

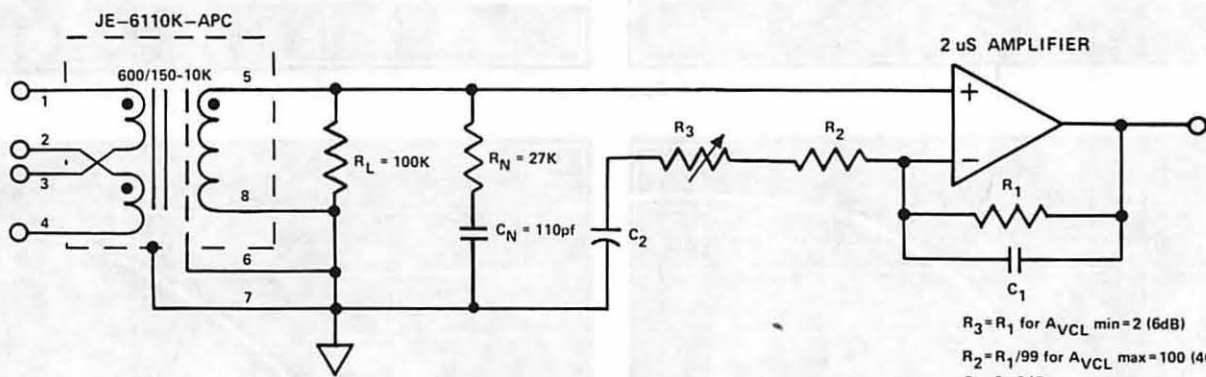
Data Sheet

jensen transformers
INCORPORATED

JE-6110K-APC MICROPHONE INPUT TRANSFORMER

The JE-6110K-APC is a printed circuit type 600/150-10K of earlier design than the JE-110K-HPC. The winding is a less complex configuration of interleaved layers exhibiting higher leakage inductance, so a series RC network of 27K ohms and 110pf should be connected across the 100K ohm secondary load resistor for minimum transient distortion. The resulting high frequency performance of this type is close to the more complex winding but at lower cost. Also the total turns is lower than the JE-110K-HPC. This means the low frequency maximum level capability is less and the distortion is higher, but the lower series losses yield the same 1.5dB noise figure as the wire lead version JE-115K-E.

The pin pattern is compatible with the JE-110K-HPC.

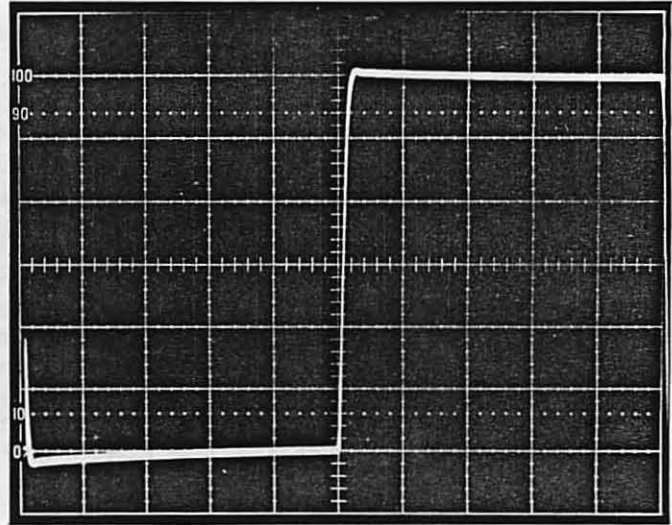
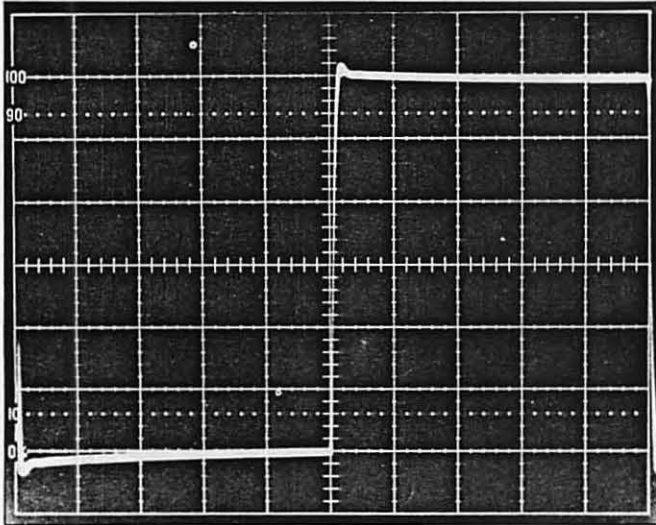


