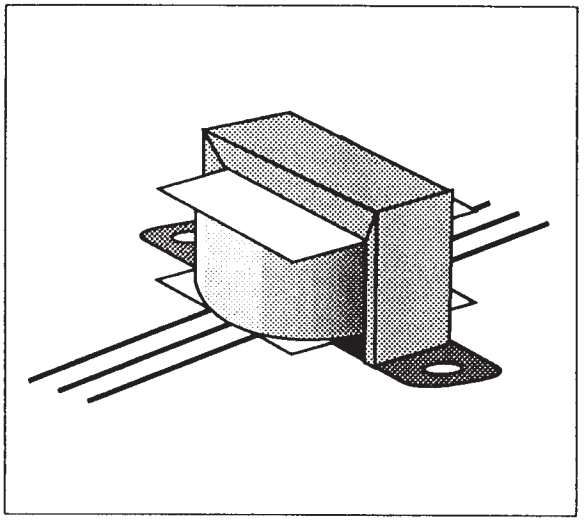
MBT-1

Microphone Bridging Transformer

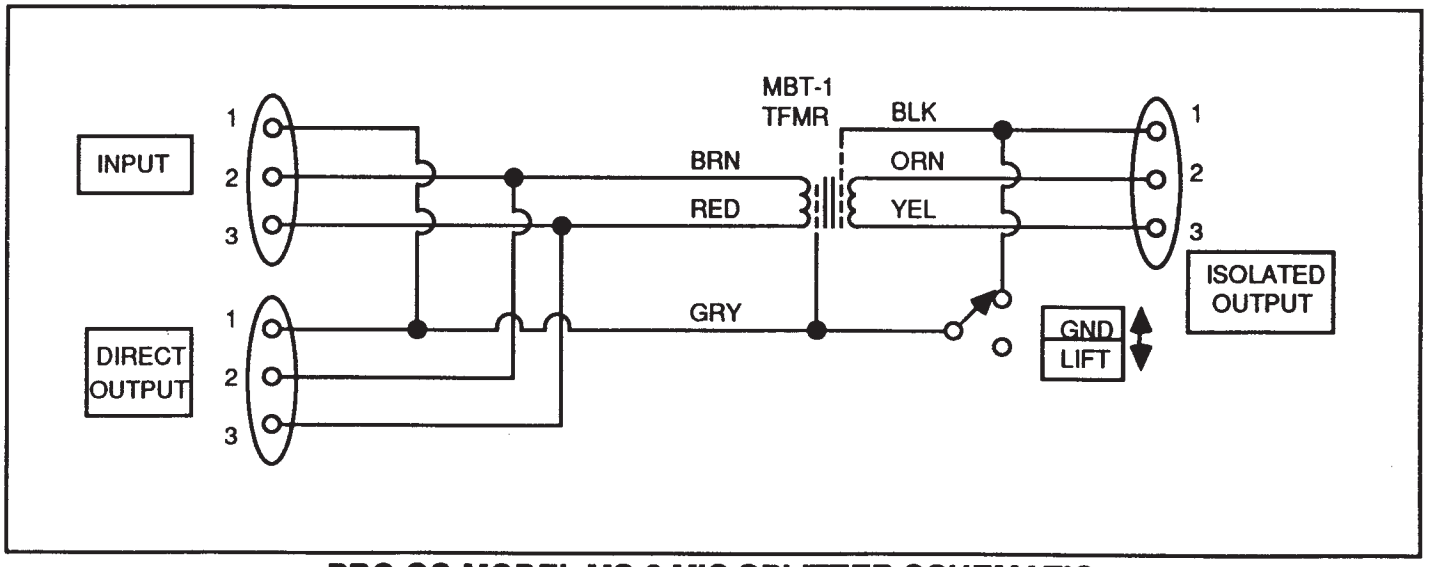
THE PRO CO MODEL MBT-1 TRANSFORMER

The MBT-1 is a carefully designed, custom-built 1:1 microphone bridging transformer whose characteristics are optimized for use with balanced low-impedance microphones or similar sources.

Special winding techniques and a high-permeability (80% nickel) core lamination preserve full frequency response while minimizing signal losses and other "loading" effects. Separate electrostatic shields for primary (input) and secondary (output) windings reduce capacitive coupling of ground-borne electrical noise between main and stage monitor or recording mixers, eliminating annoying 60-Hz hum and buzz. The source impedance of the MBT-1 is very similar to that of a low-impedance microphone to ensure proper matching to the input circuitry of the mixer. The result is clean transient response (no overshoot or ringing) and low distortion even at low frequencies and high input levels.



TYPICAL APPLICATION



PRO CO MODEL MS-2 MIC SPLITTER SCHEMATIC

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MBT-1 GENERAL CHARACTERISTICS

TURNS RATIO:
1:1
IMPEDANCE RATIO:
150/150
PRIMARY SOURCE IMPEDANCE:
1.0 kohm (typical microphone)
SECONDARY LOAD IMPEDANCE:
1.0 kohm (typical mic preamp)
FARADAY SHIELD:
2 shields with separate leads
CORE MATERIAL:
80% nickel alloy
MAXIMUM INPUT LEVEL AT 20 HZ:
0 dBv (re: 0.775v)

MBT-1 PHYSICAL CHARACTERISTICS

PACKAGE:
Open channel frame
TERMINATION:
8" (200 mm) #24 AWG color-coded wire leads
DIMENSIONS:
1.625" L X 1.125" W X .815" H
(41.3 mm L X 28.6 mm W X 20.7 mm H)
MOUNTING:
2 holes, .125" (3.6 mm) dia., 1.375" (34.9 mm) centers

MBT-1 TYPICAL PERFORMANCE

All measurements made with 150 ohm source and 1.0 kohm load to simulate typical "real world" microphone and mic preamp. 0 dBv ref. = .775 volt.

VOLTAGE LOSS (@ 1.0 kHz):
1.0 dB
INPUT IMPEDANCE:
1050 ohm @ 1.0 kHz
1080 ohm @ 10 kHz
SECONDARY SOURCE IMPEDANCE:
270 ohm @ 1.0 kHz
300 ohm @ 10 kHz
TOTAL HARMONIC DISTORTION:
<.03% 20 Hz-20 kHz @ -30 dBv output
<.1% 30 Hz-20 kHz @ -15 dBv output
<.25% 20 Hz-20 kHz @ -15 dBv output
INPUT LEVEL @ 1% SATURATION:
0 dBv @ 20 Hz
+4 dBv @ 30 Hz
+8 dBv @ 50 Hz
FREQUENCY RESPONSE (Re: 1.0 kHz):
-0.5 dB @ 20 Hz
-0.25 dB @ 20 kHz
-3 dB @ 65 kHz
PHASE RESPONSE (@ 20 kHz):
-20 degrees
RISE TIME (2.0 kHz, 10%-90%):
4.5 uS
OVERSHOOT:
<1%
COMMON-MODE VOLTAGE (Maximum):
>1500V RMS
COMMON-MODE REJECTION RATIO:
>80 dB @ 1.0 kHz.