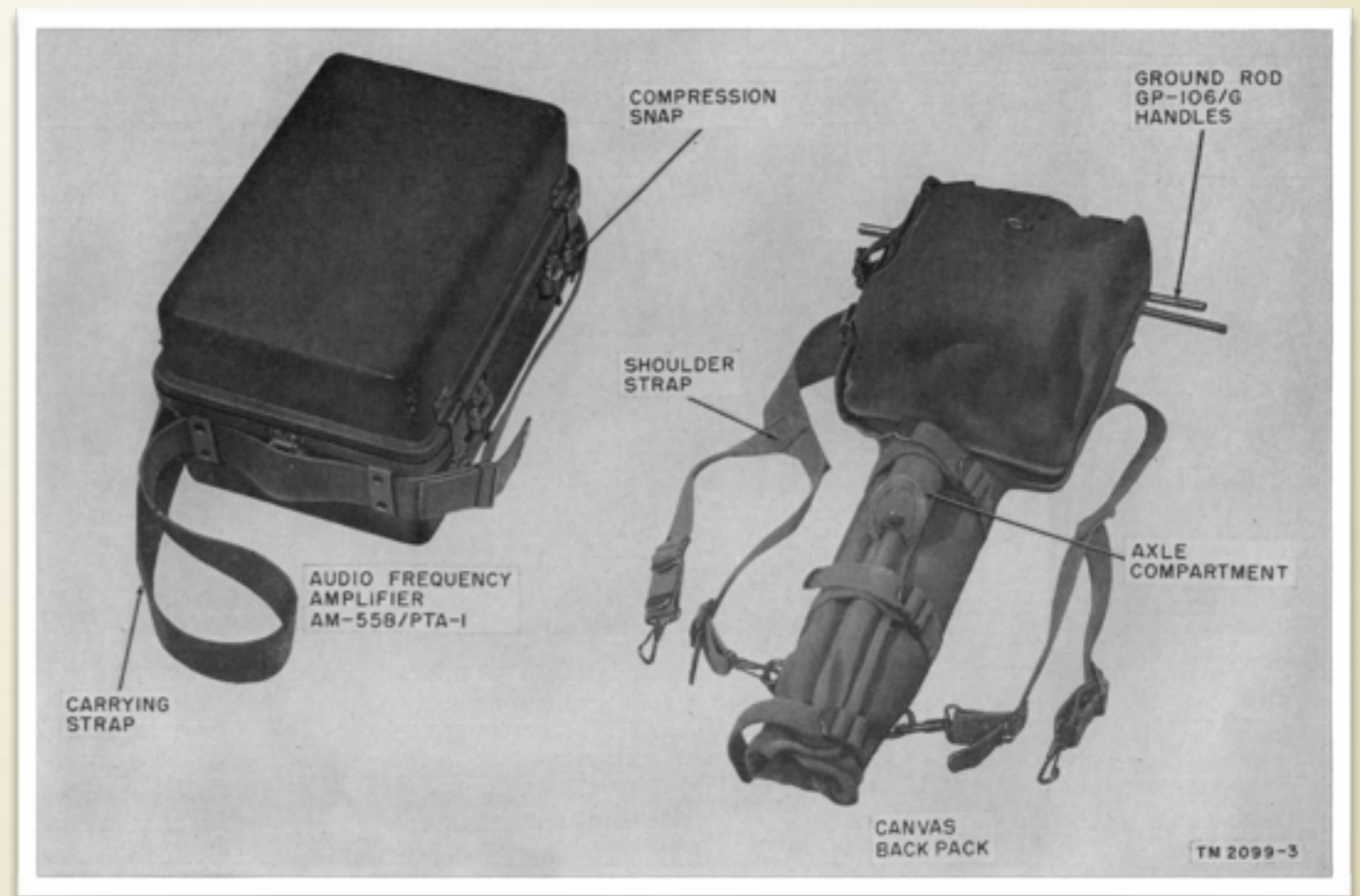


WIRETAPPING WITH AUDIO FREQUENCY MONITOR AN/P TA-1

PRESENTED BY MARK J. BLAIR NF6X
AT THE 2017 MRCG MEET

AUDIO FREQUENCY MONITOR AN/PPTA-1

- Wire tapping device for field telephone lines
- 1954 TM with changes dated 1960, 1962