SCHEMATIC DIAGRAM OF TYPICAL TRANSFORMER APPLICATION

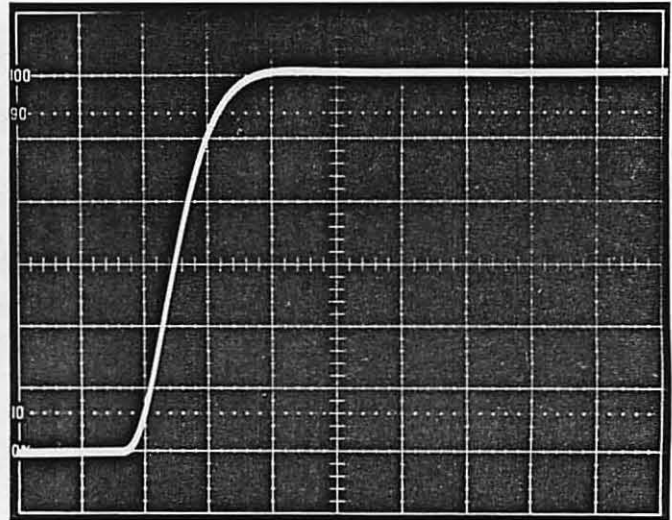
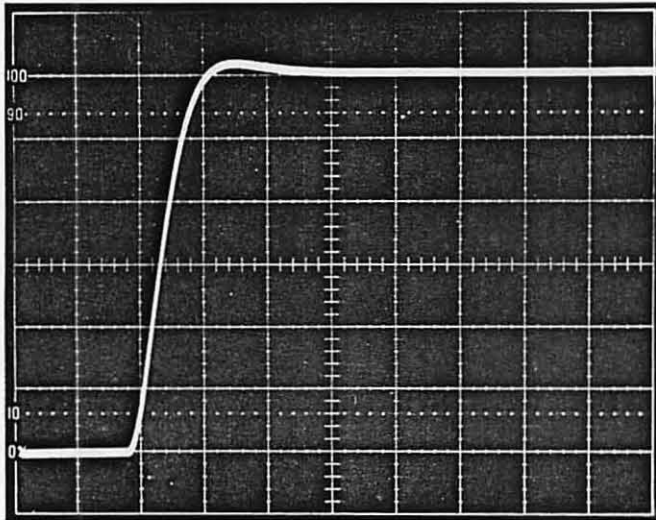
REGARDING THE OSCILLOSCOPE PHOTOS

Actual oscilloscope photos were made from a Tektronix Model 453A (certified calibration). Left column is transformer with secondary termination network and right column includes a 2 microsecond amplifier.

