1 General

1.01 This section covers the description, use, care and maintenance of the Dynatel 573A Earth Return Fault and Cable Locator (Fig. 1).

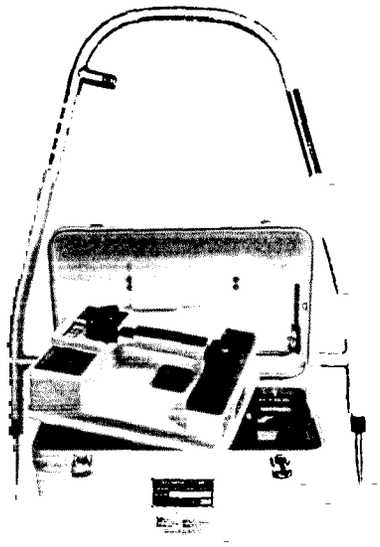

Figure 1 — Dynatel 573A Earth Fault and Cable Locator

1.02 This portable, battery-powered tone set detects and pinpoints sheath and conductor faults, and locates the path of buried or underground (UG) cables. It will indicate the presence of dangerous voltage on a test section and detect RF (Radio Frequency) and AUDIO frequencies applied to a conductor by its transmitter. 60 Hz AC current is detected with the receiver alone, and sections of substantial AC power influence can be located with the receiver and earth frame. Other applications include locating butt-splices, slack-loops, unknown laterals, cut service drops, and encapsulated closures. The locator will accurately indicate the depth of buried or UG cables, and it will find clear or severed cable ends. It provides a high-frequency (RF) tone for positive conductor or cable identification, and an AUDIO frequency tone for coiling solid resistive faults.

1.03 The 573A locates cables without taking them out of service. A high-frequency RF tone is put on the cable or conductor for most locates of less than a mile in distance. This tone will not noise-up the circuits or interfere with signals or conversation on the cable. For greater tracing distances, or for cables with continuously grounded shields such as lead sheath, a Low- or Audio-frequency tone is provided. This mode will push tone for far greater distances than the RF mode, but may tend to noise-up circuits under some conditions. If there is substantial 60 Hz AC induced on the cable, or if locating a working power cable, the receiver alone may be used to trace the 60 Hz signal path

1.04 The receiver is highly sensitive to all the tracing tones. This sensitivity is continually adjustable to prevent error due to overdriven tone. Received tone strength is indicated audibly through the loudspeaker and visibly on the meter. The Sensitivity Control adjusts both loudspeaker volume and meter deflection. The direction to a sheath fault is indicated by meter deflection to a red or green zone.

1.05 The receiver is physically independent of the transmitter in all tracing modes and has one-hand adjustment at normal walking speeds.

2. Description

2.01 TRANSMITTER & RECEIVER: The 573A consists of a transmitter, a receiver, and accessory items (Fig. 2). The transmitter and receiver cases are made of high-density polyethylene for light weight and high durability, and are colored bright yellow for visibility. Both are water-resistant in wet-weather operation. For compact storage and carrying, the receiver and accessories fit into the transmitter case. To preserve battery life, "off" switches are activated on both transmitter and receiver when the receiver is fitted into the transmitter case. A stainless steel ground rod is clipped inside the set's lid.

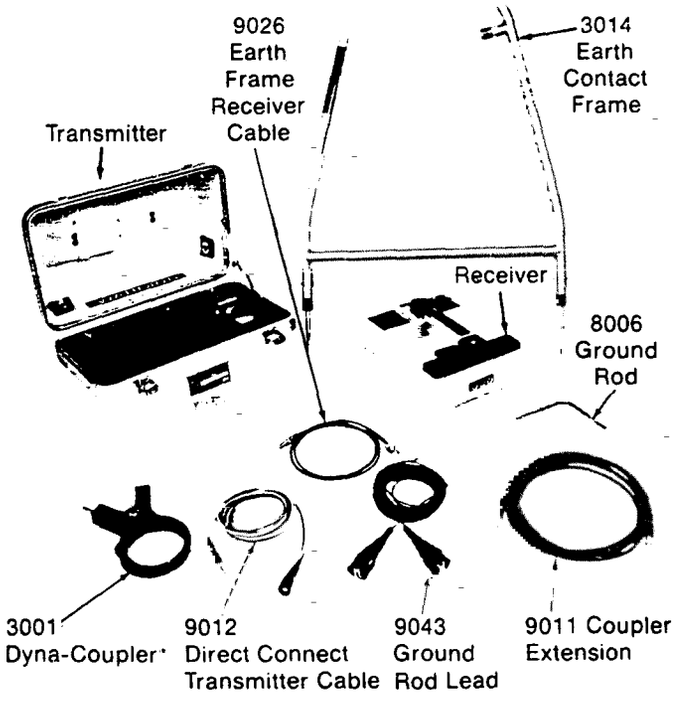

Figure 2 — The 573 Test Set with Accessory Units

2.02 The TRANSMITTER (Fig. 3) has two selector switches, OUTPUT LEVEL and CABLE/FAULT LOCATE, on the panel next to the accessory storage well. Above the switches is the OUTPUT-TEST meter which indicates transmitter output level and Voltmeter/Ohmmeter test conditions.