**TYPE 7429-1 LOOP ANTENNA**

for RS01 magnetic field tests

**DESCRIPTION**

The loop antenna used for generating radiated magnetic fields is fully described in Figure 1A of MIL-STD-461A. It consists of ten turns of number 16 A.W.G. wire on an insulated form 4.72" (12 cm) in diameter. The winding is placed on the form in a position which allows the form to be used as a spacer to place the winding 5 cm from the face of the item under test as required by test method RS01 of MIL-STD-462.

The **Type 7429-1 Loop Antenna** has been designed to the exact requirements of the specification. The loop winding is placed on a durable plastic form and is equipped with banana jack style terminals for connection to the test setup. The loop is not shielded.

**APPLICATION**

In a practical RS01 test setup, the loop antenna is supplied with the required current versus frequency by the Solar **Model 6550-1 Power Sweep Generator**. The current is measured with a voltmeter connected across the Solar **Type 7144-1.0 Precision Resistor** which is connected in series between the loop and the generator.

The a.c. current in the **Type 7429-1 Loop Antenna** to generate the magnetic field intensity required by test method RS01 at 5 cm from the loop winding is depicted on a graph supplied with the loop. The required current varies from a few microamperes to about 5 amperes as frequency is adjusted over the range 30Hz to 50 KHz.
A.C. CURRENT IN SOLAR TYPE 7429-1 LOOP ANTENNA TO GENERATE THE MAGNETIC INTENSITY (REOUIRED BY MIL-STD-461A AND MIL-STD-461B/C) AT 5 CM FROM THE LOOP WINDING.