

Data Sheet

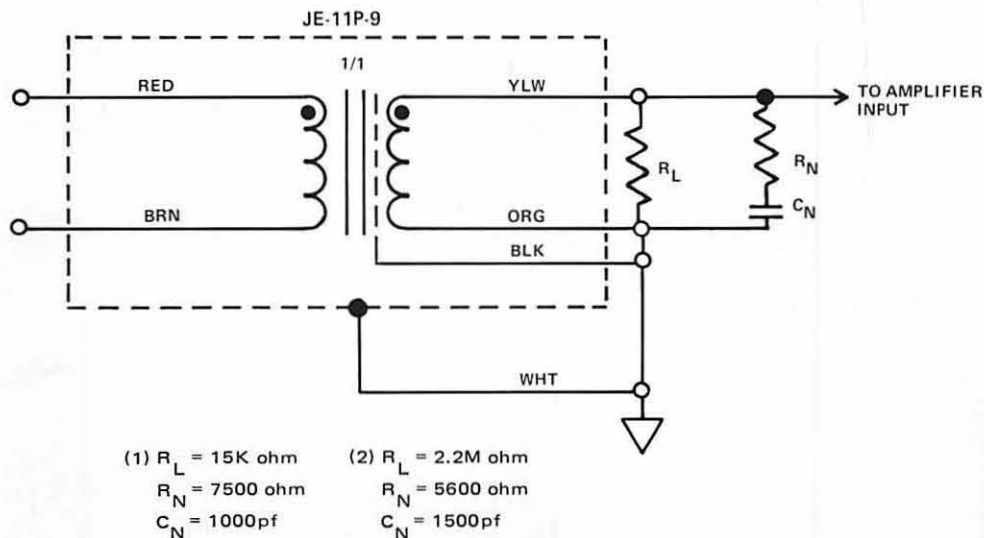
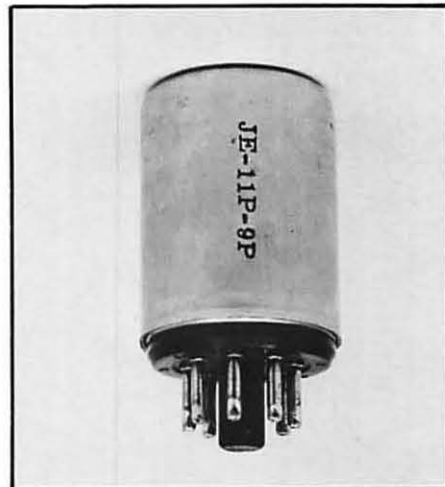
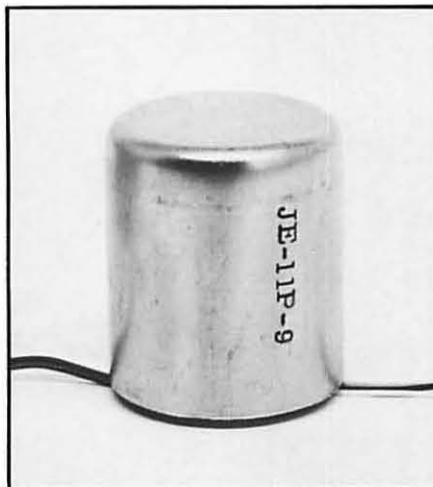
jensen transformers
By REICHENBACH ENGINEERING

JE-11P-9 LINE INPUT TRANSFORMER

The JE-11P-9 is a 1:1 turns ratio line input transformer for high input impedance circuits (5K ohms and higher). It handles levels to +27dBv. Re: 0.775v @ 20Hz. Below saturation, the 20Hz THD is less than 0.025%. The high grade Nickel alloy core yields very low distortion even with source impedances up to several thousand ohms.

The bandwidth is 52kHz with <3% overshoot. The series losses are equivalent to 1470 ohms, so the level loss will be the same as a voltage divider made with a 1470 ohm series resistor and a shunt resistor equal to the load connected to the secondary. For 15K ohm load, an RC network of 7500 ohms and 1000pF is required to damp the resonance. If the load is 100K or higher, an RC network of 5600 ohms and 1500pF is required. For other loads such as input circuits with shunt capacitance, our computer can derive optimum RC network values to minimize transient distortion and maximize bandwidth and generate revised response and impedance results.

The standard package has wire leads. Octal plug versions are available for all popular pin connections with or without the RC network built-in.