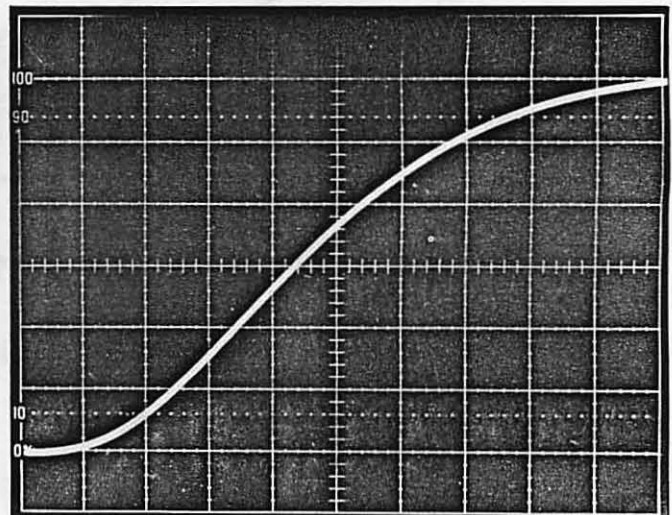
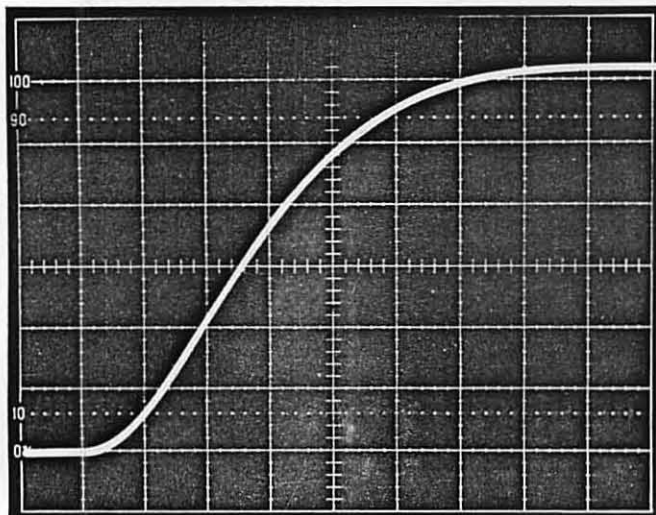
2kHz Square Wave



