

The



Metal Detector

**Maintenance Handbook
and**

Operating Instructions

'CINTEL' METAL DETECTOR

Operating Instructions for Detection of Metal.

1. Remove search head from transport case and assemble handle to spigot on top of head.
2. Remove amplifier and telephones from case, connect the latter to the plug on top of amplifier.
3. Put on the headphones and set amplifier switch to "metal."
4. Take hold of search head and hold as far away as possible from all metallic objects, turn amplifier sensitivity control clockwise until a note is heard in the headphones, then adjust the control anticlockwise until this note just ceases. The apparatus is now in its most sensitive condition for detecting even small pieces of metal. If, however, the metal to be detected is thought to be large i.e. manhole covers, etc., the sensitivity control should be turned back slightly, otherwise as the search head is passed over the ground oscillation will occur owing to the presence of other smaller metallic or magnetic bodies in its vicinity.
5. On commencing to search, move the search head horizontally over the probable location of the object to be located until a note is heard in the headphones. Note during this operation it is important to see that the search head does not come near the amplifier box slung from the operator's shoulder otherwise oscillation will be heard.

CINEMA - TELEVISION LTD
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Operating Instructions as Pipe or Cable Tracer.

When the object to be located is a pipe or cable, either at a depth greater than three feet or of which the position is masked by adjacent metal (other pipes, etc.), the oscillator is used.

1. Assemble equipment as for metal detector with switch on amplifier over to "service". The detector with the switch in this position will not act as a metal detector in any way and can now only be used in conjunction with the oscillator.

2. Locate a point of connection for the oscillator at some point on pipe or cable to be traced and connect this point, using the clip provided, by a short piece of wire (5 to 6 feet) to terminal marked 'Output' on the oscillator then connect earth wire to terminal marked 'Earth'.

3. The earth wire should be run out as far as is possible, a distance of 80 to 100 feet is satisfactory, and should lie at approximately right angles to the pipe to be traced. The earth rod at the end of the wire must be driven well down in the soil. A good "earth" is most important and all joints and connections must be clean and good conductors.

4. Turn oscillator switch to the marking "1" if working in wet soil and "4" for dry soil, but for general conditions "2" or "3" will be found most suitable.

5. If after switching on the oscillator hammer will not vibrate give a gentle flick with finger to start.

6. Having followed the instructions above, commence to trace pipe by moving to a position near the probable run of the pipe. With search head held in a horizontal position the signal from the oscillator should be picked up and the note heard in the headphones. Now carry out a side to side movement of the search head and move in the direction of decreasing signal until a minimum signal is heard in the headphones. The pipe will then lie approximately under the search head.

7. Once the position of the pipe is found it may usually be followed with ease by walking along the probable line of the run and following a path which keeps the signal strength in the headphones at a minimum. The search head should be rocked slightly to ensure that the minimum is always obtained with the head horizontal.

8. To obtain the approximate depth of the pipe hold the search head at an angle of 45° to the horizontal and move sideways from a position over the pipe until a minimum is obtained. The distance so moved from immediately over the pipe is equal to the approximate depth of the pipe.

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