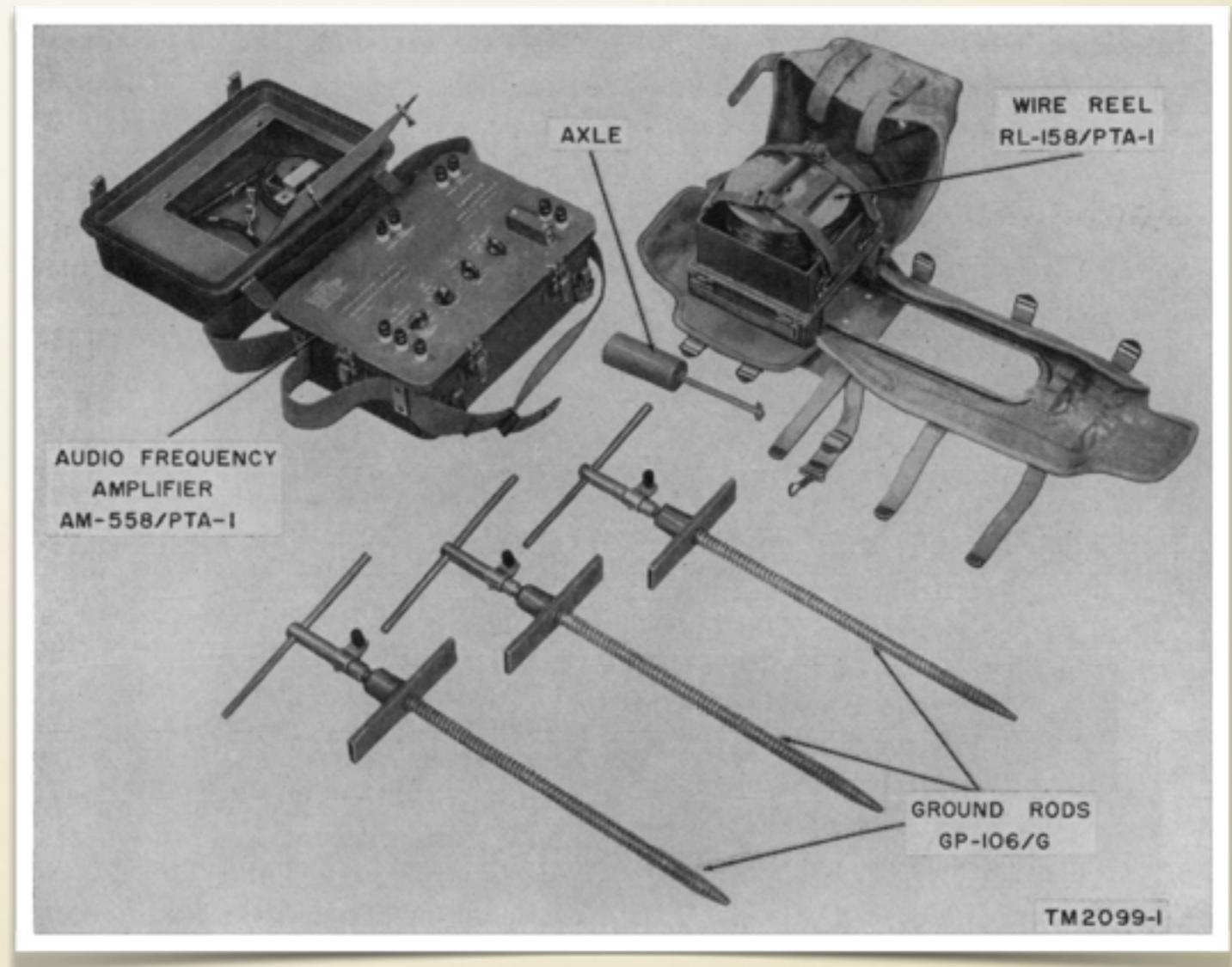


DESCRIPTION

- Allows wire tapping of signals between 200 and 8000 CPS carried over field telephone lines
- Five methods of interception:
 - Direct connection to lines
 - Induction pickup clamped around lines
 - Capacitive coupling to lines
 - Ground loop near ground-return line
 - Ground rods in path of ground-return line

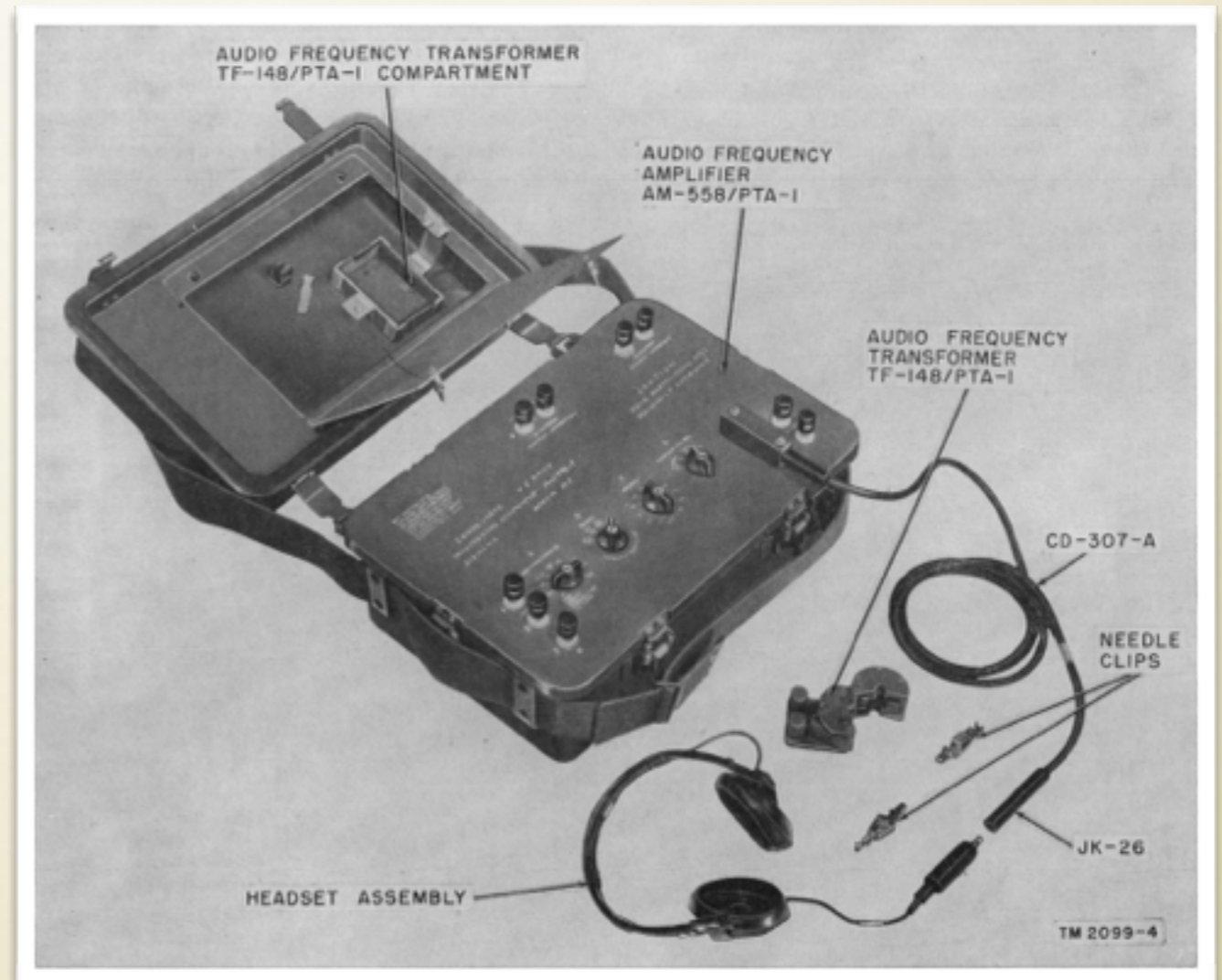
MAJOR COMPONENTS

- Audio frequency amplifier AM-558/PTA-1
- Backpack with wire reel and three ground rods
- Can be carried by a single soldier