50 μ S/division



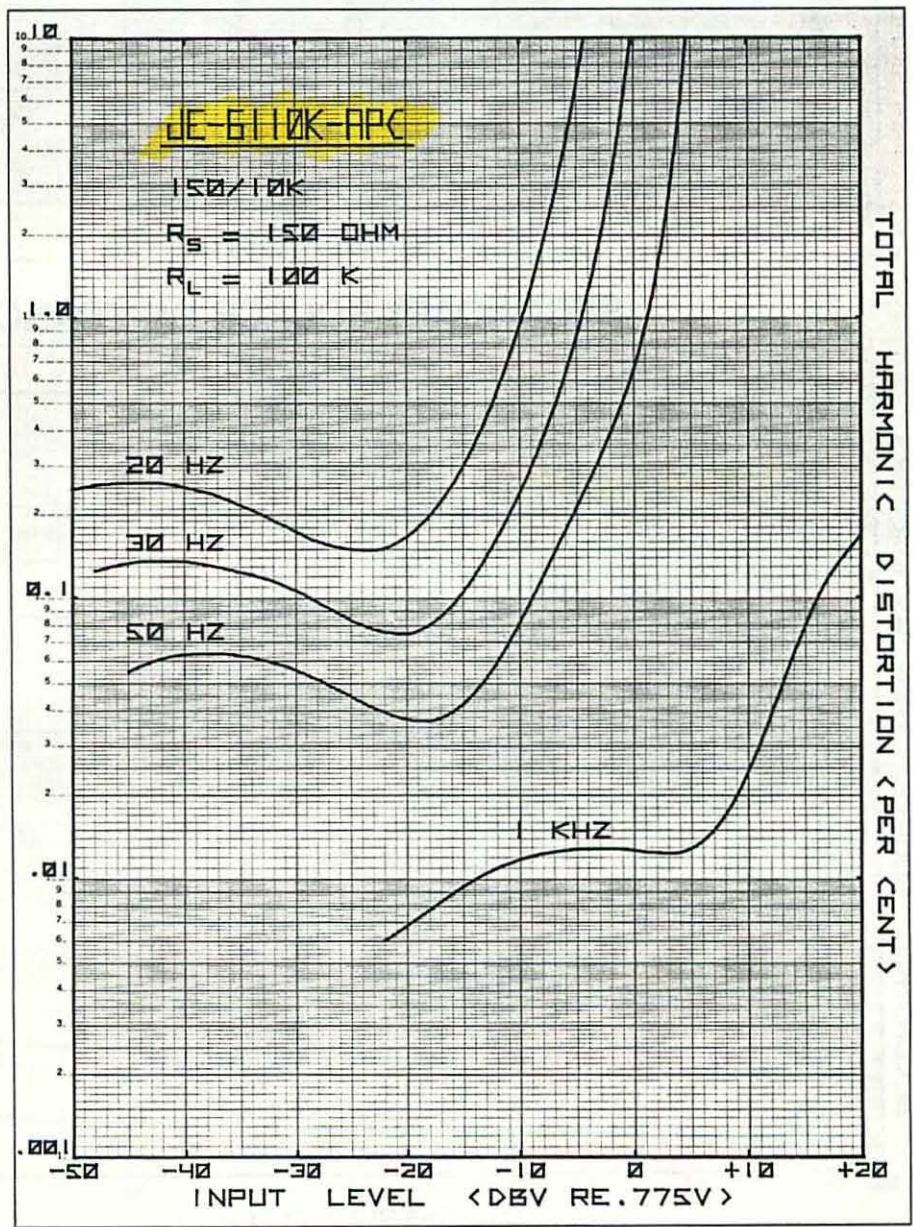
5 μ S/division



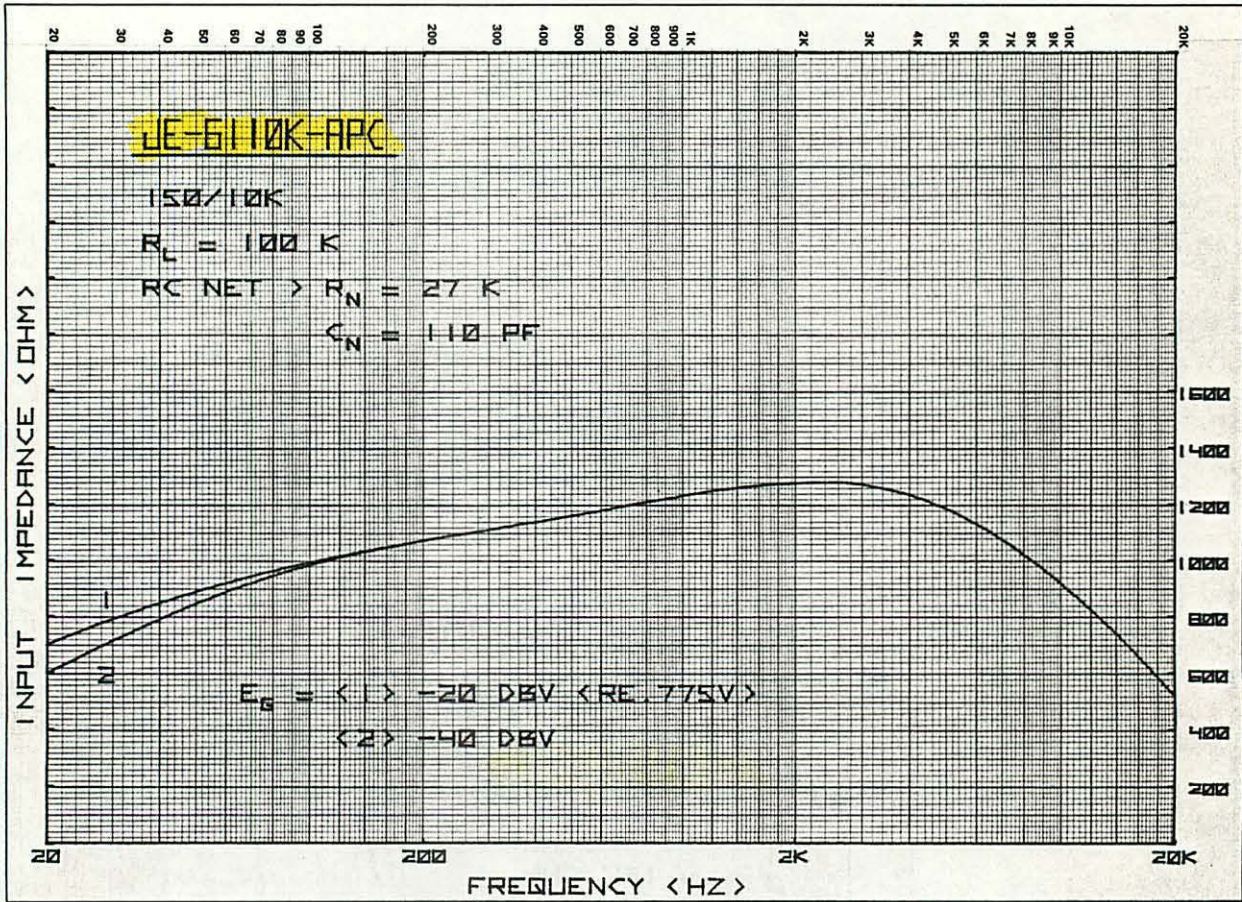
1 μ S/division

All curves were generated by a Hewlett-Packard 9815A/9862A programmable calculator/plotter. All calculations were either derived from or verified by actual measurements. Verified accuracies are on the order of one pen-line width.