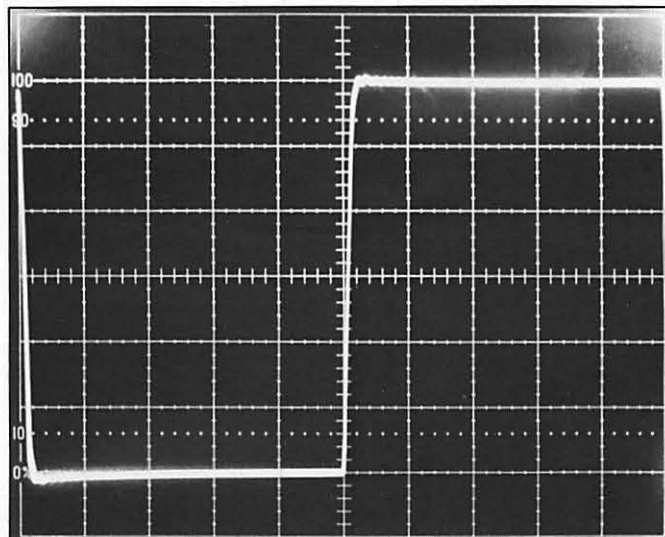
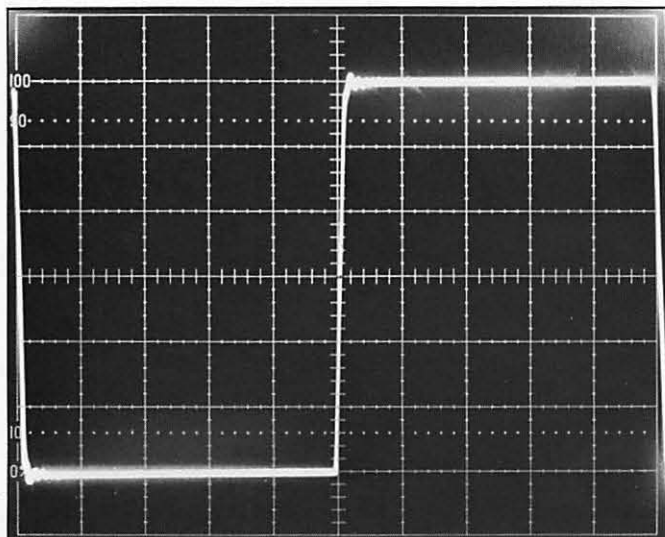
REGARDING THE OSCILLOSCOPE PHOTOS

Actual oscilloscope photos were made from a Tektronix Model 453A (certified calibration).

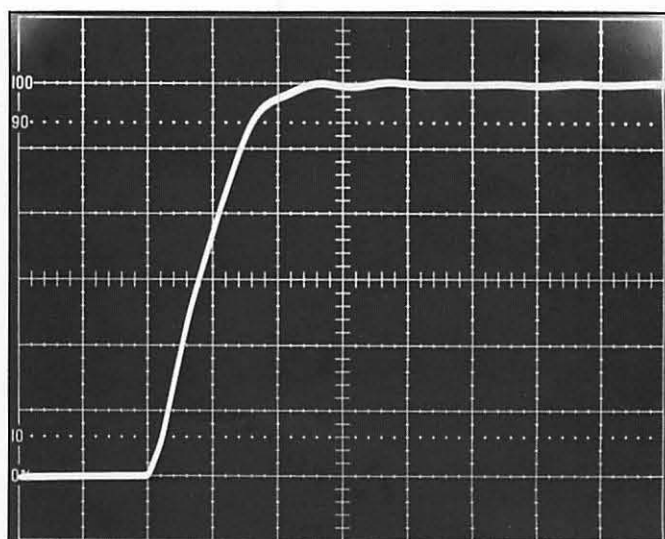
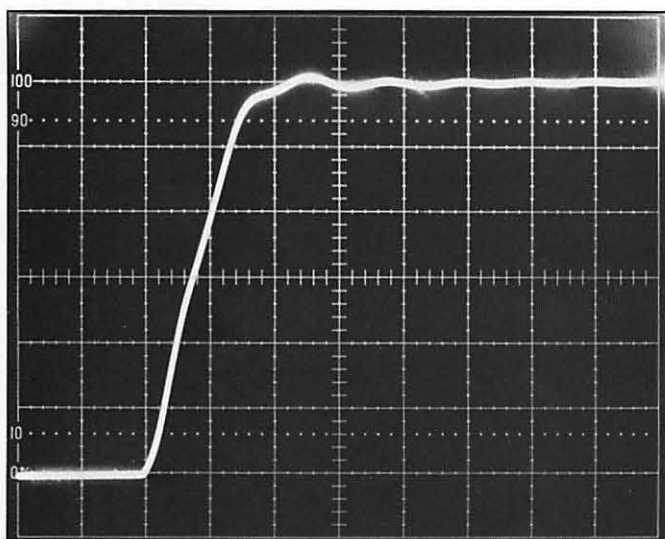
This column with 15k Ω load.