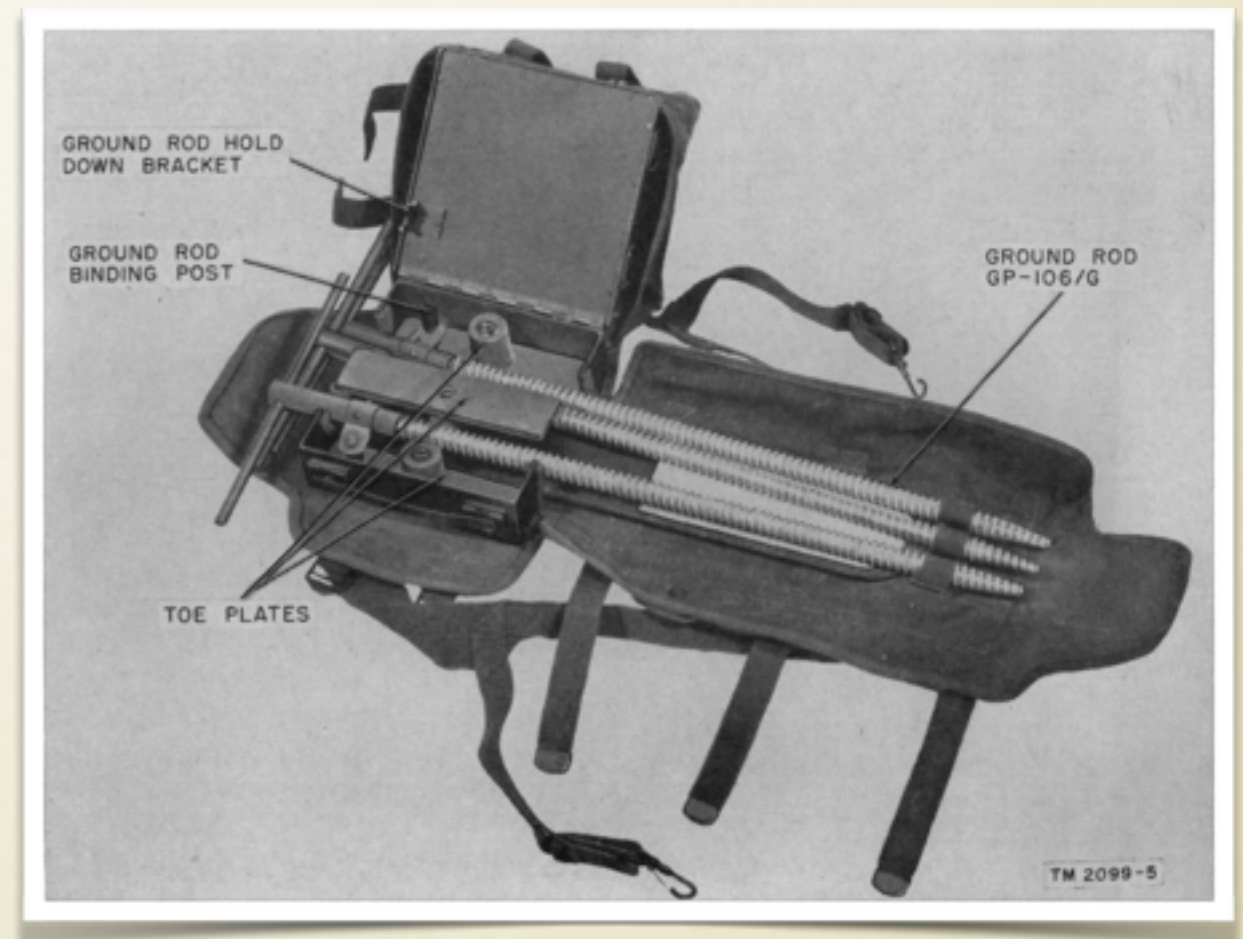
MINOR COMPONENTS OF AMPLIFIER

- Transformer TF-148/
PTA-1 for inductive
coupling to lines
- Needle clips for direct
connection to lines
- Headset with extension
cord

