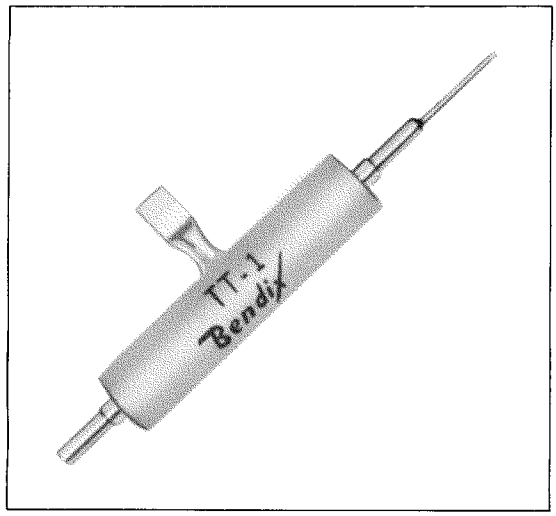
6144
Bendix Type TT-1

NOISE DIODE



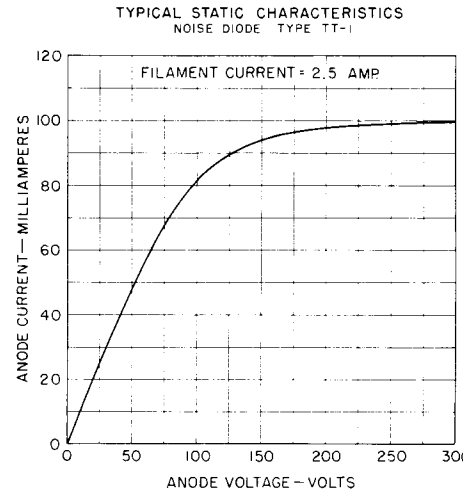
DESCRIPTION

This tube is designed for use as a noise source in HF and UHF measurements. It is constructed to match the characteristic impedance of a 50-ohm coaxial line. The noise output is a direct function of anode current and is controlled by varying the applied filament voltage. The coaxial construction gives wide band operation thus permitting use with any type of circuit — tuned or untuned. Correct matching of impedances and a termination is required to keep the VSWR of the overall circuit to a minimum.

RATINGS

Anode voltage	300 volts D-C (max.)
Anode current	100 ma. D-C (max.)
Filament voltage	3.2 volts A-C or D-C
Filament current	2.5 amp.
Anode dissipation	30 watts (max.)
Characteristic coaxial impedance	50 ohms
Frequency range	3000 megacycles (max.)
Dynamic impedance	16,000 ohms (min.)

TYPICAL STATIC CHARACTERISTICS



OPERATING CHARACTERISTICS

Since the tube operates under temperature limited emission conditions, anode current is controlled by holding the anode voltage constant and varying the filament supply voltage or current. Maximum operating conditions with an anode dissipation of 30 watts will require supplementary cooling of the anode. This can be accomplished by heat conduction through the radio frequency plumbing, by air jet or by thermal conduction through a mounting block. Anode dissipation should be limited to 18 watts unless cooling means are provided. Maximum anode hot spot temperature should not exceed 400°F.