This column with no load.

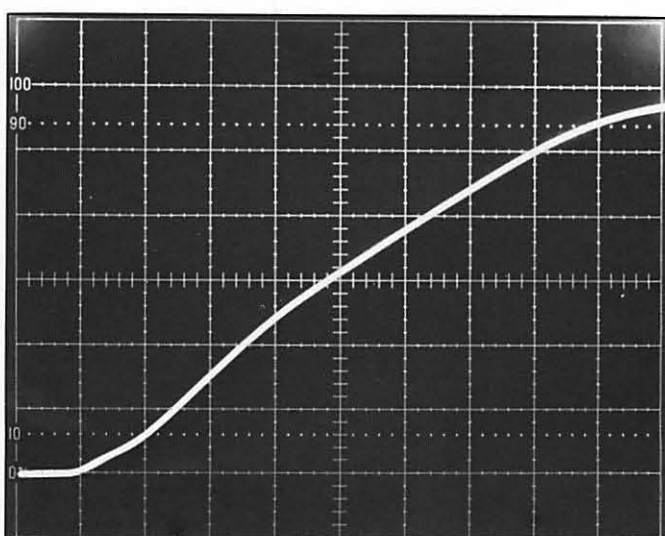
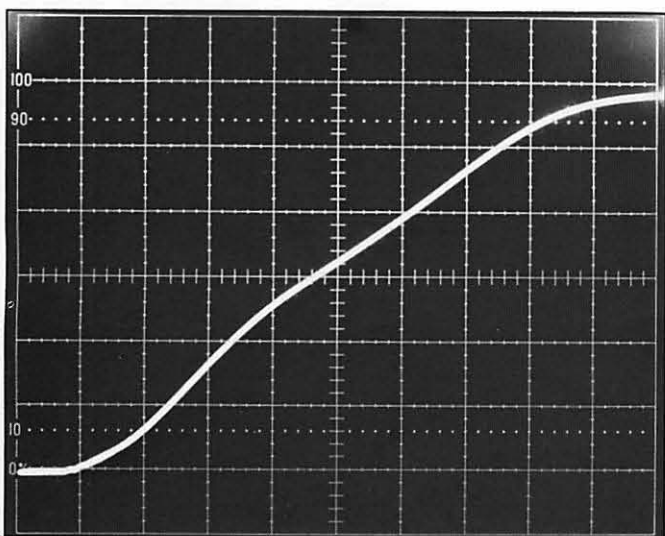
2kHz Square Wave