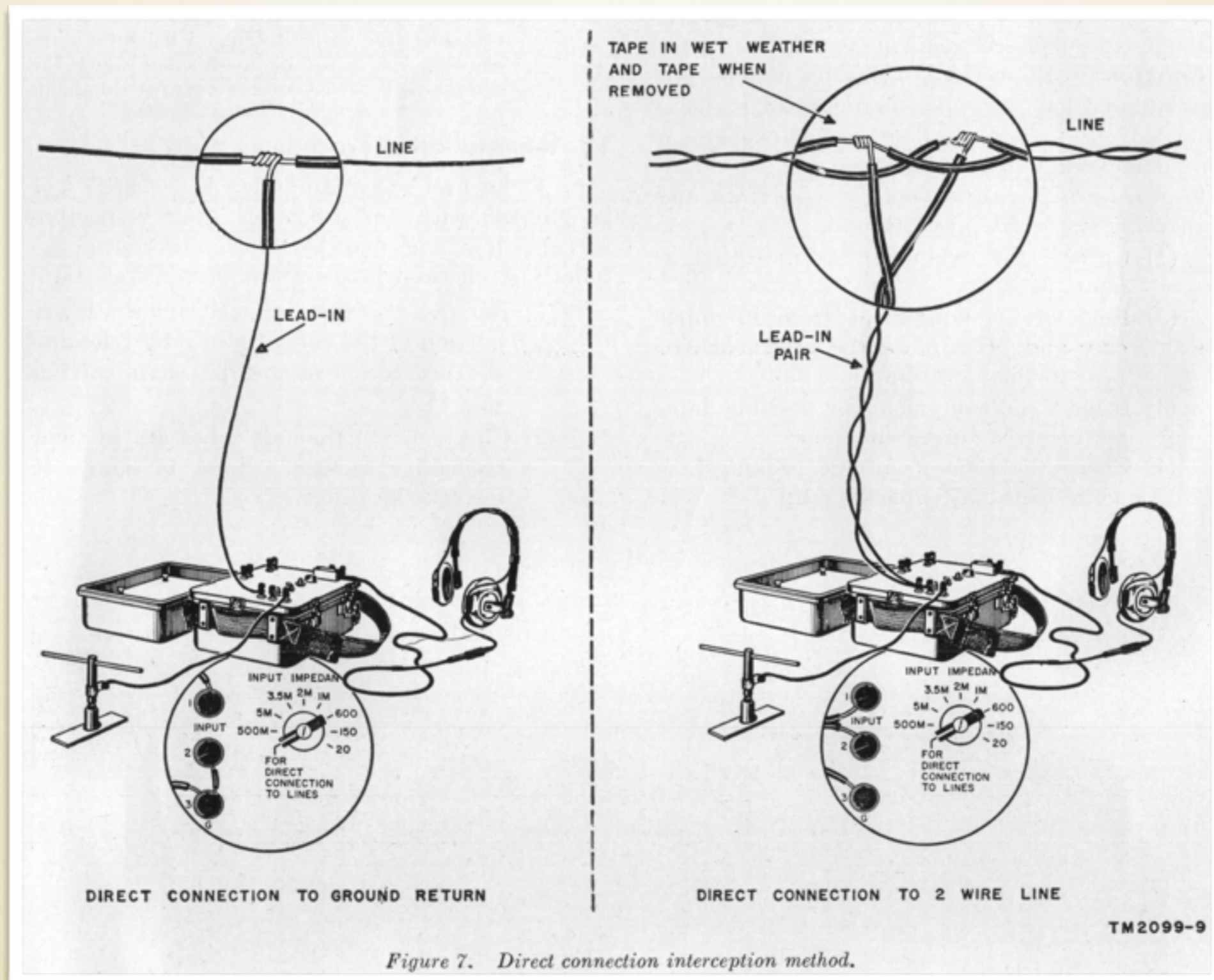


MINOR COMPONENTS OF BACKPACK

- Wire reel RL-158/
PTA-1 with 500 ft.
WD-1/TT
- Reel axle
- Three ground rods
- Three toe plates for
driving rods into ground



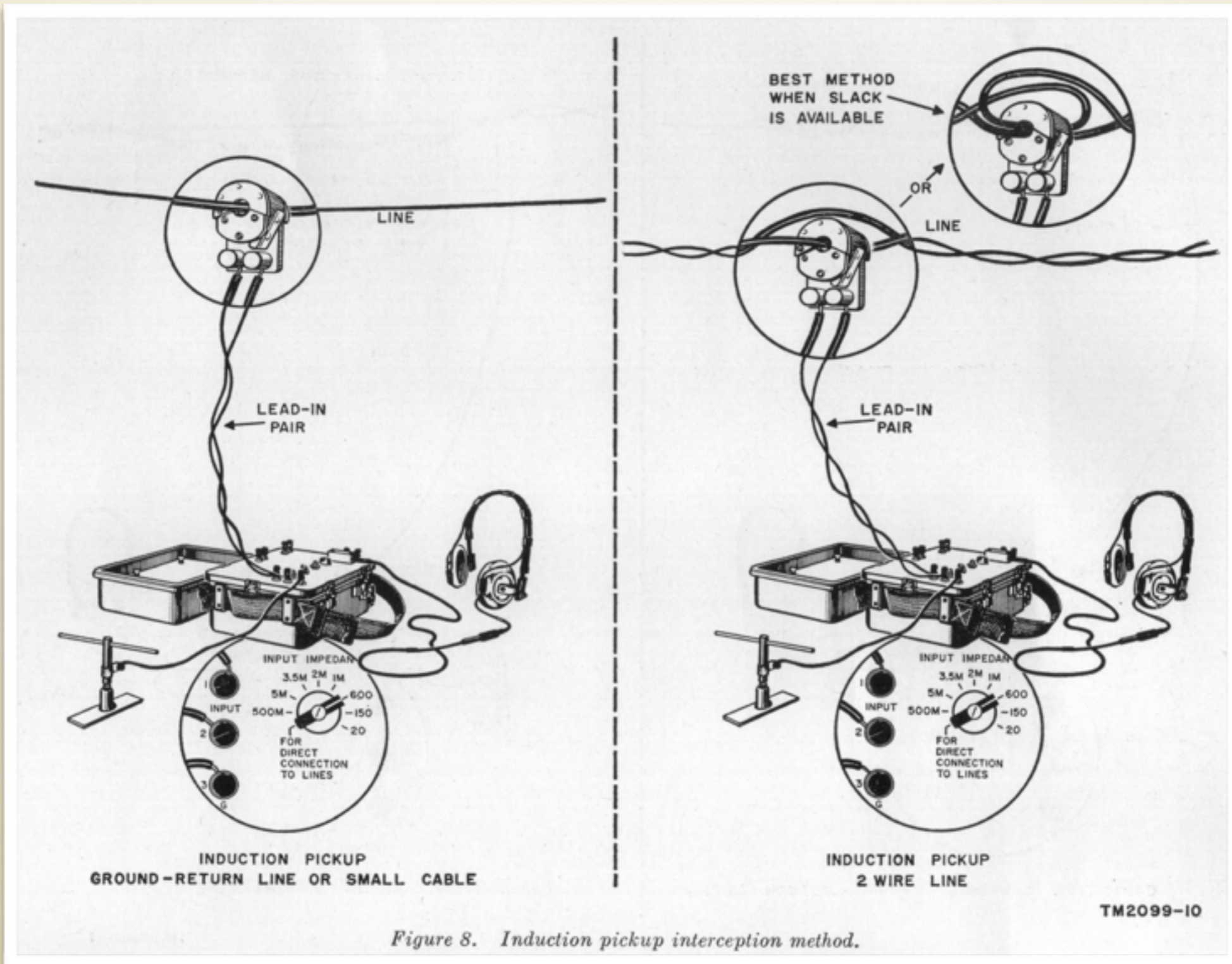
DIRECT CONNECTION



TM2099-9

Figure 7. Direct connection interception method.

