Data Sheet

jensen transformers
INCORPORATED

JE-11P-1
LINE INPUT TRANSFORMER

The JE-11P-1 is a 1:1 turns ratio line input transformer for high input impedance circuits (10K ohms and higher). It handles levels to +18dBv. Re: 0.775v @ 20Hz. Below saturation, the 20Hz THD is less than 0.045%. The high grade Nickel alloy core yields very low distortion even with source impedances up to several thousand ohms.

The bandwidth is 85 kHz with <2% overshoot. The series losses are equivalent to 3700 ohms, so the level loss will be the same as a voltage divider made with a 3700 ohm series resistor and a shunt resistor equal to the load connected to the secondary. If the load is 10K ohms, no RC network is required across the secondary. For 15K ohm load, an RC network of 30K ohms and 270pF is required to damp the resonance. If the load is 25K or higher, an RC network of 13K ohms and 620pF 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.

WIRE LEAD MODELS

JE-11P-1
Standard version

JE-11P-1D
Dual Faraday shield

JE-11P-1T
Center tapped secondary for phase splitter for bridged mono power amp applications

OCTAL PLUG MODELS

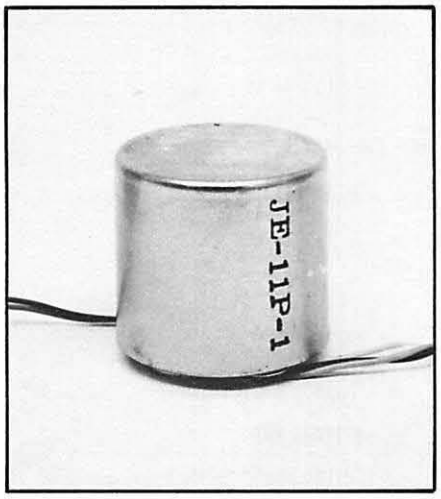
JE-11P-1AN
For Ampex equipment

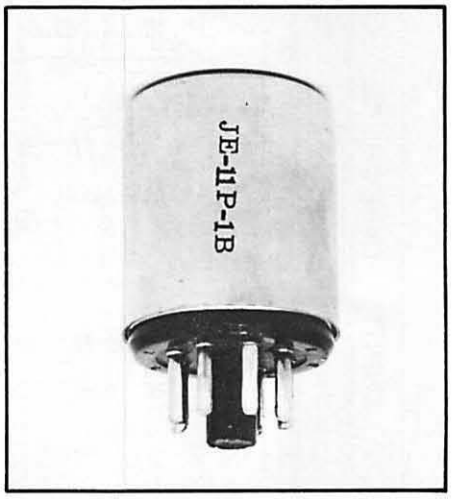
JE-11P-1B
For Altec power amps

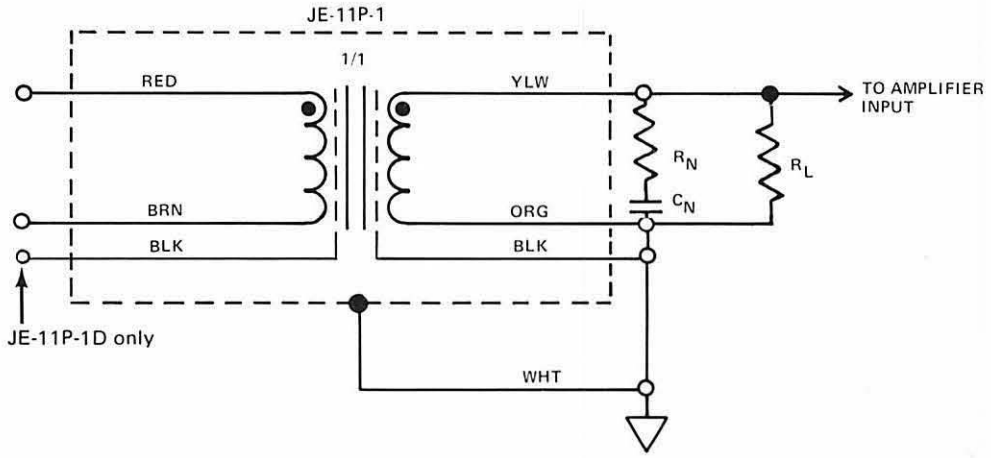
JE-11P-1BN
For Altec power amps, includes damping network