50 μ S/division



5 μ S/division

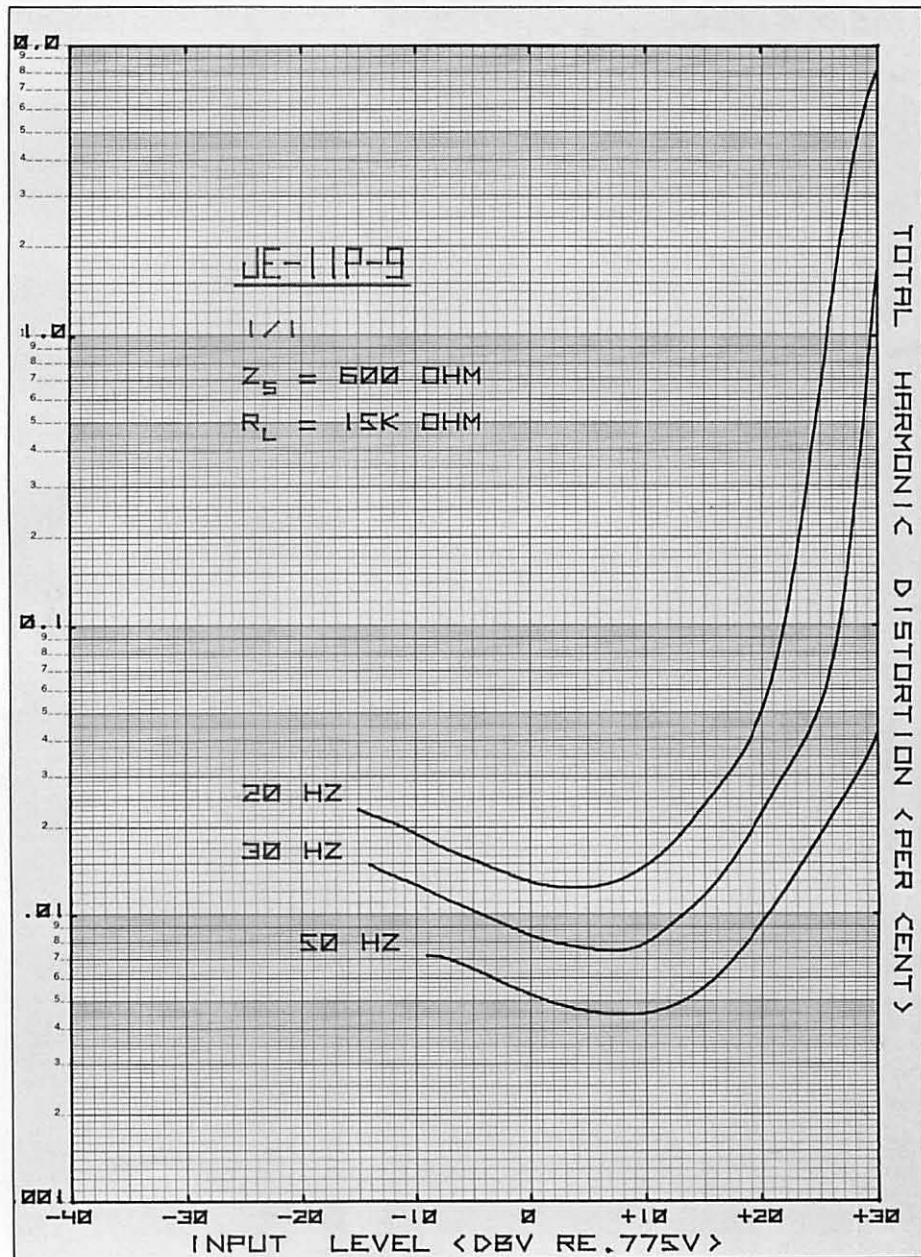


1 μ S/division

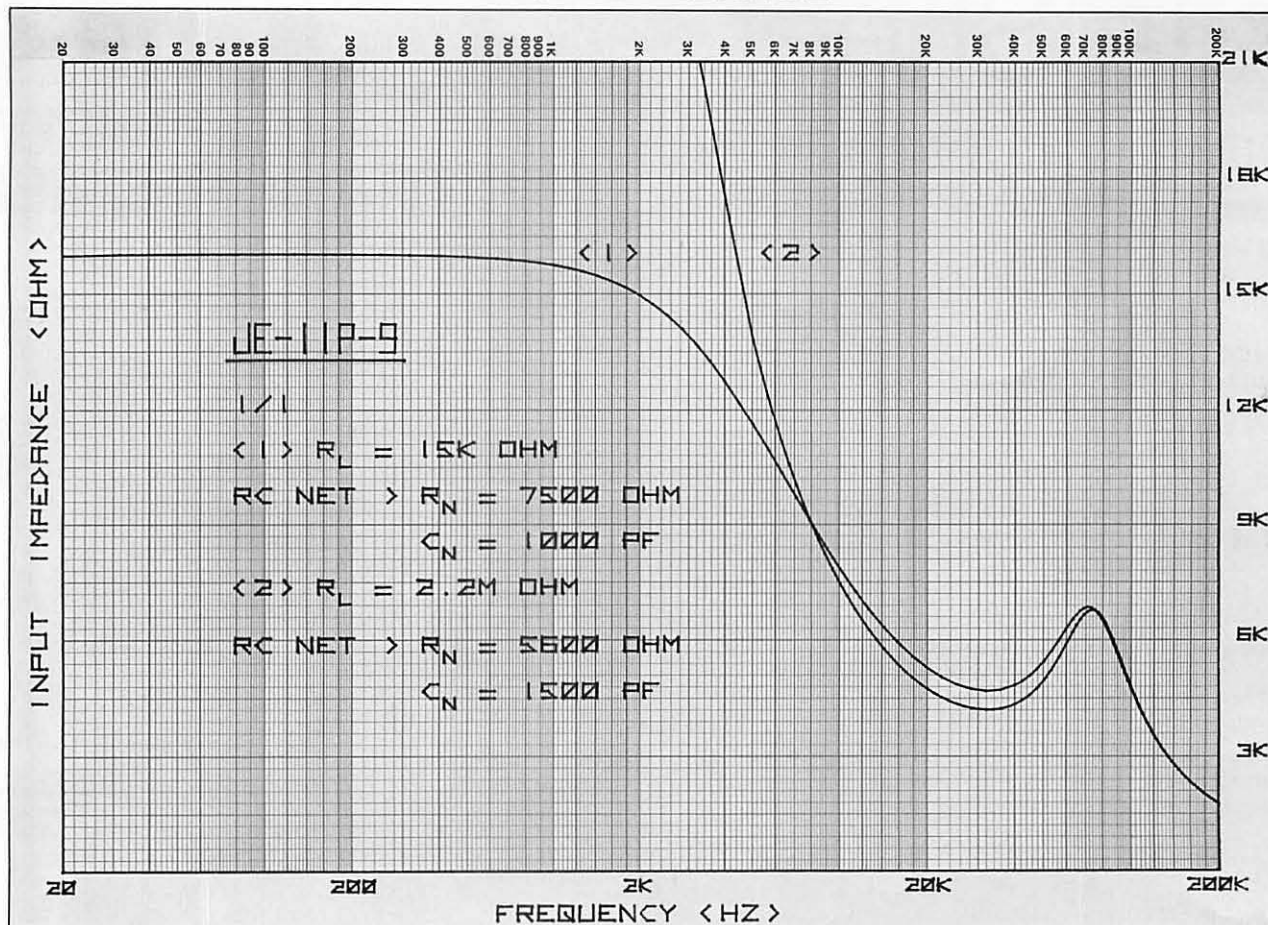
The response and impedance curves were generated by a Hewlett/Packard System 45 Desktop Computer and a 9872A Plotter. The curves are the calculated results from an equivalent circuit model using the H/P AC Circuit Analysis program. This method has made it possible to display the impedance curves up to 200kHz showing the secondary resonance and RC network damping effect. Measured data from many prototypes were used to derive the model to represent the average performance.

