

## REPEATING COILS

Outstanding features of Western Electric Repeating Coils are:

- (1) Designed by communication experts especially for indicated use.
- (2) Excellent frequency response.
- (3) Rugged construction.
- (4) Dependable performance.

### 111C AND 119C REPEATING COILS

Toroidal type line repeating coils designed to provide dependable impedance matching and line isolation at line circuit transfer points. They are intended for use with amplifiers for program transmission over long or short cable or open wire circuits equipped with proper loading.

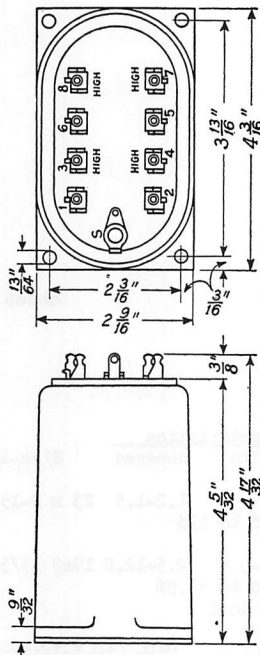
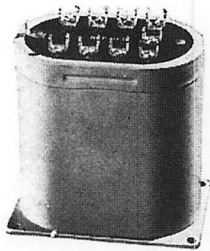
#### Typical Specifications

**Frequency Range:** 30-15,000 cycles.

**Maximum Power Capacity:** At 30 cycles, 1.1 watts (+30 dbm).

**Insertion Loss:** Less than 1 db.

### 111C REPEATING COIL



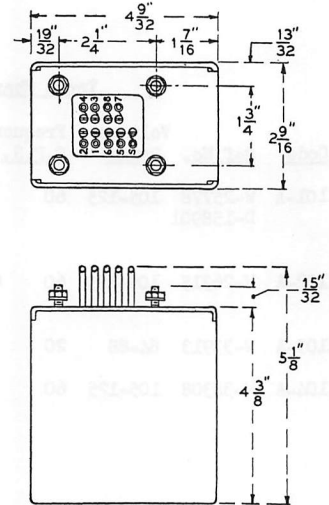
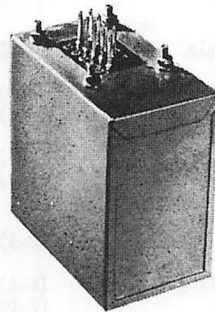
**Dimensions:** 2-9/16" x 4-3/16" x 4-17/32".

**Weight:** 4½ pounds.

**Mounting:** Flat base for board or panel mounting. Mounting holes to clear #8 machine screws.

**Finish:** Gray enamel.

### 119C REPEATING COIL



**Frequency Range:** 30-15,000 cycles.

**Maximum Power Capacity:** At 30 cycles 1.1 watts (+30 dbm) Insertion Loss, less than 1 db.

**Dimensions:** 2-9/16" x 4-9/32" x 5½".

**Weight:** 4 pounds.

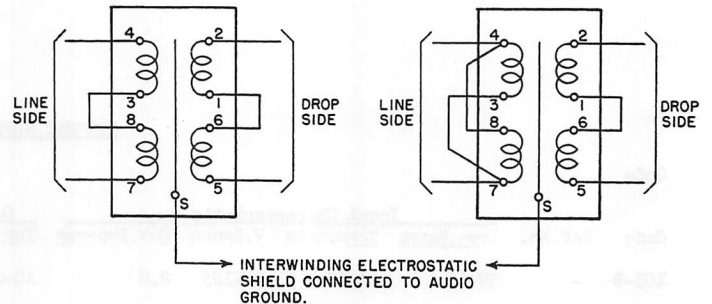
**Mounting:** Single side stud mounting using 993A or 993C Mounting Plate.

**Finish:** Gray enamel.

#### 111C AND 119C REPEATING COILS

IMPEDANCE RATIO  
111C 600Ω:600Ω  
119C 520Ω:600Ω

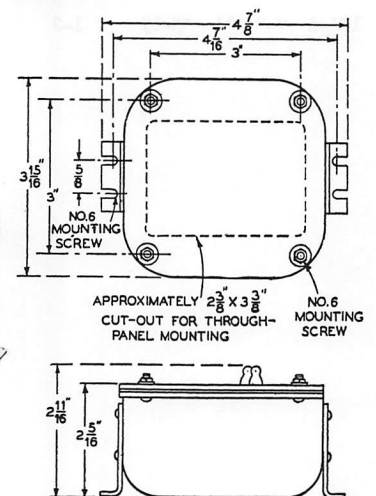
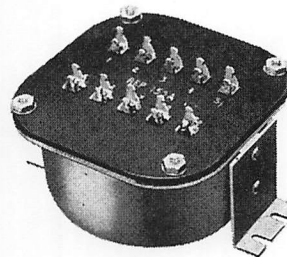
IMPEDANCE RATIO  
111C 150Ω:600Ω  
119C 130Ω:600Ω



