

PH-1A

SINGLE CHANNEL BATTERY OR AC POWERED PHANTOM POWER SUPPLY



The Crown® PH-1A is a single-channel, battery- or AC-powered phantom power supply for condenser microphones. Battery power provides 17V phantom and AC power provides 24V phantom.

The unit can be AC powered by using a 24V AC/DC adaptor (not included). This adaptor plugs into a 120V AC wall outlet and provides 24V DC to the PH-1A.

When using external power, the PH-1A provides +24V DC nominal loaded voltage on pins 2 and 3 with respect to pin 1 of the microphone input connector.

With battery operation, the PH-1A provides +17V DC nominal loaded voltage. "Loaded voltage" is the phantom voltage available with a microphone plugged in.

The PH-1A includes sufficient hum filtering for extremely quiet operation and is transformer isolated. If AC power fails, the batteries automatically take over.

The rugged steel and aluminum chassis is designed to withstand daily abuse in professional applications.

Operation

To use your phantom supply, follow this procedure:

1. For AC powering, purchase a 24V AC/DC adaptor with a 1/8 inch (3.5mm) phone plug. Connect the adaptor to an AC outlet providing 120 VAC, 60 Hz. Connect the adaptor's phone plug to the 1/8 inch (3.5 mm) phone jack in the PH-1A phantom supply.
2. For battery powering, unscrew the two large captive screws on the underside of the phantom supply; open the chassis, and install two 9V alkaline batteries (Duracell MN1604 or equivalent). Replace the cover.
3. Plug the cable from your microphone into the MIC IN connector.
4. Plug the cable going to the input of your mixer or recorder into the OUTPUT connector. This cable can be unbalanced because the phantom supply is transformer isolated.
5. To prevent ground loops, be sure that the phantom supply is resting on its rubber feet.
6. To avoid draining the batteries after use, unplug the mic cables and unplug the AC/DC adaptor from the phantom supply. **There is no battery drain when all cables are unplugged from the supply.**

Features

- Supplies a single channel of clean phantom power to a condenser microphone
- Powered by internal 9V batteries or external 24V power supply (not included)
- Supplies 17V phantom with battery power and 24V phantom with AC power
- Rugged construction for professional use
- If AC power fails, the batteries automatically take over
- Transformer-isolated signal

Specifications

Phantom voltage supplied: 24V with AC powering; 17V with battery power. Each voltage is nominal loaded voltage on pins 2 and 3 with respect to pin 1 of microphone input connector.

Number of channels: 1.

Microphone input connector: Female 3-pin professional audio connector (XLR-type).

Output connector: Male 3-pin professional audio connector (XLR-type).

DC power input connector: 1/8 inch (3.5 mm) phone jack, positive tip.

AC/DC adaptor: Not included. Use a 24V AC/DC adaptor with 120V AC input, 24V to 31V DC output, 1/8 inch (3.5 mm) phone plug connector with positive tip.

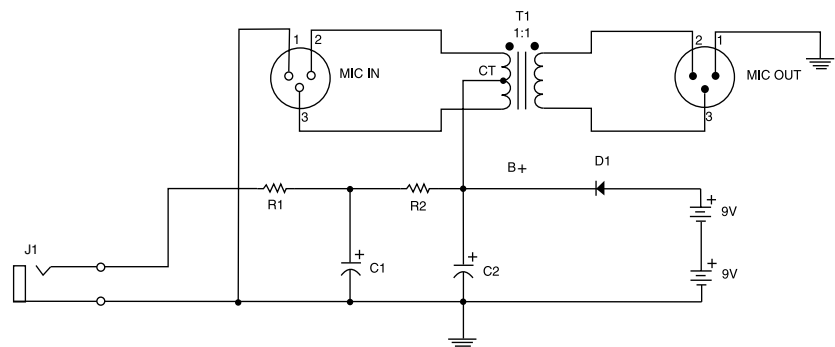
Battery powering: Two 9V alkaline cells (Duracell MN1604 or equivalent). Batteries not included.

Battery life: 525/I hours, where I = current drain of microphone in mA. 350 hours typical.

Hum filtering (inside phantom supply): 50 dB at 60 Hz; 62 dB at 120 Hz.

Dimensions: 5.0 x 2.325 x 1.750 inch LWH (12.7 cm x 5.91 cm x 4.44 cm).

Weight: 1¼ lb. (0.57 kg).



PH-1A Schematic



RECORDING
BROADCAST



PORTABLE PA



INSTALLED

PH-1A



TOURING

Loaded Phantom Voltage

When you plug a microphone into a phantom power supply, the supply voltage drops due to the load of the microphone. The higher the current drain of the microphone, the more the voltage drops.

The loaded phantom voltage is the phantom voltage available when a microphone is plugged into the phantom supply. You can calculate the loaded phantom voltage for the PH-1A as described below:

For AC powering, the loaded phantom voltage is:

$$E_L = E_U - RI$$

where

E_L = loaded phantom voltage

E_U = unloaded phantom voltage (30.7V with Crown PS-24 AC/DC adaptor)

R = 983 ohms (typical internal resistance of PH-1A when used with an AC/DC adaptor)

I = current drain of microphone in amperes.

For battery powering, the loaded phantom voltage is:

$$E_L = E_U - RI$$

where

E_L = loaded phantom voltage

E_U = unloaded phantom voltage (18V with two 9V batteries)

R = 743 ohms (internal resistance of PH-1A when used with battery powering)

I = current drain of microphone in amperes.

Architects' and Engineers' Specifications

The model shall be the Crown PH-1A. It shall be a single-channel, battery or AC powered, 17- or 24-volt phantom power supply for condenser microphones.

With AC power, the supply shall provide 24V DC nominal loaded voltage on pins 2 and 3 with respect to pin 1 of the microphone input connector. With battery power, it shall provide 17V DC nominal loaded voltage.

The supply shall include sufficient hum filtering for extremely quiet operation, and shall be transformer isolated. If AC power fails, the batteries shall automatically take over. The Crown model PH-1A is specified.

Warranty

Crown professional microphones are guaranteed against malfunction for a period of three years from date of original purchase. See enclosed warranty sheet for additional information.

Service

If the unit fails to operate, plug your AC/DC adaptor into a 120V AC power outlet and measure its DC output voltage between the tip and sleeve of the 1/8 inch (3.5 mm) phone plug. You should measure at least +24V DC on the phone-plug tip with respect to the phone-plug sleeve.

If the AC/DC adaptor is working correctly, plug it into the phantom supply. Measure the DC voltage between pins 2 and 1 of the microphone input connector. With no microphone plugged in, you should measure at least 24V DC. If not, return the PH-1A to Crown's Service Dept.

If both the AC/DC adaptor and phantom supply are working correctly, check your microphone cables and batteries.

Also check your microphone data sheet under "operating voltage" to make sure it will operate on the voltage supplied by the PH-1A.

If service is required, return the unit in its original packaging to: **Crown Factory Service, 1718 West Mishawaka Road, Elkhart, IN 46517-9439. A Service Return Authorization (SRA) is required for product being sent to the factory for service. An SRA can be completed online at www.crownaudio.com/support/factserv.htm.**

For further assistance or technical support call **800-342-6939**.



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