

## Transmitting Loop Antenna MTA-MLA-930

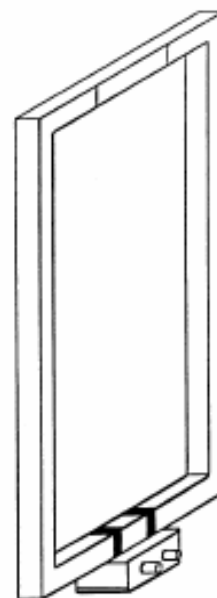
### Short description

In the VLF-HF frequency range 9 kHz to 30 MHz the magnetic field strength is measured preferably, but often expressed in the unit of the electric field strength as the "fictive E field level" (dB $\mu$ V/m).

In the undistorted far-field both units are linked by the characteristic impedance of free space  $120 \pi \text{ W} = 377 \text{ W}$ . Practical EMC/EMI measurements, however, are carried out in the near-field zone ( $D < 0.1 \lambda$ ).

For that reason, defined magnetic field sources are required. For immunity tests powerful H fields might be needed, but also general tests and measurements at an open site in screened rooms and in absorber-lined rooms require well-defined powerful H field sources.

Magnetic fields in the near-field zone decay with the inverse 3rd power of distance (approx. 18 dB at twice the distance). Even at 1 m distance at 30 MHz the transition from pure near-field to far-field begins, the exponent of degradation gradually reduces from 3 to 1 in the undistorted far-field.



Outline Drawing D

### Technical data

#### 1 RF-specifications:

- |                                     |  |
|-------------------------------------|--|
| 1.1 Impedance                       | 50 $\Omega$  |
| 1.2 Frequency range                 | 9 kHz to 30 MHz  |
| 1.3 VSWR typ.                       | <1,2 Of 0,1 MHz - 10 MHz   |
| 1.4 Power handling                  | 30 W continuously,<br>100 W for short periods (with external dummy-load) |
| 1.5 Polarization vertically mounted | Vert.pol. f. E-Feld  |
| 1.6 Technology                      | Transmitting / magnetic  |

#### 2 Connectors:

- |                   |               |
|-------------------|---------------|
| 2.1 Antenna       | 2x BNC female |
| 2.2 Tripod socket | 3/8"-thread   |

#### 3 General specifications:

- |                |  |
|----------------|--|
| 3.1 Dimensions | 0,6 m x 0,6 m<br>(without connections) |
|----------------|--|

#### 4 Delivered parts:

MTA-MLA-930  
1 pc. 50  $\Omega$  5 W termination  
CD-ROM with short description

#### 5 Comments:

Warranty	12 months
RoHS compliant	Yes

#### 6 Recommended accessories:

Measurement cable assemblies  
Preamplifier

The magnetic loop antenna described here may be operated with up to 100 W for short periods and with 30 W continuously. An external 50 ohm power termination with the proper dissipation is required. Up to 5 watts of laboratory power signal generators a 50 W termination is part of the complete package.