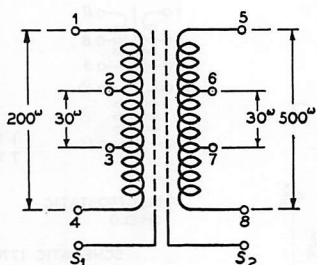
TYPICAL USE  
BETWEEN 600Ω CIRCUITS

TYPICAL USE  
FOR CABLE CIRCUITS & SHORT LINES

### 153A REPEATING COIL



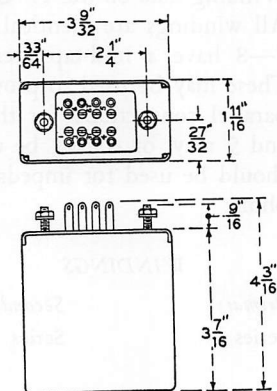
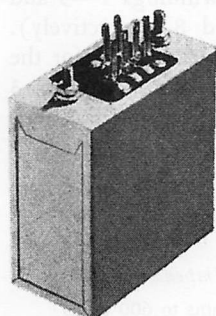
A toroidal coil with permalloy core in a flat type mounting, potted in a heavy iron case. Designed for general use in microphone or line level circuits to match impedances. A high degree of shielding against unwanted longitudinal transmission is provided by two electrostatic shields between windings — use separately to segregate grounds or strap to form a single shield.



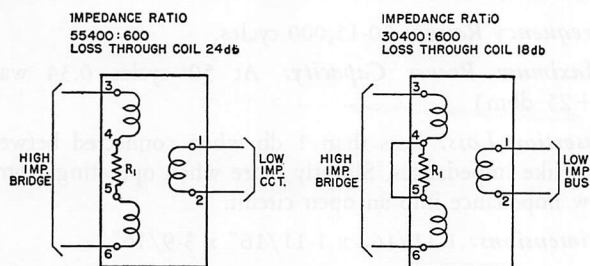
**Typical Specifications**

- Frequency Range:** 40-15,000 cycles.
- Maximum Power Capacity:** At 30 cycles, 0.226 watts (+24 dbm).
- Insertion Loss:** Less than 0.5 db.
- Dimensions:** 4 7/8" x 3-15/16" x 2-11/16" including terminals.
- Weight:** 2 pounds, 10 ounces.
- Mounting:** Flat base for board or panel.
- Finish:** Gray enamel.

**154C REPEATING COIL**



A high quality repeating coil for bridging service. It has a shell type chrome permalloy core and is potted in a rectangular metal case arranged for single side stud mounting.



LOSS IN CIRCUIT BRIDGED NEGLIGIBLE IF COIL IMPEDANCE IS AT LEAST 5 TIMES THAT OF CIRCUIT BRIDGED.

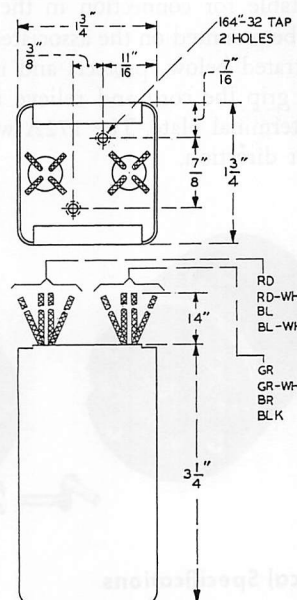
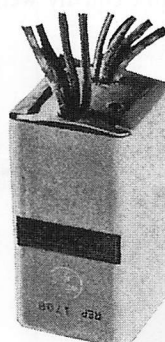
R<sub>1</sub> = 25,000 ohm resistor.

**Typical Specifications**

- Frequency Range:** 30-15,000 cycles.
- Maximum Power Capacity:** At 30 cycles 0.782 watt (+29 dbm).
- Insertion Loss:** See sketch above.
- Dimensions:** 3-9/32" x 1-11/16" x 3-7/16" (4-3/16" overall).
- Weight:** 2 1/4 lbs.
- Mounting:** Single side stud mounting using 993B or 993C Mounting Plate.
- Finish:** Gray enamel.

**170B REPEATING COIL**

A shell type line repeating coil with a permalloy core enclosed in a metal case of unusually small size. Designed to provide dependable impedance matching and line isolation at line circuit transfer points with complete assurance that the highest program quality is being maintained. It has all impedance ratio of 600:600 ohms.