INDUCTION PICKUP



TM2099-10

Figure 8. Induction pickup interception method.

CAPACITIVE COUPLING

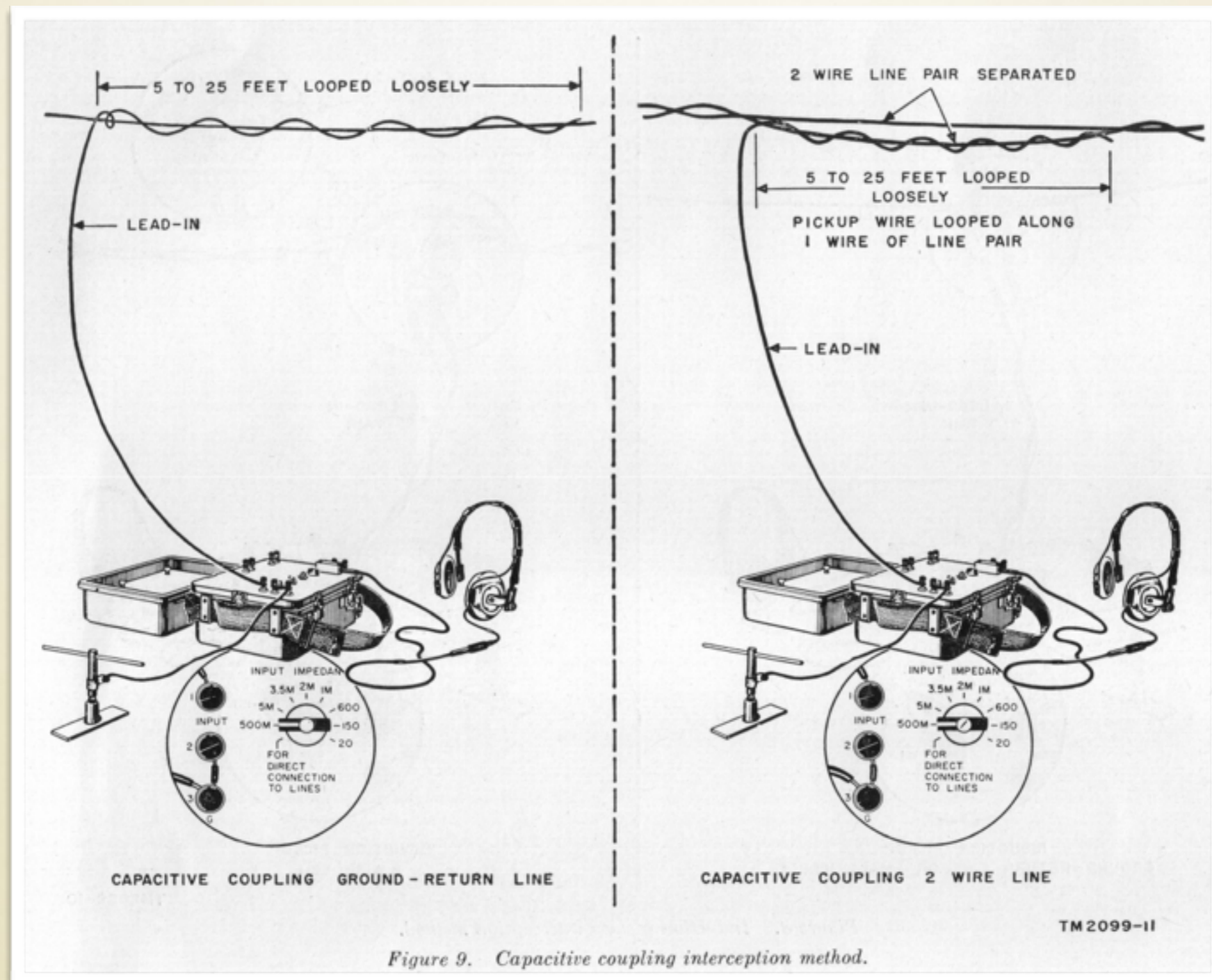
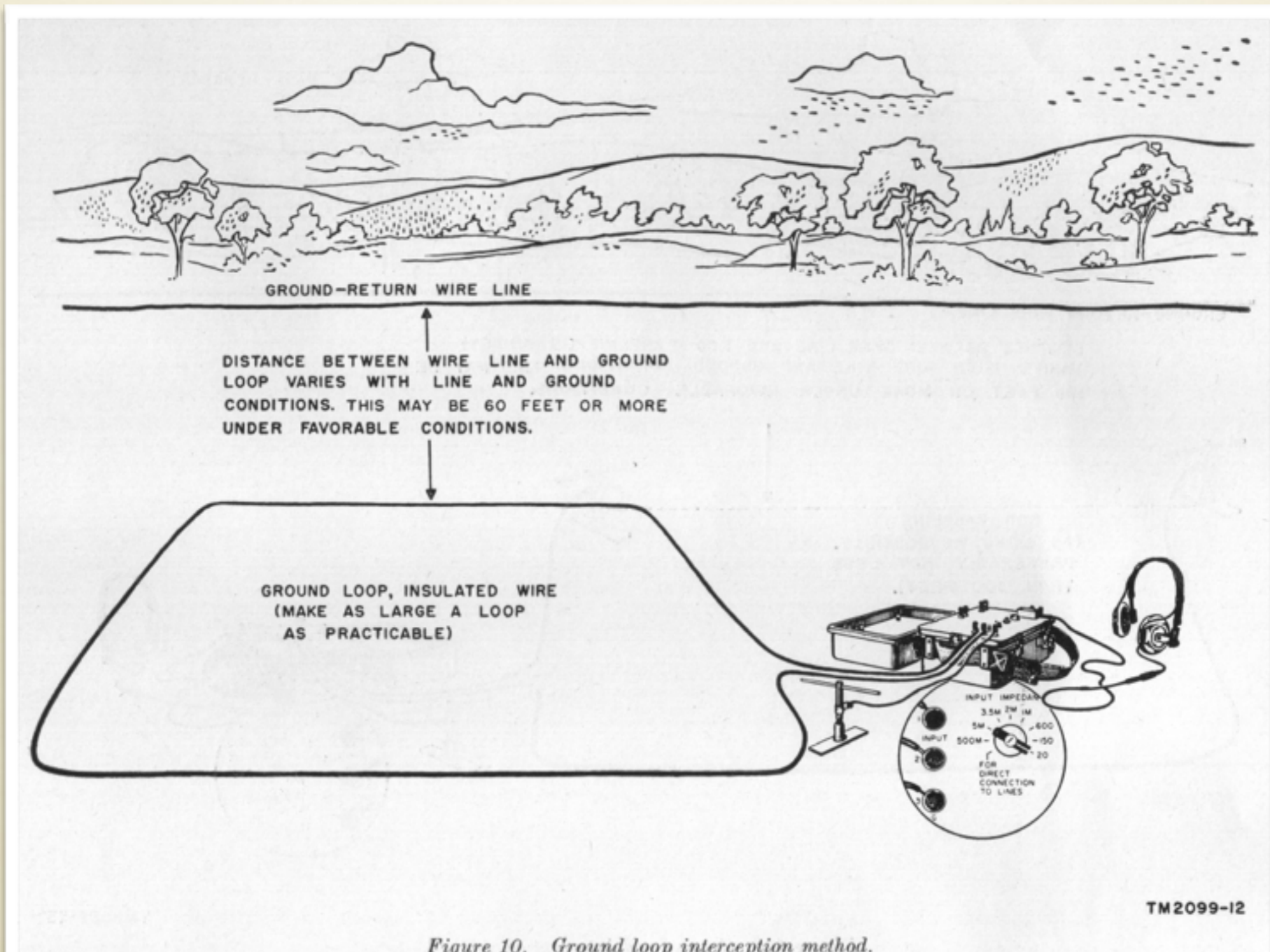