JE-11P-1QN
For QSC power amps, includes damping network

JE-0900-9050
For BGW power amps, includes damping network



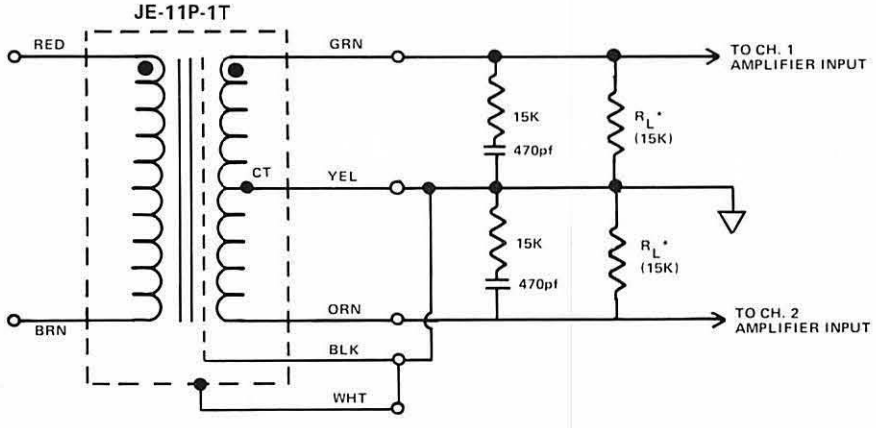




(1) R_L = 10K ohm — R_N not required — C_N not required

(2) R_L = 15K ohm — R_N = 30K ohm — C_N = 270pf

(3) $R_L \geq$ 25K ohm — R_N = 13K ohm — C_N = 620pf



*NOTE: R_L represents actual input impedance of amplifier.

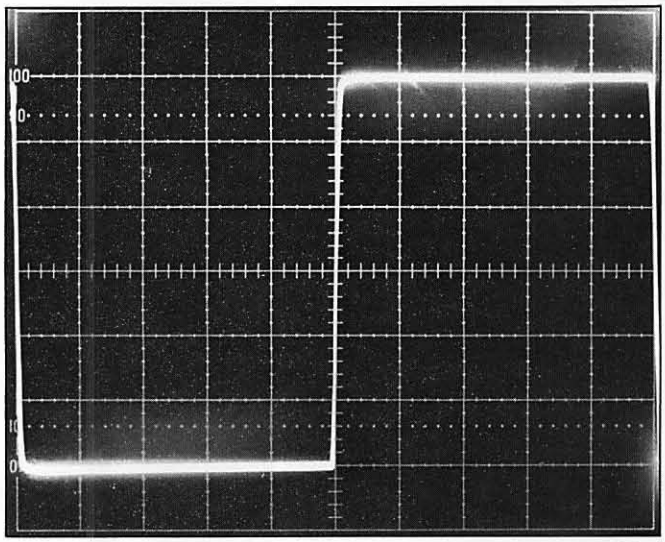
REGARDING THE OSCILLOSCOPE PHOTOS

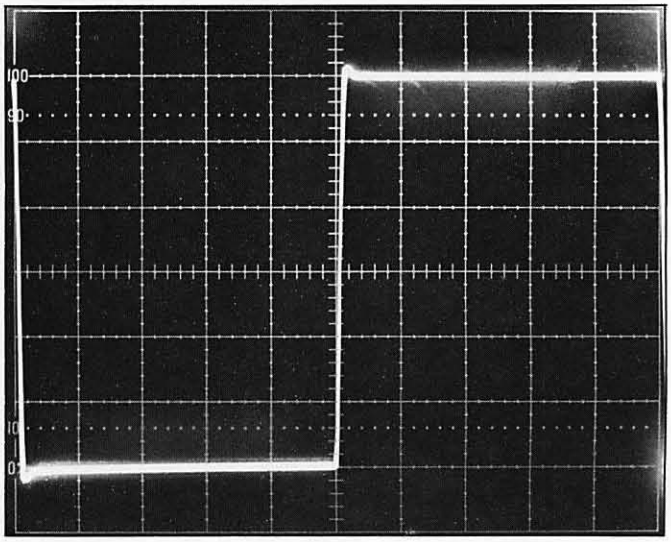
Actual oscilloscope photos were made from a Tektronix Model 453A (certified calibration).

This column with 15kΩ load.

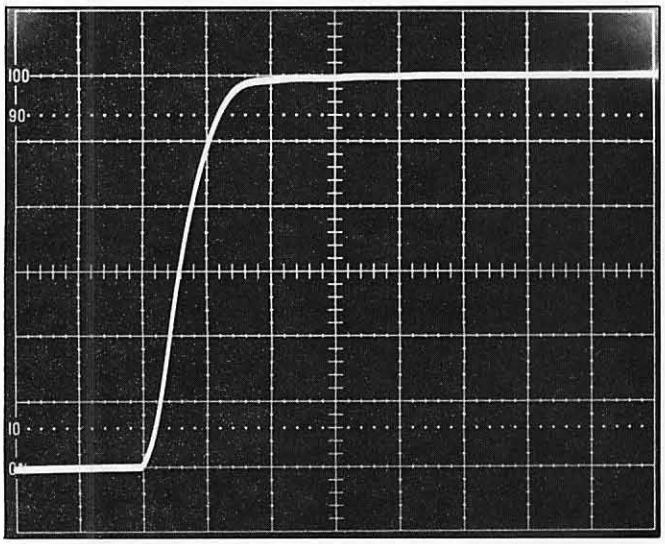
This column with no load.