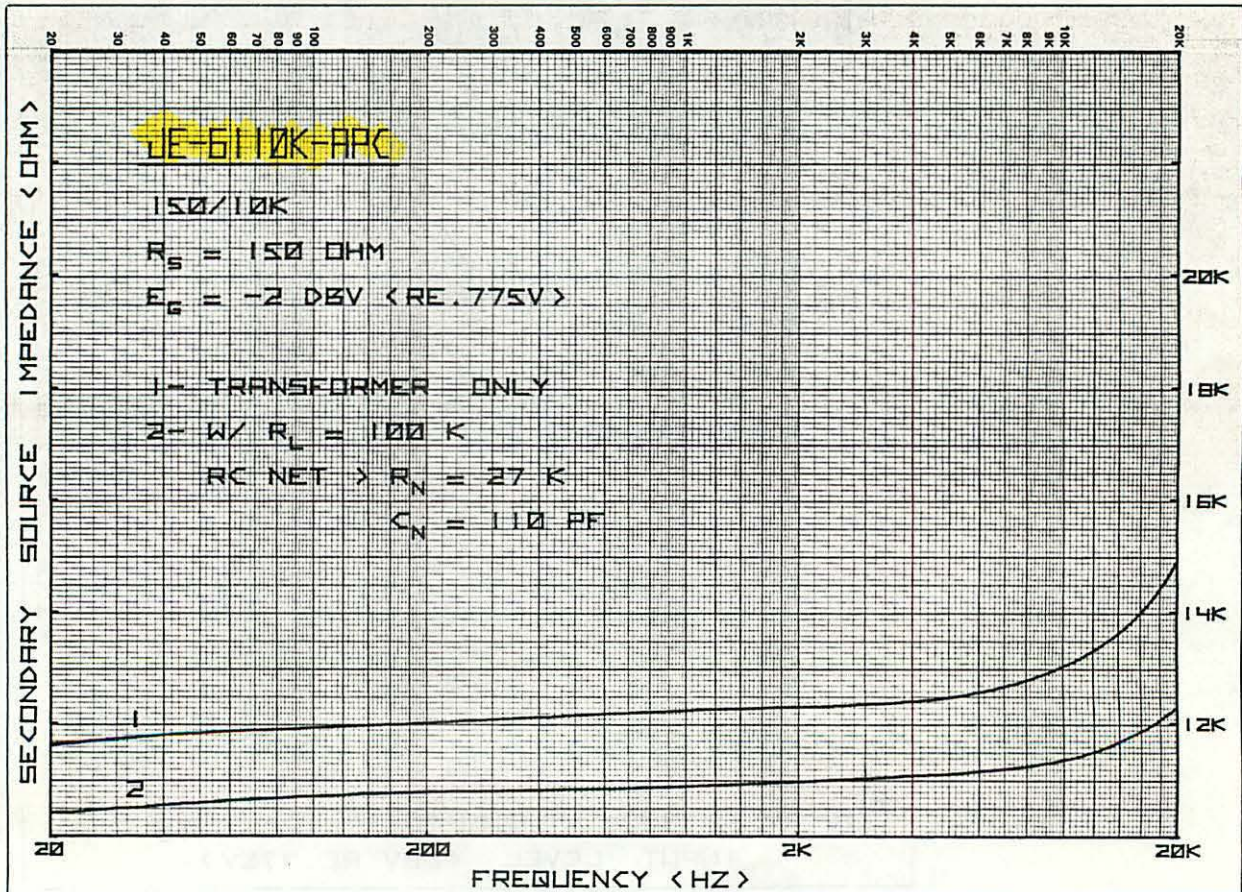
DISTORTION



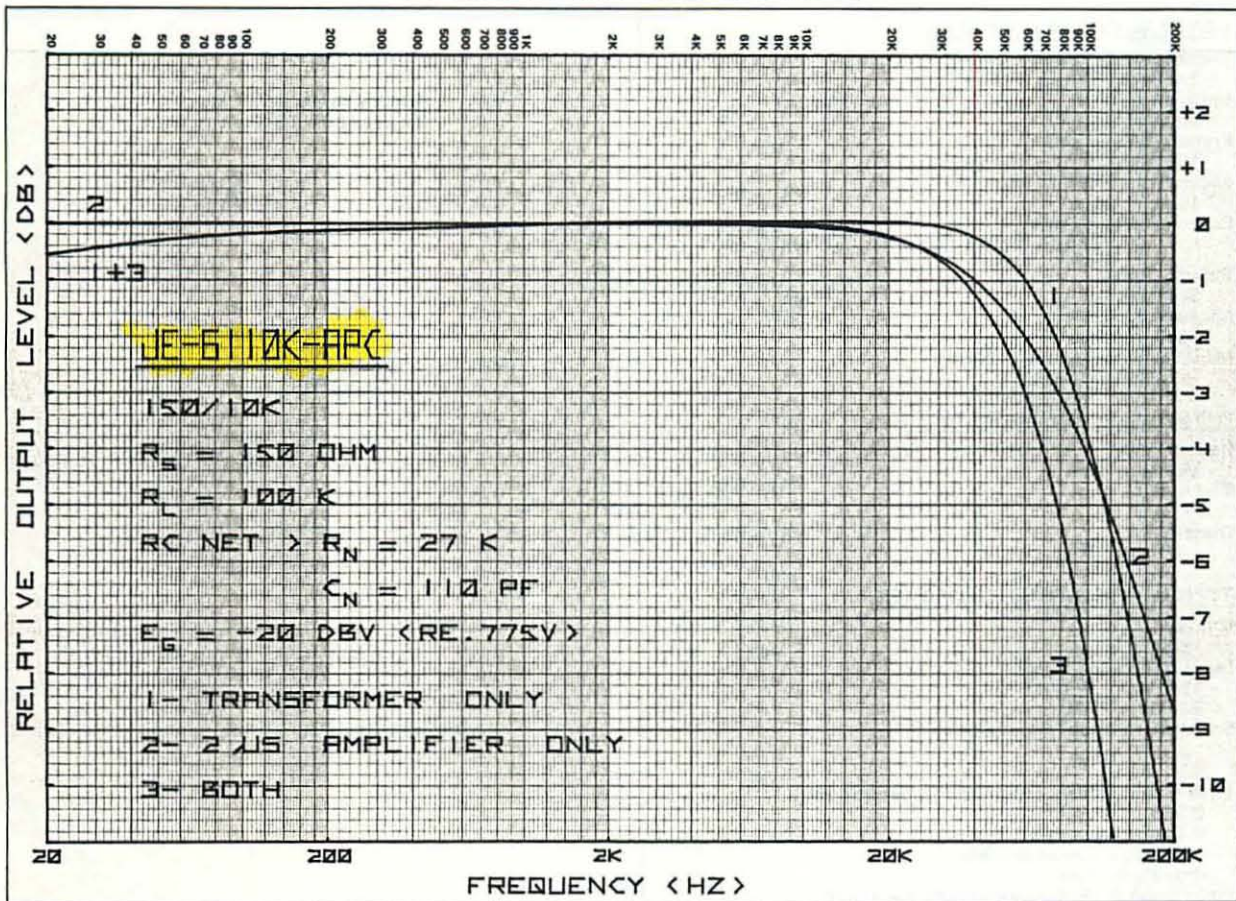
INPUT IMPEDANCE



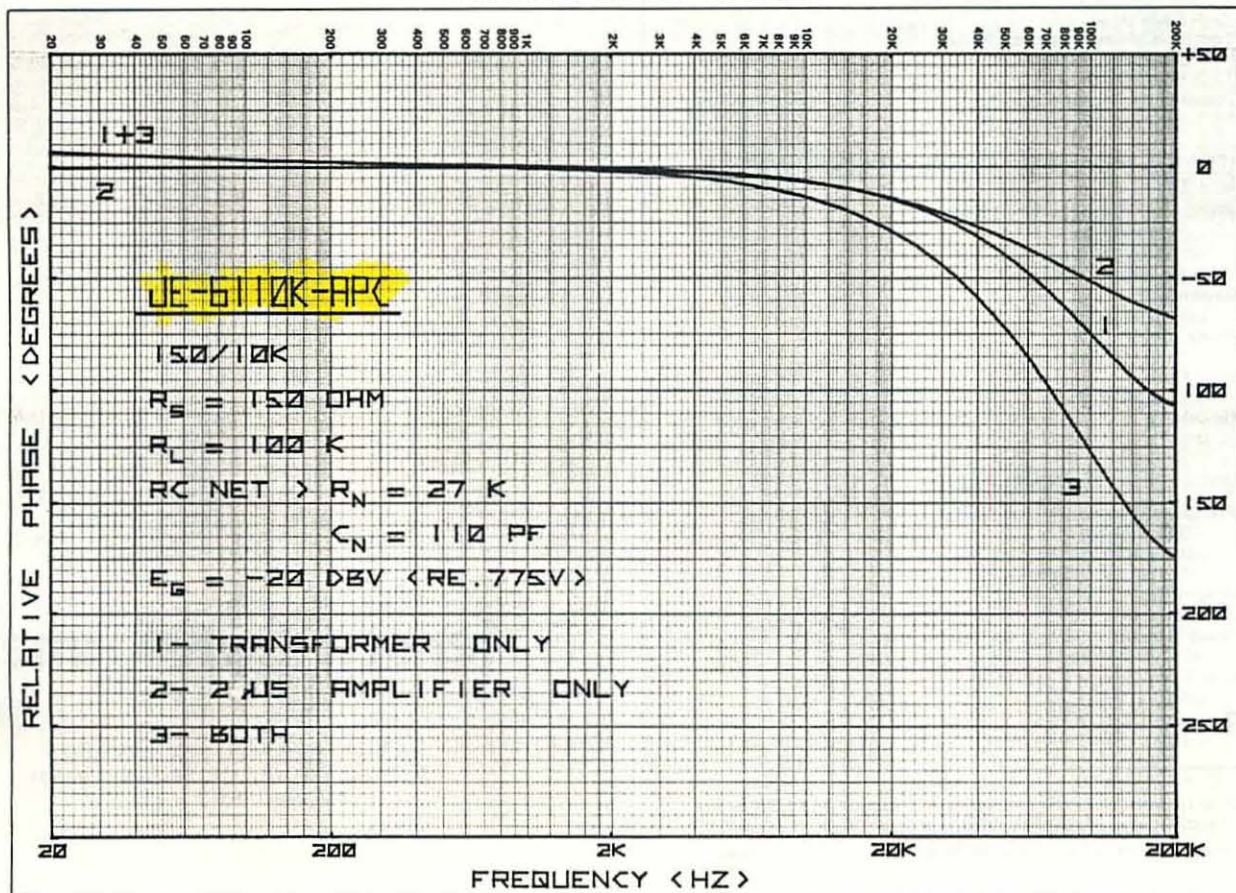
SECONDARY SOURCE IMPEDANCE



FREQUENCY RESPONSE



PHASE RESPONSE



GENERAL CHARACTERISTICS

Turns Ratio
2/1:8.16
Impedance Ratio
600/150:10K
Primary Source Impedance
150 ohms (parallel primaries)
Secondary Load Resistor
100K ohms
Secondary RC Network
 $R_N = 27K$ ohms $C_N = 110$ pf
Faraday Shield
Separate pin
Magnetic Shield
30dB, separate case pin
Maximum Input Level at 20Hz
-6dBv (Re: 0.775v)

PHYSICAL CHARACTERISTICS

Package
Mu-metal can
Termination
PC pins
Dimensions
