INSTRUCTION MANUAL

TURNTABLE

MODEL EM-4709

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ELECTRO-METRICS

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SERIAL NO: N/A

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WARRANTY

This Model EM-4709 Turntable is warranted for a period of 12 months (USA only) from date of shipment against defective materials and workmanship. This warranty is limited to the repair of or replacement of defective parts and is void if unauthorized repair or modification is attempted. Repairs for damage due to misuse or abnormal operating conditions will be performed at the factory and will be billed at our commercial hourly rates. Our estimate will be provided before the work is started.

DESCRIPTION AND USE ELECTRO-METRICS MODEL EM-4709 TURNTABLE

1.0 Description

The Electro-Metrics Model EM-4709 Turntable is used in performing FCC compliance testing. The turntable has a metal platform with a diameter of 1.5 m (5') and uses a continuous grounding ring to maintain the platform at ground potential.

The rotation drive system comprises a 0.09 hp motor, an electric brake, worm gear reduction system, turntable rack-n-pinion, and associated motor control circuitry. The table can rotate 370° before table motion is halted by firmware limits in the Controller Unit. These rotational limits can be modified using values enter via the Controller front panel.

The turntable base is constructed of 12.7 mm (0.5") steel while the platform is constructed of 12.7 mm (0.5") aluminum jig plate.

Attached to the base section are the rotation drive system, the center support blocks (constructed of power coated steel), support wheel arms, plus eleven (11) height adjusters (2 per arm, 7 base section).

The rotation drive system is contained within a sealed waterproof enclosure. The AC power input and Controller interface input are via waterproof 3-pin and 19-pin connectors. The turntable drive uses a bushing to seal the motor shaft at the point where it exits the enclosure.

The rotation drive system enclosure does not contain an external power switch or fuse holder. A relay within the enclosure is activated by the EM-4700 Controller and applies the AC power to the drive system. Overcurrent protection is provided by the user. A ground-fault-interrupt circuit breaker is recommended for most applications.

The EM-4709 Turntable can not be operated independently of the EM-4700 Antenna Tower/Turntable Controller Module. The controller module must always be connected to the turntable for either manual or computer controlled operation.

The eleven (11) height adjusters are used to set the height of the turntable top to allow for variance in turntable pit depths. The adjusters are arranged as follows:

Main Base:	• Two (2) each roller wheel,
	• Three (3) base center.
Support Arms:	• Two (2) each roller wheel.

A 5/8 inch wrench is used to set the turntable height required.

2.0 Specifications

2.1 Electrical

Motor Rating:	0.09 hp.
Turntable Rotation Rate (In Scan Mode):	1 rpm.
AC Power Source:	110 VAC, 50-60 Hz @ 6 A.

2.2 Mechanical

Turntable Diameter:	1.5 m (5').
Turntable Height (Overall):	≈292 mm (≈11.5") nominal. Adjustable ±25 mm (1.0").
Maximum Distributed Load	682 kg (1500 lbs).
Turntable Weight:	227 kg (500 lbs).

3.0 Power Supply

3.1 Power Requirements

a. AC Power Source:

1) 105-130 VAC, 50-60 Hz.

3.2 Overcurrent Protection

To obtain overcurrent protection for the rotation drive system, it is recommended that the AC input line be connected via a ground-fault-interrupt breaker to the AC power source.

NOTE: **1.** The rotation drive system does not have an externally accessible fusing arrangement.

2. The AC input line to the internal power supply main transformer contains an in-line fuse permanently soldered in place on the transformer.

Fuse type: 2A/250 Volts LITTLEFUSE Tracor 230 Series.

CAUTION

FOR CONTINUOUS FIRE PROTECTION, REPLACE ONLY WITH 250 VAC 2 A FUSE.

3. An external ground-fault-interrupt breaker is recommended since the turntable is normally installed within a pit and moisture related problems are a possibility.

4.0 Turntable Drive System Module Connector-Description

4.1 AC Power Connector

Type: 3-pin PT Pygmy, plug (MS3102A-10SL-3P) with waterproof seal.

Function: Self explanatory.

4.2 Turntable/Controller Interface Connector

Type: 19-pin PT Pygmy, plug (MS3102A-20-16P) with waterproof seal.

Function: Interfacing the Turntable Drive System to the Controller Module.

5.0 Turntable Control and Operation

Control of the EM-4709 Turntable is accomplished using the Electro-Metrics EM-4700 Controller Module. Refer to the EM-4700 Controller Instruction Manual for information and instruction on operating the Controller and Turntable.

6.0 Maintenance

Maintenance on the EM-4709 Turntable is limited to periodic lubrication of the turntable drive motor, worm gear, main turntable rack-n-pinion gear, and roller wheels.

6.1 Drive Motor Lubrication Procedure

The drive motor should be lubricated as follows:

Light usage:	Yearly basis.
Meduim usage:	Every six months.
Heavy usage:	Every three months.

The turntable top must be removed to perform this procedure.

NOTE: A minimum of two (2) people are required to perform the following procedure.

a. To remove the turntable top:

1) Using a 3/8 allen wrench, remove the eight (8) socket cap button head bolts securing top to rack-n-pinion gear.

2) Lift the table top up and off the rack-n-pinion gear.

b. Remove the top cover of the rotation drive enclosure by:

1) Remove the fourteen (14) screws that secures the cover to the enclosure.

2) Remove the cover.

c. Lubricate using 90 wt oil or any similar gearbox oil applied to the motor lubrication port.

d. Replace rotation drive enclosure cover by reversing the procedure in Step b.

e. Install Turntable top by reversing the procedure in Step a.

6.2 Main Rack Gear Lubrication Procedure

a. Apply grease to the grease fitting on the main rack gear through the circular opening at the center of the table top.

6.3 Roller Wheels Lubrication Procedure

a. Remove the turntable top by following the procedure in 6.1 Step a.

b. Lubricate each roller wheel by applying grease to each grease fitting on the inside face of each wheel. This should be done on a six month to yearly basis depending on usage level.

c. Replace the turntable top by reversing the procedure in 6.1 Step a.