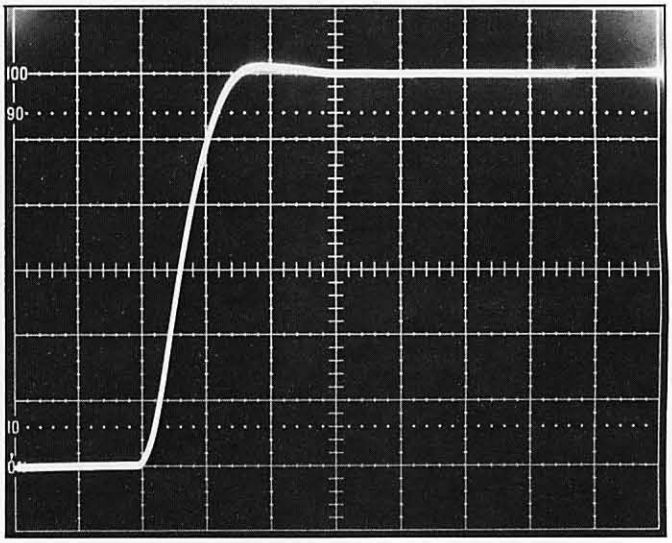
2kHz Square Wave



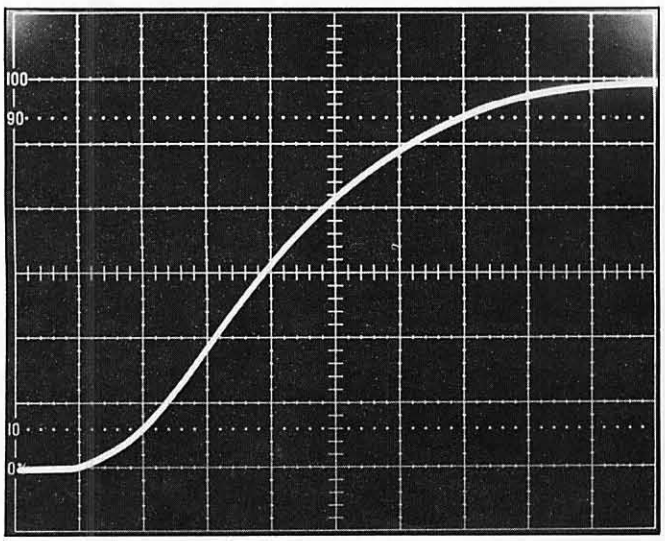


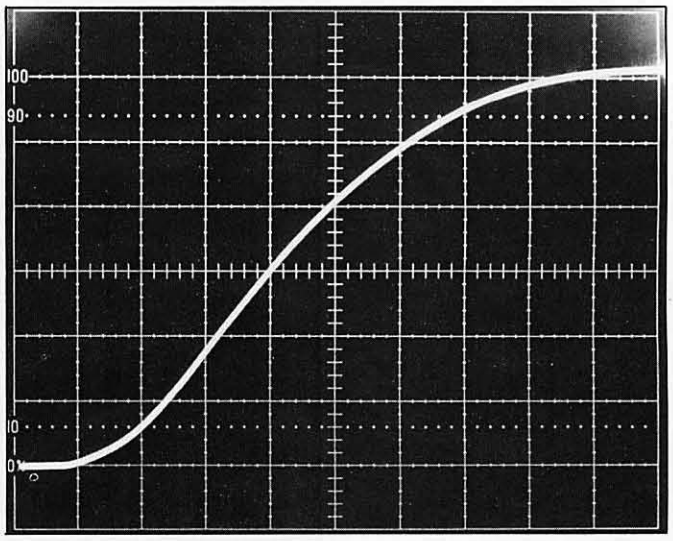
50μS/division





5μS/division



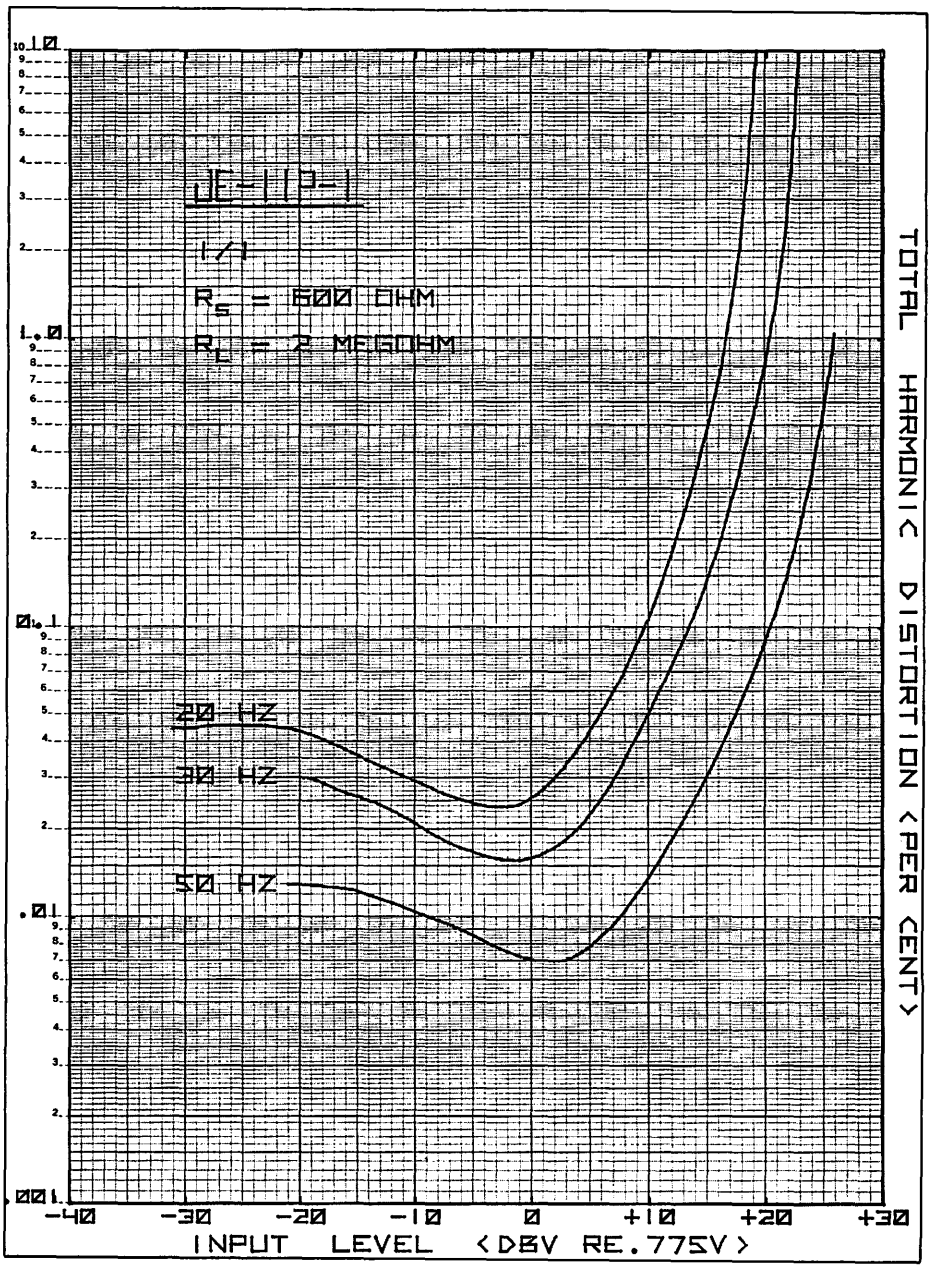


1μS/division

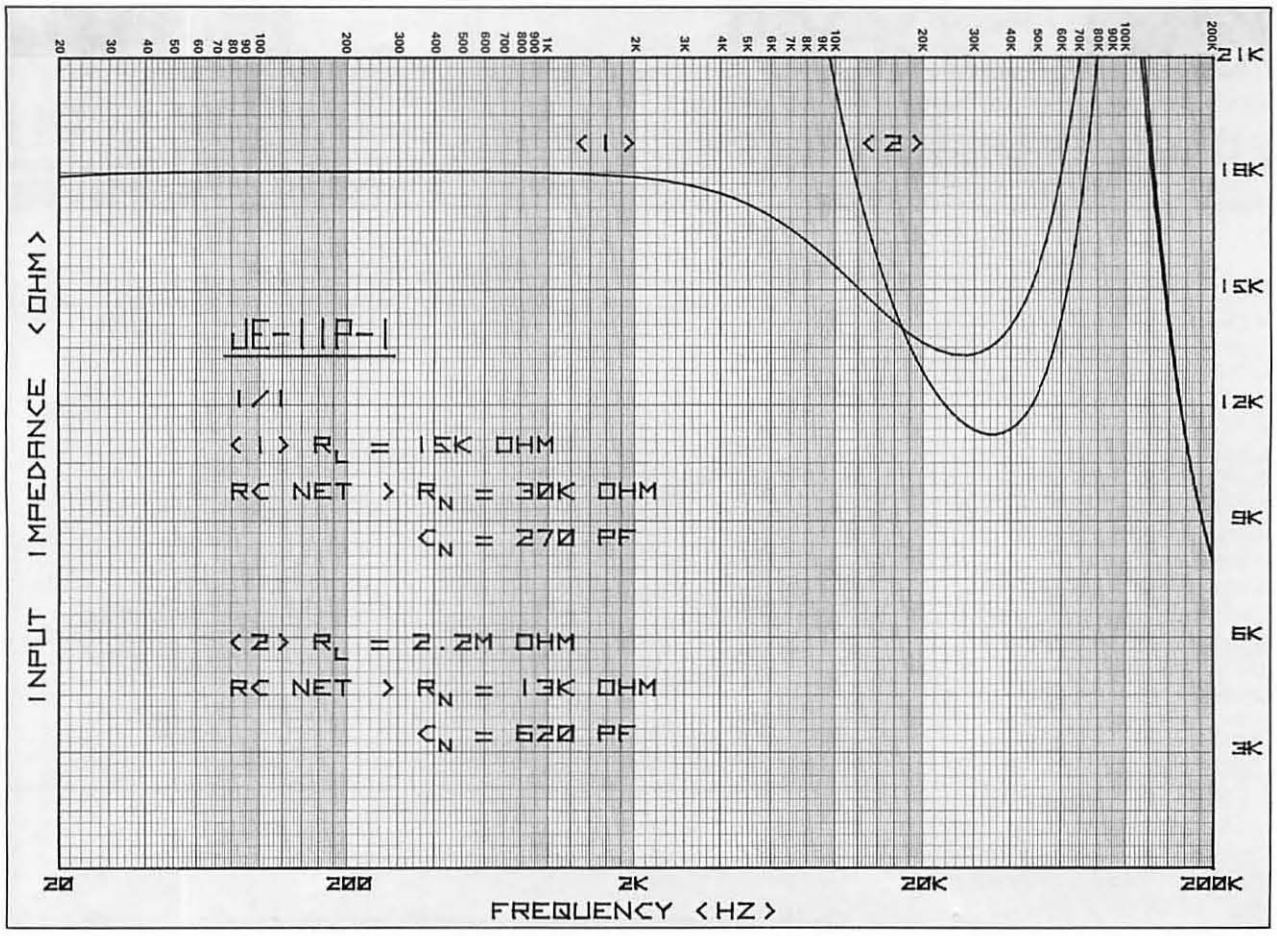
The response and impedance curves were generated by a Hewlett/Packard System 45 Desktop Computer and a 9872A Plotter. The curves are the calculated results from an equivalent circuit model using the COMTRAN AC Circuit Analysis program. This method has made it possible to display the impedance curves up to 200 kHz showing the secondary resonance and RC network damping effect. Measured data from many protypes 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 polynominal curve fit program. The distortion measurements employed a Sound Technology 1710A Analyzer. Verified accuracies are on the order of one pen-line width.