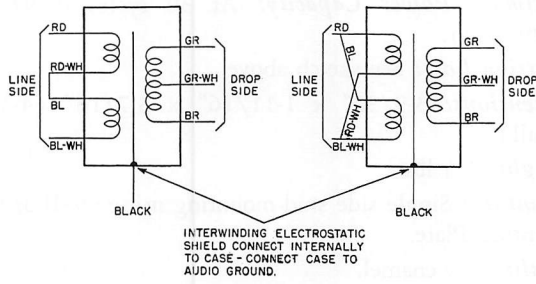


**Typical Specifications**

- Frequency Range:** 30-15,000 cycles.
- Maximum Power Capacity:** At 30 cycles 0.247 watts (+24 dbm).
- Insertion Loss:** Approximately 1 db.
- Dimensions:** 1 3/4" x 1 3/4" x 3 1/4"
- Weight:** 1 1/4 pounds.
- Mounting:** Flat base for flat plate or chassis mounting. Two threaded mounting holes take 8-32 screws.
- Finish:** Gray enamel.

IMPEDANCE RATIO  
 600Ω : 600Ω - GR TO BR  
 600Ω : 150Ω - GR TO GR-WH OR  
 BR TO GR-WH

IMPEDANCE RATIO  
 150Ω : 600Ω - GR TO BR  
 150Ω : 150Ω - GR TO GR-WH OR  
 BR TO GR-WH

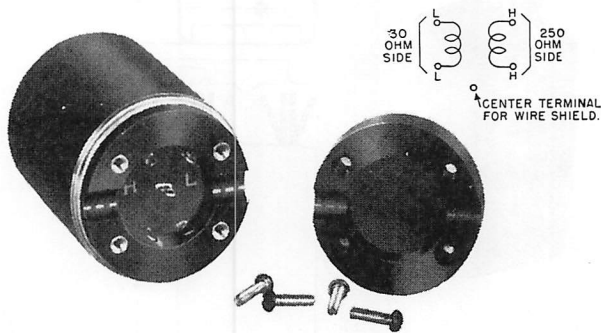


**171A REPEATING COIL**

Used with 9 type Reproducer see page 22 for detailed information.

**172A REPEATING COIL**

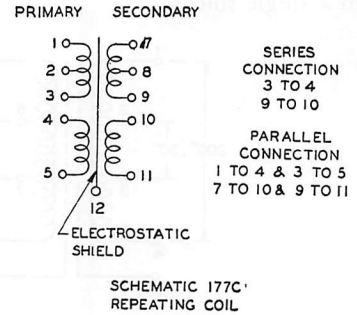
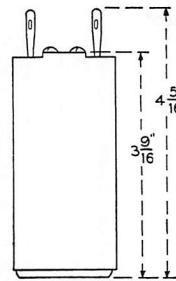
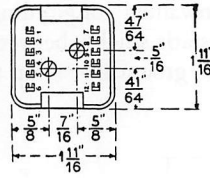
An exceptionally high quality impedance matching device for use in low level circuits particularly between a microphone and amplifier. It employs screw type terminals and is adaptable for connection in the microphone cordage, or it may be mounted on the associated amplifier. A plastic cover, illustrated below, protects and insulates the coil. The cord slots grip the cord and relieve the strain on the terminals and terminal plate. The 172A will transmit equally well in either direction.



**Typical Specifications**

- Frequency Range:** 30-15,000 cycles.
- Maximum Power Capacity:** At 30 cycles 0.045 watts (+16 dbm).
- Insertion Loss:** Approximately 1 db.
- Dimensions:** 1 3/4" diameter x 2-25/32" long.
- Weight:** 12 ounces.
- Mounting:** Use connected in microphone cord or mount on flat surface by means of loop bracket.
- Case:** Magnetic shielding permalloy metal.
- Finish:** Black.

**177C REPEATING COIL**



A shell type line repeating coil with a permalloy core enclosed in a metal case of small size. Designed to provide dependable impedance matching and line isolation at line circuit transfer points, and for changing from balanced to unbalanced circuits. The coil has a one-to-one ratio. It has an electrostatic shield between windings and an electromagnetic shield inside the case. Additional electromagnetic shielding, if required in instances of severe exposure, may be obtained by adding a 42A Shield externally. Winding data on the 177C Repeating Coil is shown above. All windings are identical except that windings 1—3 and 7—8 have a mid-tap (terminals 2 and 8, respectively). These may be used to provide a mid-ground point for the parallel connection; for the series connection terminals 3 and 9 may, of course, be used. The following connections should be used for impedances between 25 ohms and 600 ohms:

WINDINGS		OPERATING
Primary	Secondary	Impedance Ratios
Series	Series	600 ohms to 600 ohms or 150 ohms to 150 ohms
Parallel	Parallel	25 ohms to 25 ohms
Series	Parallel	150 ohms to 25 ohms

**Typical Specifications**

- Frequency Range:** 30-15,000 cycles.
- Maximum Power Capacity:** At 50 cycles 0.34 watts (+25 dbm)
- Insertion Loss:** Less than 1 db when connected between two like impedances. Slightly more when operating from a low impedance into an open circuit.
- Dimensions:** 1-11/16" x 1-11/16" x 3-9/16".
- Mounting:** Flat base for flat plate or chassis mounting. Two threaded mounting holes take 8-32 screws.
- Finish:** Gray enamel.