1-1/8" diameter, 1-1/16" high

TYPICAL PERFORMANCE (150/10K)

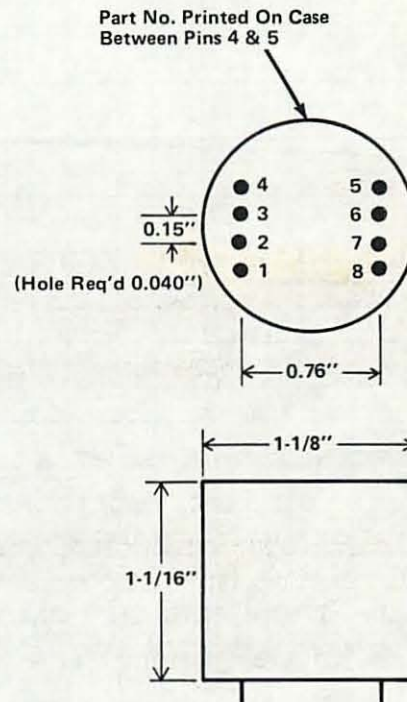
Voltage Gain
18dB
Input Impedance
1240 ohms @ 1kHz
920 ohms @ 10kHz
Secondary Source Impedance
12.3K ohms @ 1kHz
13K ohms @ 10kHz
Total Harmonic Distortion (Below Saturation)
0.26% maximum @ 20Hz
0.14% maximum @ 30Hz
0.065% maximum @ 50Hz
0.013% @ 1kHz
Input Level @ 1% Saturation (dBv Re: 0.775v)
-10dBv @ 20Hz
-4.5dBv @ 30Hz
+1dBv @ 50Hz
Common-Mode Voltage (maximum)
>200v peak
Common-Mode Rejection Ratio
>85dB @ 1kHz
>65dB @ 10kHz
Transformer Noise Figure*
1.5dB Re: 129.5 ohms**

(TRANSFORMER WITH SECONDARY TERMINATION ONLY)

Frequency Response (Re: 1kHz)
-0.6dB @ 20Hz
+0.05dB @ 20kHz
(No resonance peak)
Bandwidth
90kHz @ -3dB
Phase Response
-15° @ 20kHz
Rise Time
3.8μs (10%-90%)
Overshoot
3%

(INCLUDING 2μs AMPLIFIER)

Frequency Response (Re: 1kHz)
-0.6dB @ 20Hz
-0.25dB @ 20kHz
(No resonance peak)
Bandwidth
60kHz @ -3dB
Phase Response
-29° @ 20kHz
Rise Time
5.6μs (10%-90%)
Overshoot
<1%



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(Visitors by Appointment Only)

*Add to amplifier NF referred to impedance of 11.3K ohms.
(Parallel value of secondary source impedance and load)

**Parallel value of source impedance and input impedance.