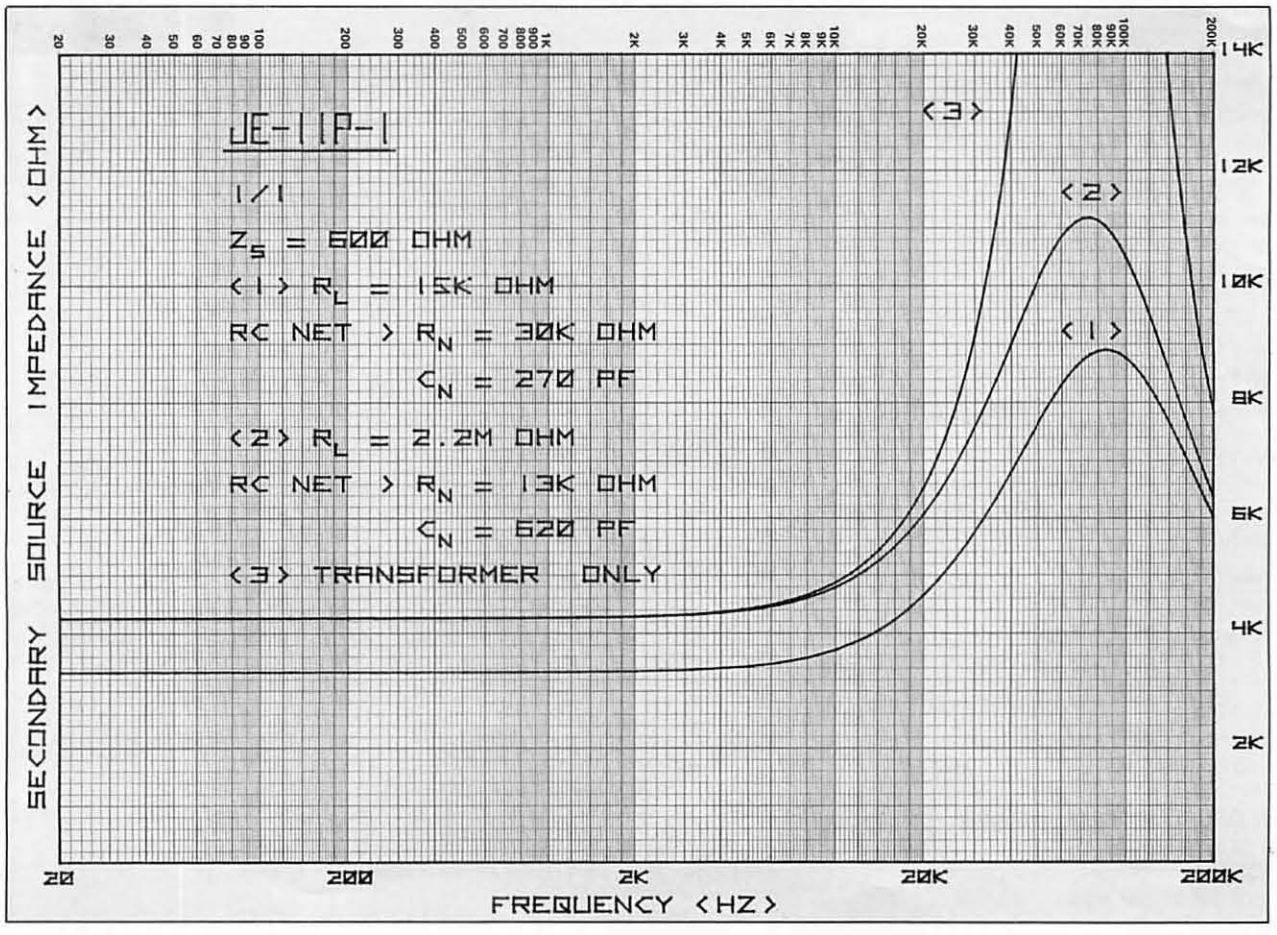
DISTORTION



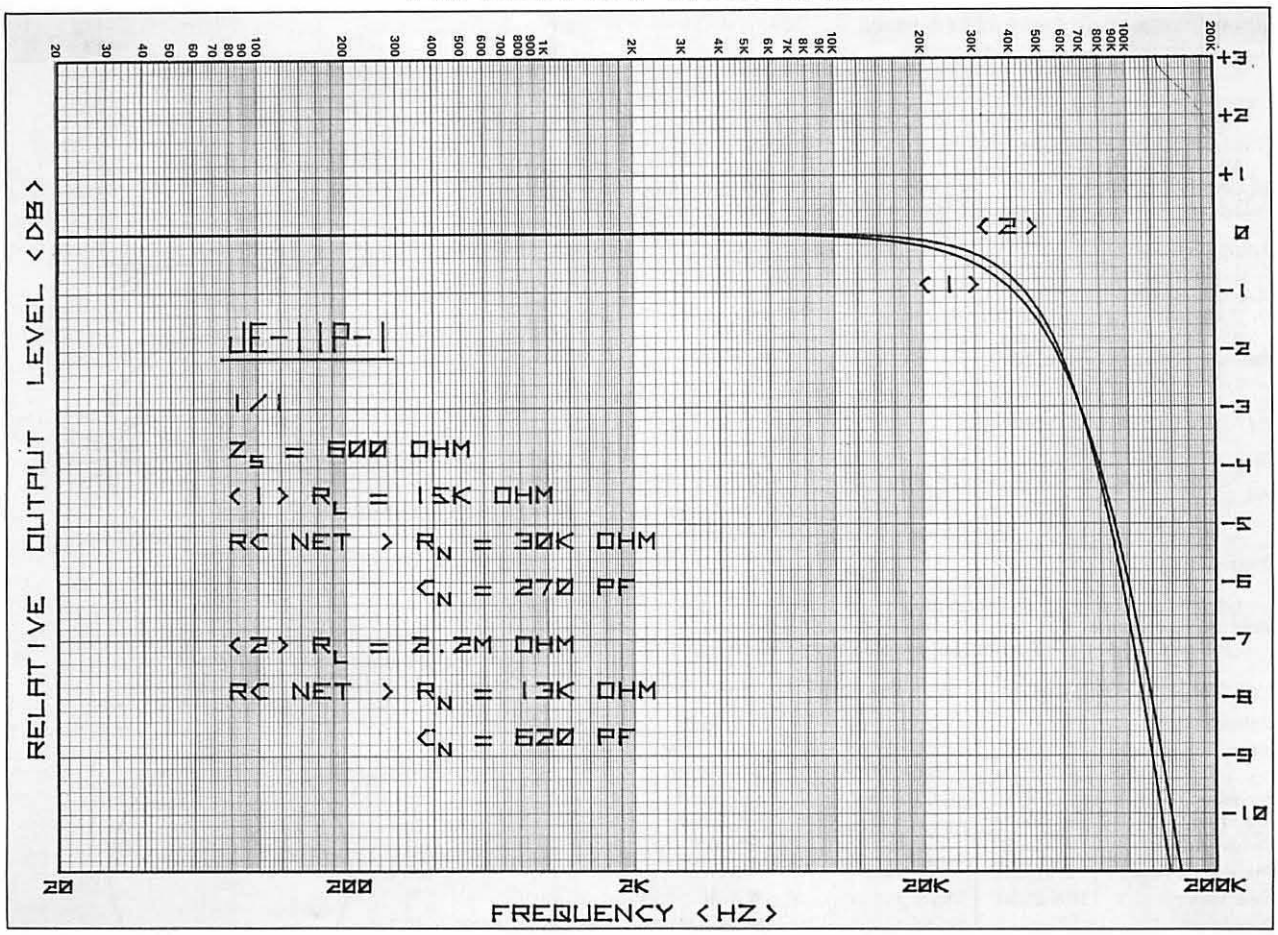
INPUT IMPEDANCE