The distortion curves were generated by a Hewlett/Packard 9815A/9862A programmable calculator/plotter with a polynomial curve fit program. The distortion measurements employed a Sound Technology 1710A Analyzer. Verified accuracies are on the order of one pen line width.

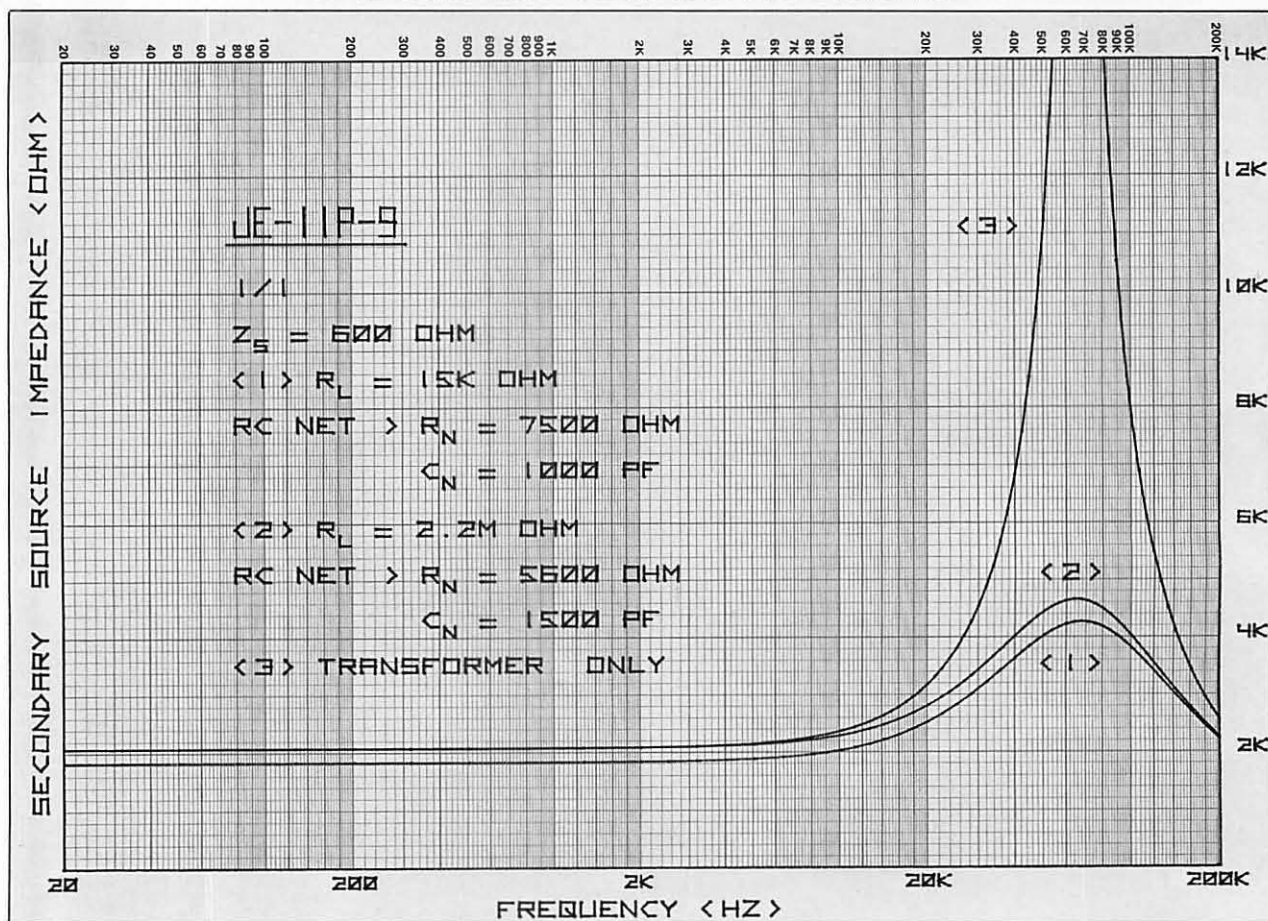
DISTORTION



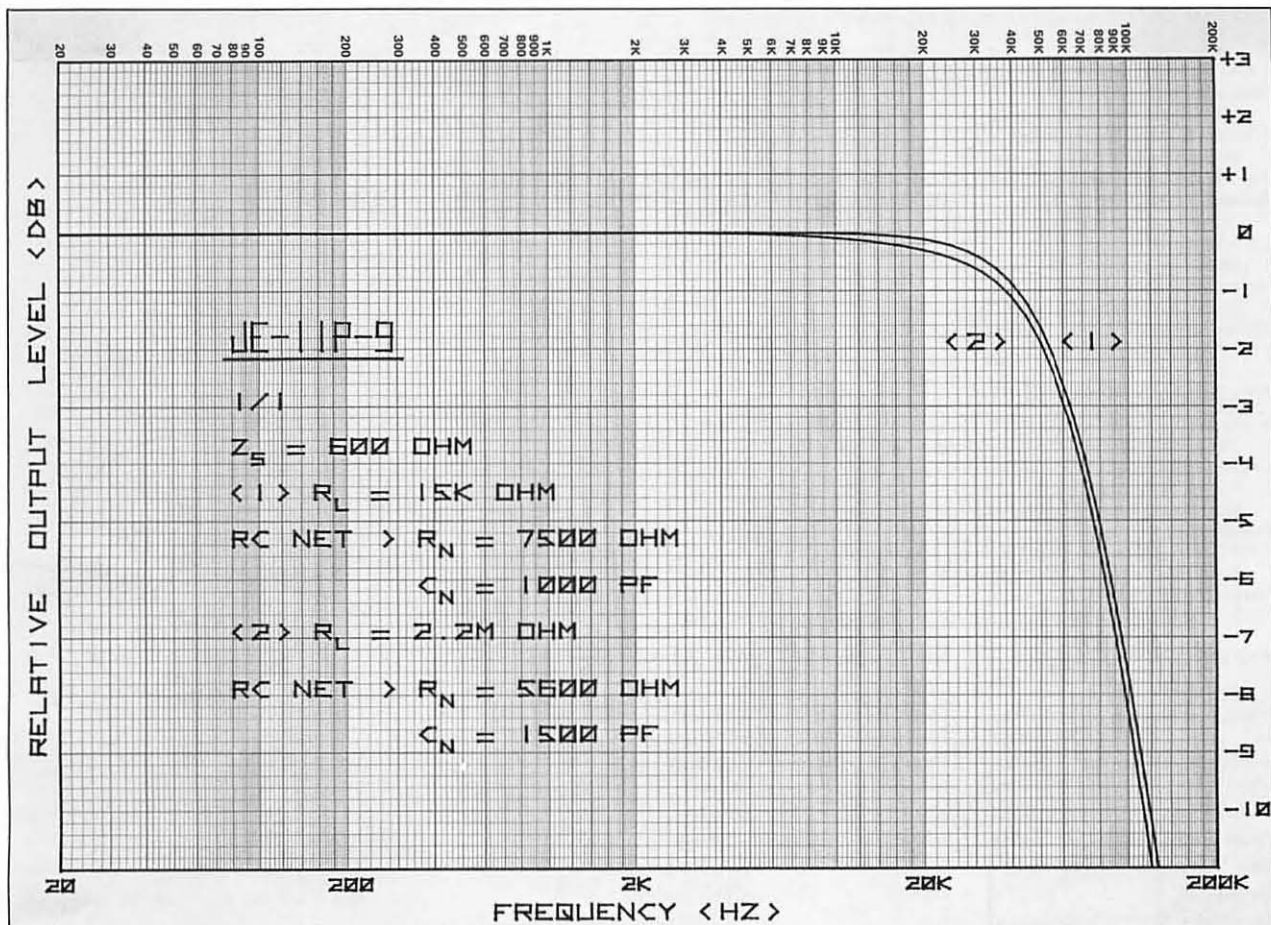
INPUT IMPEDANCE



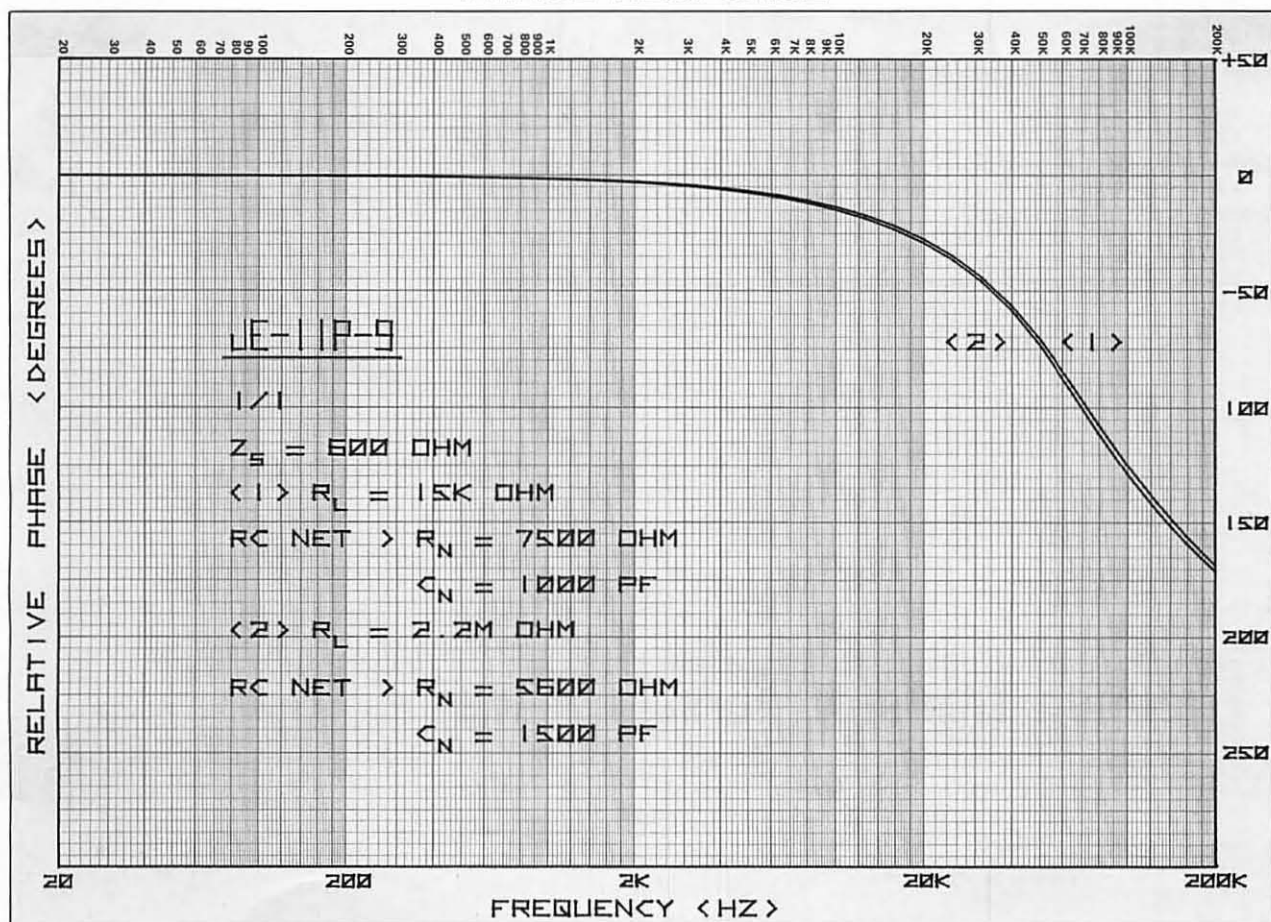
SECONDARY SOURCE IMPEDANCE



FREQUENCY RESPONSE



PHASE RESPONSE



JE-11P-9 GENERAL CHARACTERISTICS

Turns Ratio

1:1

Impedance Ratio

(15K/15K)