Figure 9. Capacitive coupling interception method.

GROUND LOOP



TM2099-12

Figure 10. Ground loop interception method.

GROUND RODS

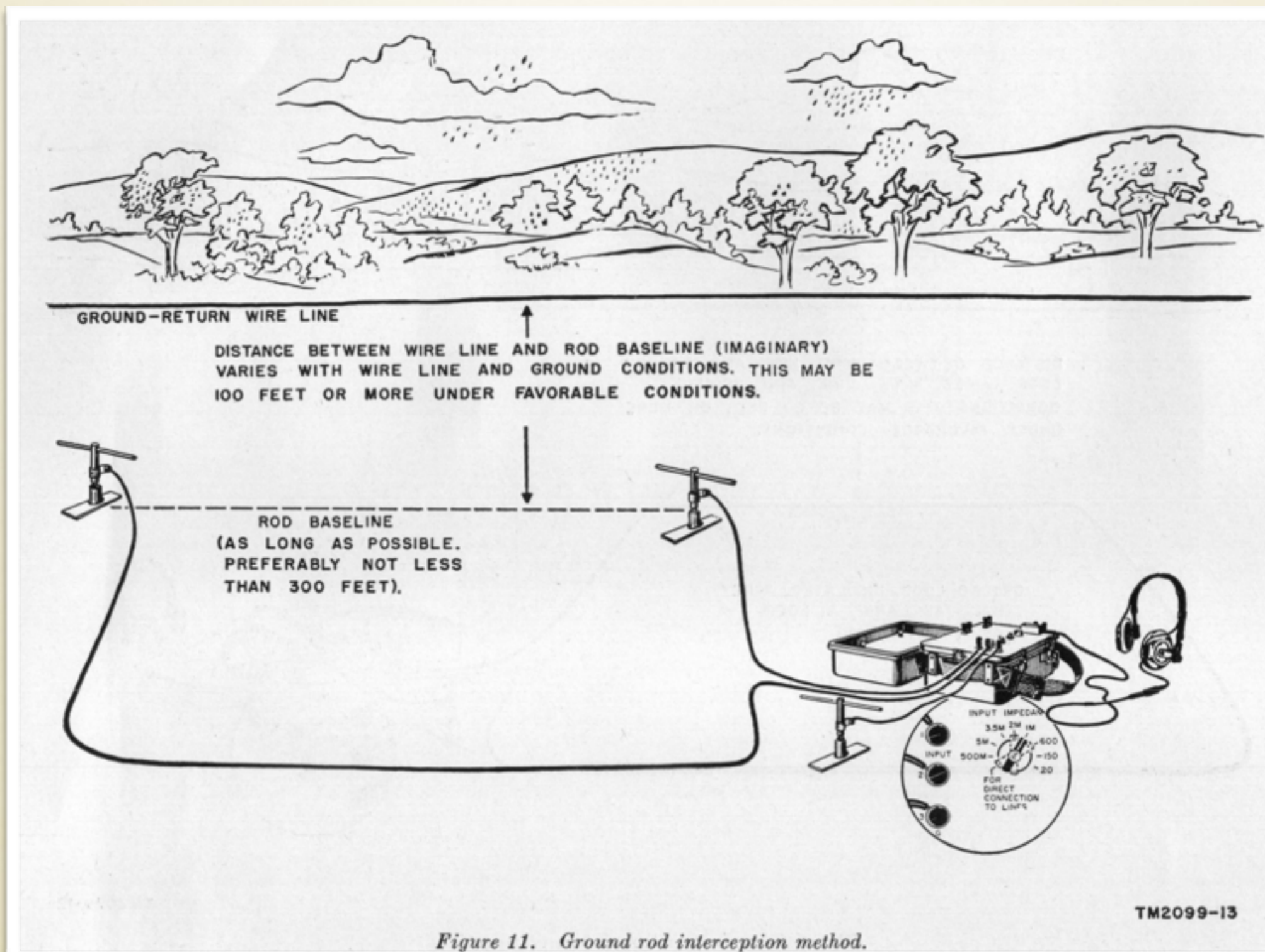
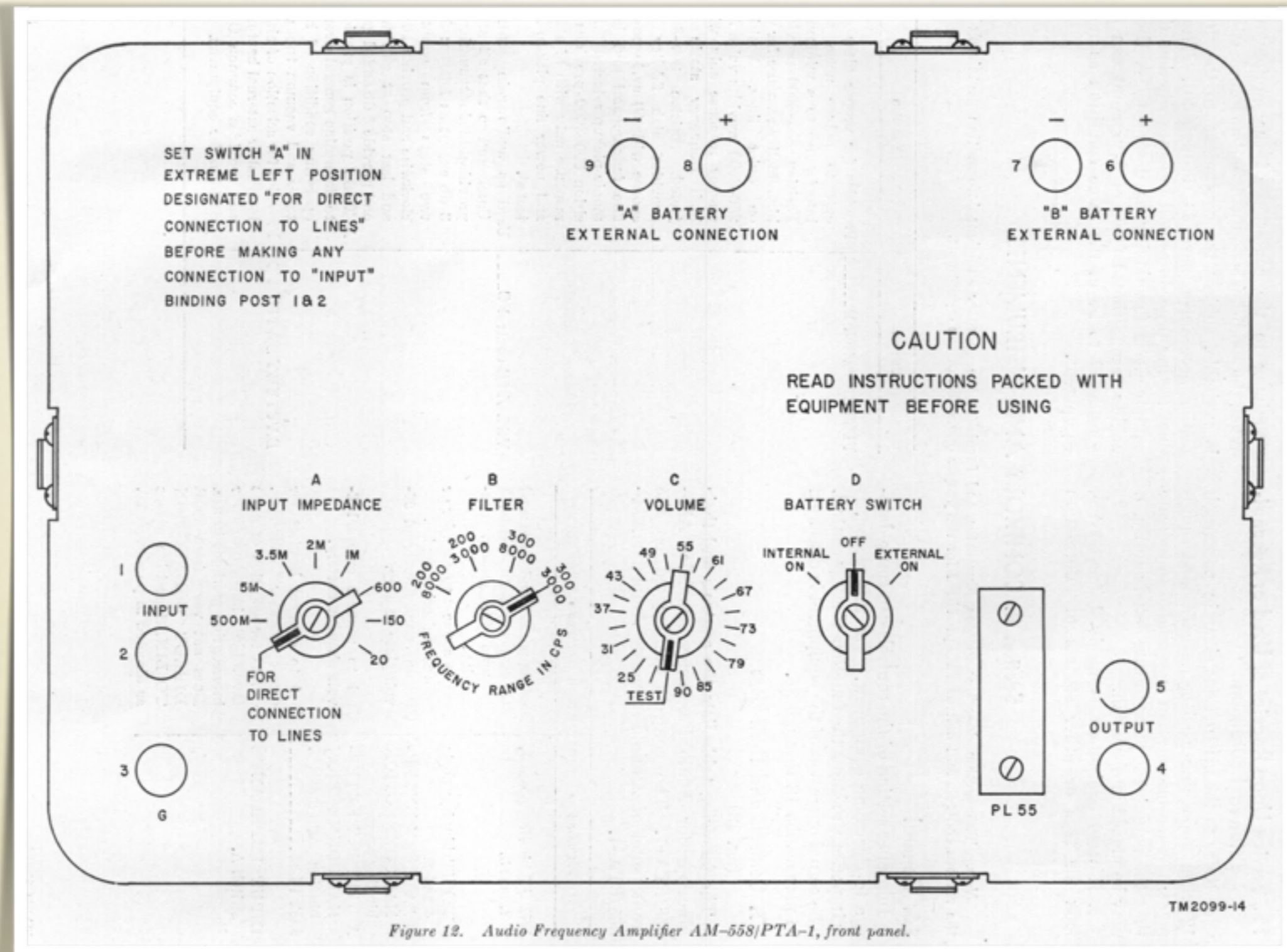