THE Bendix CORPORATION
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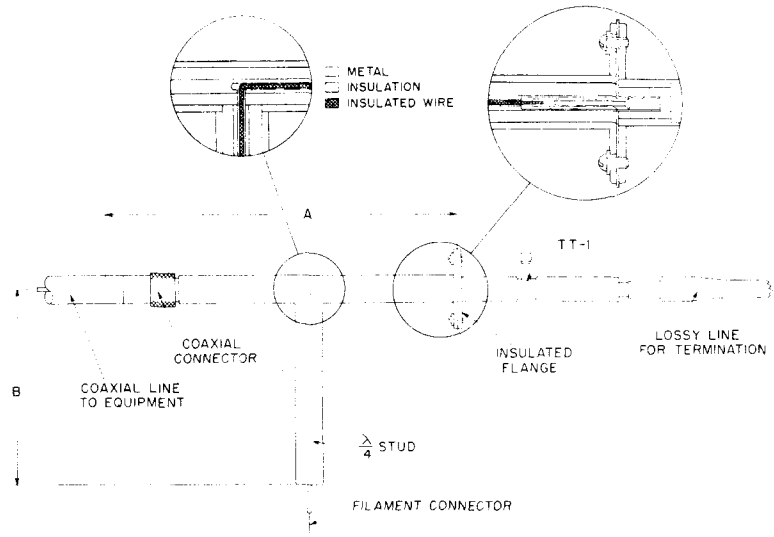
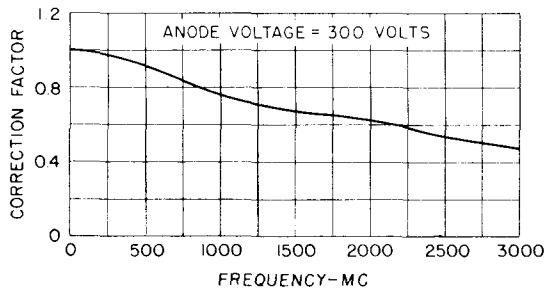


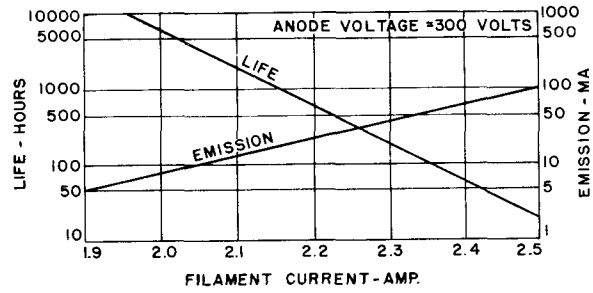
FREQUENCY	A	B
2000 MEGACYCLES	2.401	1.725
750 MEGACYCLES	3.178	3.632

"A" AND "B" DIMENSIONS VARY WITH THE CENTER FREQUENCY OF EQUIPMENT UNDER TEST.

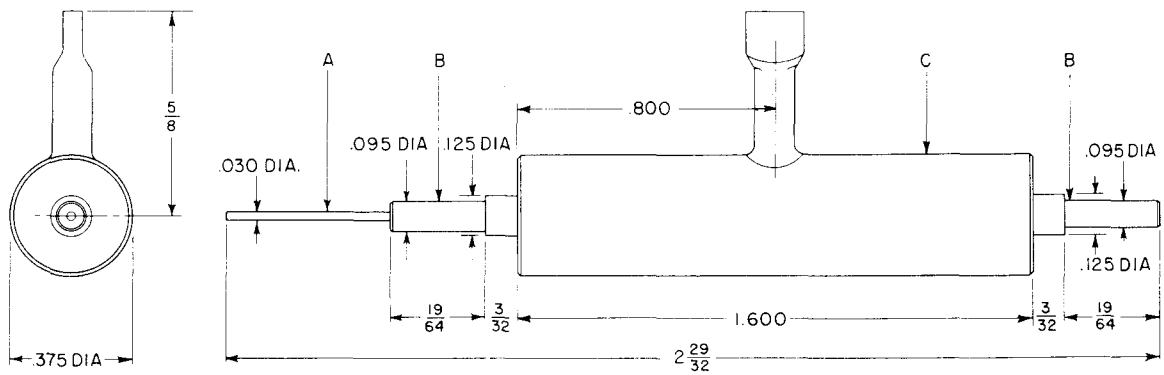
TUBE MOUNT



CALCULATED TRANSIT TIME REDUCTION OF NOISE



CALCULATED MINIMUM LIFE EXPECTANCY AND EMISSION CURVES



FILAMENT PAIR	A-B′ OR A-B
ANODE	C
ANODE RETURN	B OR B′
50 OHM COAX	B,B′-C

OUTLINE DRAWING