Primary Source Impedance

600 ohms or less

Secondary Load Resistor

15K ohms

2.2Meg ohms

Secondary RC Network

7500 ohms, 1000pF 5600 ohms, 1500pF
(most plug-in types have RC net built-in)

Faraday Shield

Separate Lead

Magnetic Shield

30dB, separate case lead

Maximum Input Level at 20Hz

+27dBv (Re: 0.775v)

PHYSICAL CHARACTERISTICS

Package

Mu-metal can (standard) or octal plug

Termination

Wire Leads (standard)

Octal plug types also available

Dimensions

1-5/16" diameter, 1-9/16" high (standard)

1-5/16" diameter, 2" high (octal plug)

Mounting (standard)

2 holes, 0.7" center-to-center/self-trapping screws or clamp

TYPICAL PERFORMANCE

With 15K load

With 2.2Meg load

Voltage Gain

-0.82dB

-0.03dB

Input Impedance

@ 1kHz

15.8K ohm

67K ohm

@ 10kHz

7850 ohms

7470 ohms

Frequency Response @ 20Hz

-0.03dB

-0.03dB

(Re: 1kHz) @ 20kHz

-0.3dB

-0.6dB

Bandwidth @ -3dB

52kHz

58kHz

Phase Response @ 20kHz

-27.5 deg

-29 deg

Rise Time (10%-90%)

6.2μS

6.6μS

Overshoot

<3%

<1%

Secondary Source Impedance

2070 ohms @ 1kHz

2360 ohms @ 10kHz

Total Harmonic Distortion (Below Saturation)

0.025% @ 20Hz

0.015% @ 30Hz

0.008% @ 50Hz

Input Level @ 1% Saturation (dBv Re: 0.775v)

+26dBv @ 20Hz

+29dBv @ 30Hz

+35dBv @ 50Hz

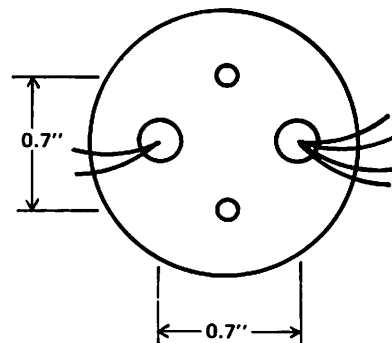
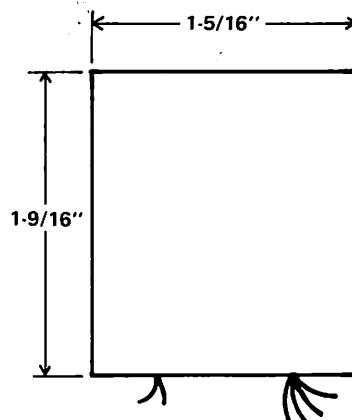
Common-Mode Voltage (maximum)

>200v peak

Common-Mode Rejection Ratio

>75dB @ 1kHz

>55dB @ 10kHz



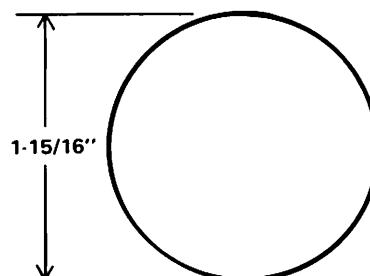
Bottom View

Mounting Holes

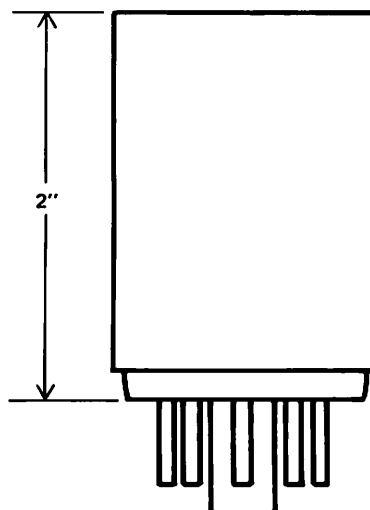
Clearance for #4 screw

Lead Holes

Use 0.35" hole to clear grommet



Top View



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(Visitors by Appointment Only)