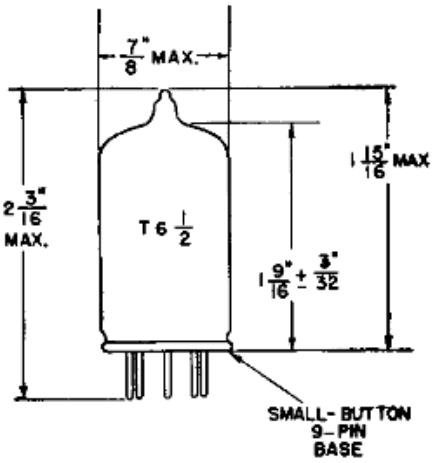
The Phædrus Audio SPIRIT possesses characteristics similar to the Telefunken VF14 device. Its anode impedance is low for a triode which ensures that it will match with a wide range of output transformers: and its very low initial electron-velocity input current ensures the tube matches a wide range of modern and vintage capsules. Internal self-biasing reduces external circuitry to a minimum (see applications information).

SPIRIT Supertube™ Technical Specifications

Recommended operating conditions

Heater voltage (current): 6V nominal (400µA)
Anode load: Typically, 47kΩ
Voltage gain: ×20 (26dB)
HT Supply (V_a): 45V (22V)
Grid circuit: 60MΩ – 250MΩ
Cathode circuit: N/A: internally biased

PHYSICAL DIMENSIONS



EIA 6-2

Notes (see applications diagram):

1. Heater voltage should be applied to pin 9 via a 100k resistor from the 48V supply and either 4 or 5 should be grounded. Polarity of heater supply MUST be respected. Pin 9 must be positive of pin 4 or pin 5.

2. Cathode connection should be to ground.

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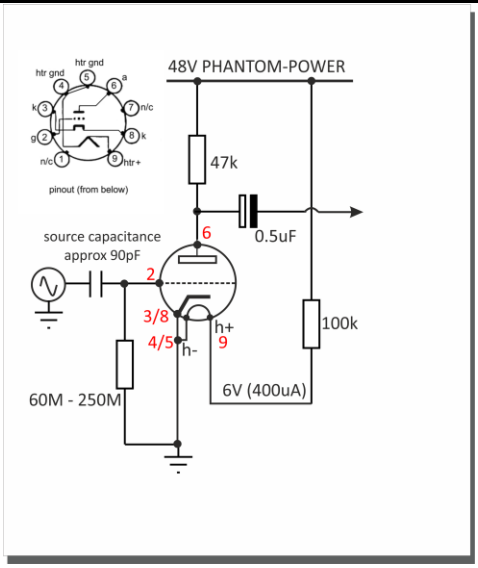
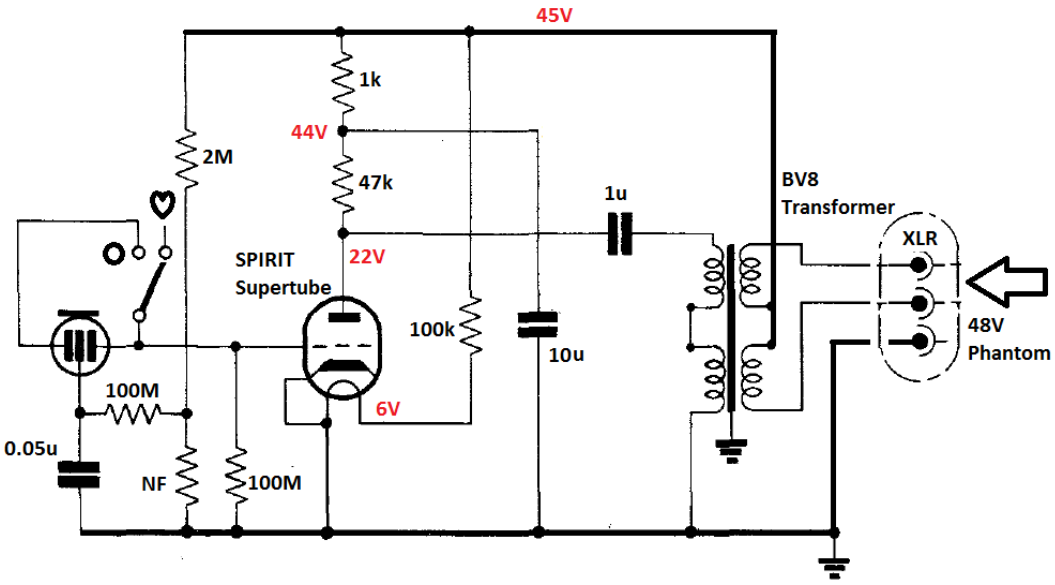
Applications information

Right is a typical application for the Phædrus Audio SPIRIT in a tube microphone powered only with 48V phantom power. Note, no bias voltage generation is necessary (that is internally derived within the device). The low-current heater supply is derived from the 48V phantom-power via a 100kΩ resistor. Overall current consumtion of the stage is just 800µA. This quiescent current will drop around 3V across the standard pair 6k8 phantom power resistors and the nominal HT voltage is taken to be 45V. The nearer to this value, the better and thus a centre-tapped output transformer from which the 45V HT can be derived is preferred. However, the SPIRIT will still deliver good performance on an HT of 35V, so a wide range of options are avaliable to the circuit designer.



SPIRIT of U47

An example of how the SPIRIT Supertube can be used to revisit a classic microphone without the requirement of a special power-supply is given below. For more information about the Phædrus Audio SPIRIT Gold Dot Supertube™ contact: sales@phaedrus-audio.com



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