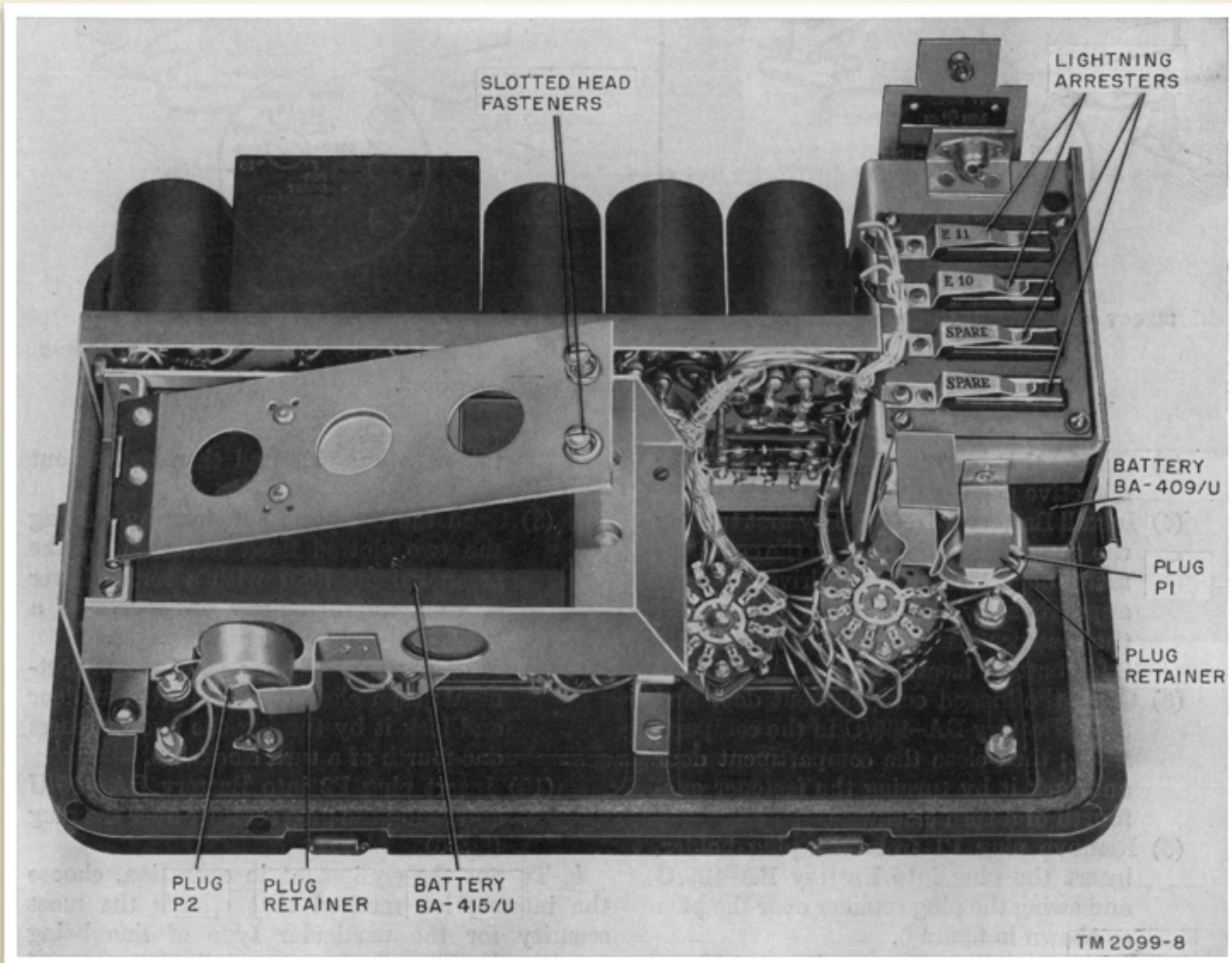
Figure 11. Ground rod interception method.