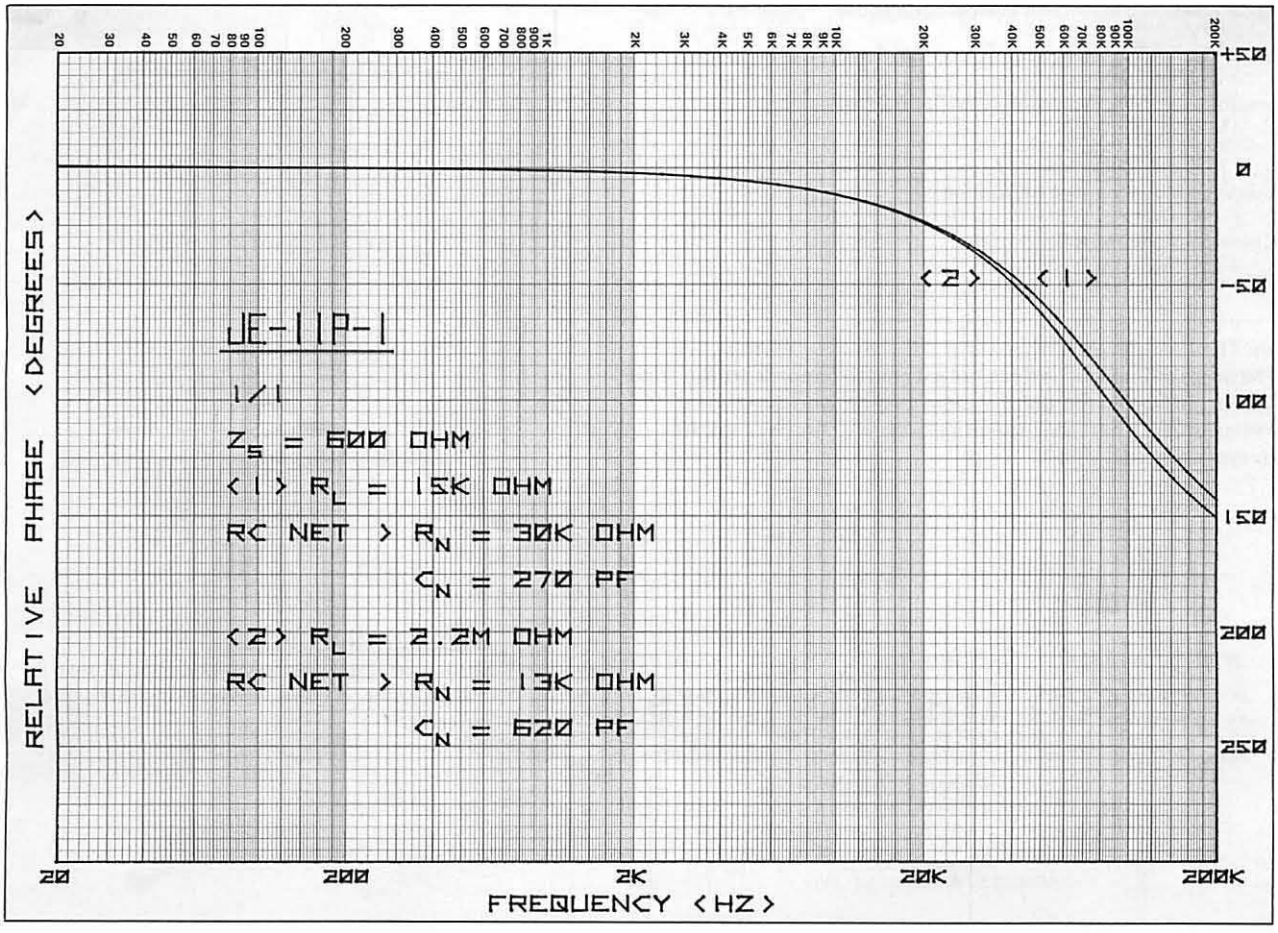
SECONDARY SOURCE IMPEDANCE



FREQUENCY RESPONSE



PHASE RESPONSE



JE-11P-1 GENERAL CHARACTERISTICS

Turns Ratio
1:1
Impedance Ratio
(15K/15K)
Primary Source Impedance
600 ohms or less