TM2099-13

FRONT PANEL



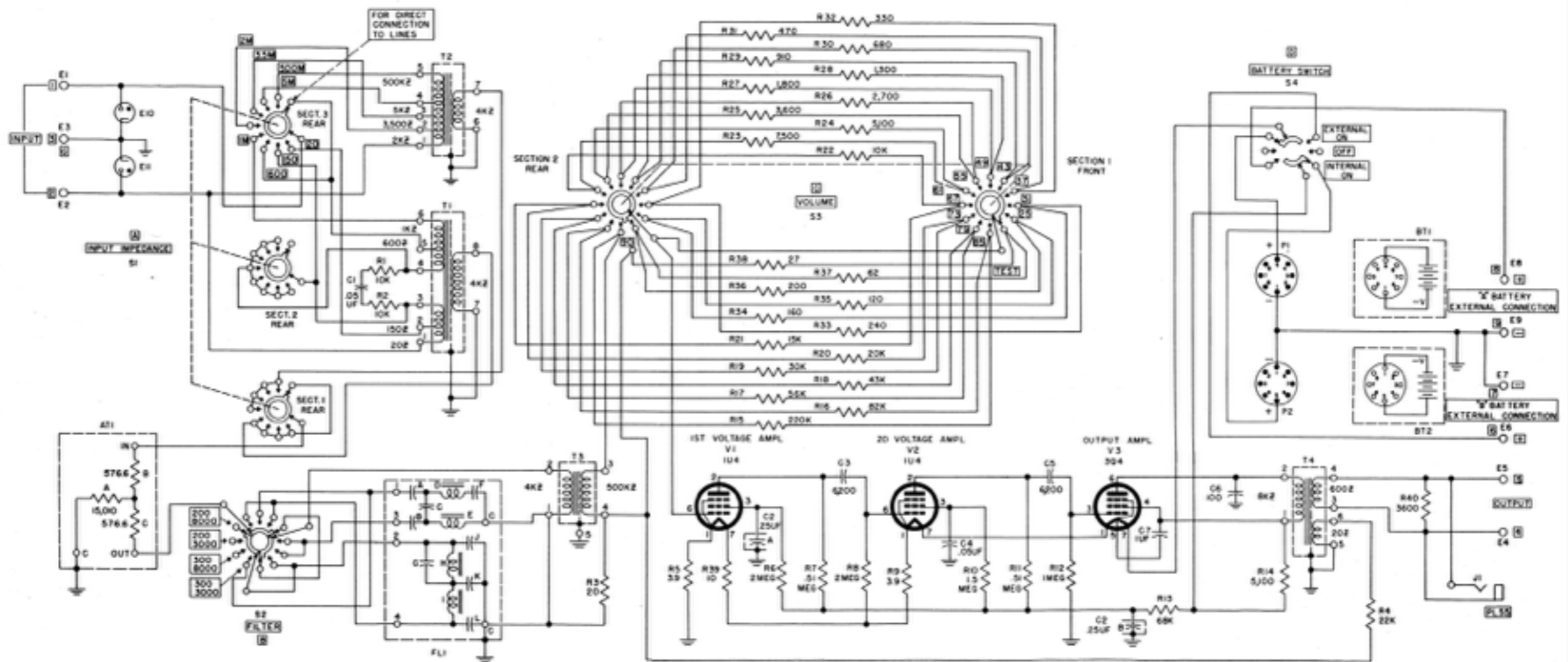
INSIDE THE CASE



SPECS

- Powered by batteries BA-409/U and BA-415/U, or external +90V 5mA and +6V 50mA sources.
- Frequency response 200-8000 CPS, with switchable 300 CPS high pass and 3000 CPS low pass filters.
- Switchable input impedance: 20, 150, 600, 1000, 2000, 3500, 5000, 500000 ohms.
- Gain of 90dB at 1000 CPS.
- Output power +10 dBm into 600 ohm load.
- Tubes: One 3Q4 and two 1U4 pentodes.

SCHEMATIC



- NOTES
1. UNLESS OTHERWISE SHOWN, RESISTORS ARE IN OHMS, CAPACITORS ARE IN UUF.
 2. SWITCHES ARE VIEWED FROM END OPPOSITE THE CONTROL KNOB, AND SECTIONS DESIGNATED 1 ARE NEAREST THE KNOB END.
 3. EACH POSITION OF SWITCH S3 SELECTS ALTERNATELY ONE CONTACT FROM EITHER OF THE TWO SWITCH SECTIONS.

Figure 26. Audio Frequency Amplifier AM-661/PTA-1, schematic diagram.

Q & A