Secondary Load Resistor	15K ohms	≥25K ohms
Secondary RC Network	30K ohms, 270pF	13K ohms, 620pF
	(most plug-in types have RC net built-in)	

Faraday Shield
Separate Lead
Magnetic Shield
30dB, separate case lead (standard)
60dB, (octal plug-in types)
Maximum Input Level at 20Hz
+18dBv (Re: 0.775v)

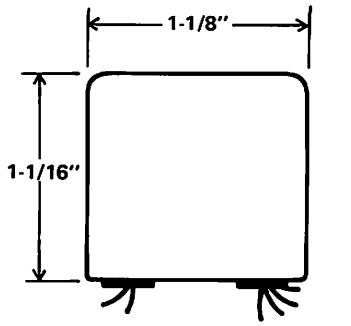
PHYSICAL CHARACTERISTICS

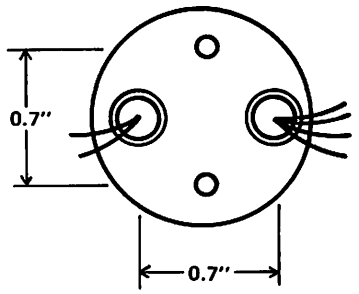
Package
Mu-metal can (standard) or octal plug
Termination
Wire Leads (standard)
Octal plug types also available
Dimensions
1-1/8" diameter, 1-1/16" high (standard)
1-1/4" diameter, 2" high (octal plug)
Mounting (standard)
2 holes, 0.7" center-to-center/self-tapping screws supplied

TYPICAL PERFORMANCE		With 15K load	With ≥25K load
Voltage Gain		−2dB	−0.05dB
Input Impedance	**@ 1kHz**	18K ohms	166K ohm
	@ 10kHz	15.6K ohms	20K ohms
Frequency Response (Re: 1kHz)	**@ 20Hz**	−0.03dB	−0.03dB
	@ 20kHz	−0.25dB	−0.12dB
Bandwidth	**@ −3dB**	85kHz	85kHz
Phase Response	**@ 20kHz**	−23 deg	−24 deg
Rise Time	**(10%-90%)**	5μS	4.8μS
Overshoot		<1%	<2%

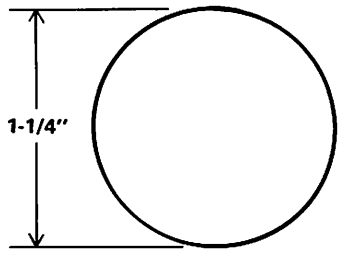
Secondary Source Impedance
4300 ohms @ 1kHz
4900 ohms @ 10kHz
Total Harmonic Distortion (Below Saturation)
0.045% @ 20Hz
0.03% @ 30Hz
0.013% @ 50Hz
Input Level @ 1% Saturation (dBv Re: 0.775v)
+17dBv @ 20Hz
+20dBv @ 30Hz
+26dBv @ 50Hz
Common-Mode Voltage (maximum)
>200v peak
Common-Mode Rejection Ratio
>75dB @ 1kHz
>55dB @ 10kHz

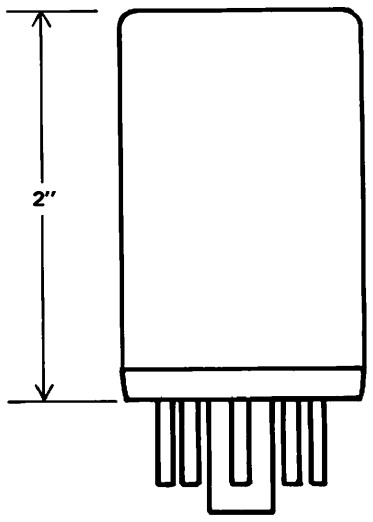
NOTE:
These specifications reflect recent improvements to the transformer, however the graphs show typical performance of earlier units. Therefore specifications and graphs may not always coincide.





Mounting Holes
Clearance for #4 screw
Lead Holes
Use 0.35" hole to clear grommet





MECHANICAL DESIGNERS:
Dimensions are approximate. Please have a transformer in hand when laying out panel cutouts.

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INCORPORATED

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(Visitors by Appointment Only)

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