



INSTRUCTION MANUAL

TURNTABLE

MODEL EM-4710

INSTRUCTION MANUAL

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TURNTABLE

ELECTRO-METRICS

MODEL EM-4710

SERIAL NO: N/A

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WARRANTY

This Model EM-4710 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 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-4710 TURNTABLE

1.0 Description

The Electro-Metrics Model EM-4710 Turntable is used in performing FCC compliance testing. The turntable is constructed of wood with a diameter of 1.5 m (5 feet).

The rotation drive system comprises a 0.09 hp motor, an electric brake, drive gear reduction system, 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 on request by the factory before shipment.

The base and platform of the turntable are constructed of 38 mm (1.5") marine grade plywood laminated with Formica producing a strong ridged weather harden unit.

Attached to the base section are the rotation drive system and the center support pylon constructed of ABS plastic.

The rotation drive system is contained within a sealed water resistant enclosure. The AC power input and Controller interface input are via waterproof 3-pin and 17-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-4710 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.

2.0 Specifications

2.1 Electrical

Motor Rating:	0.09 hp.
Turntable Rotation Rate (In Scan Mode):	1 rpm.
AC Power Source:	
Standard:	110 VAC, 50-60 Hz @ 6 A.
Optional:	220 VAC, 50-60 Hz @ 3 A. (Factory select only.)

2.2 Mechanical

Turntable Diameter:	1.5 m (5').
Turntable Height (Overall):	28 cm (11").
Maximum Distributed Load	682 kg (1500 lbs).
Turntable Weight:	173 kg (380 lbs).

3.0 Power Supply

3.1 Power Requirements

a. AC Power Source:

- 1) 105-130 VAC, 50-60 Hz, standard.
- 2) 210-260 VAC, 50-60 Hz, optional. Factory select on request.

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.**
 - 3) **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 can be used at an outside test site 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: 17-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-4710 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-4710 Turntable is limited to periodic lubrication of the turntable drive motor, roller wheels, and drive chain.

6.1 Drive Motor Lubrication Procedure

The drive motor should be lubricated as follows:

- | | |
|---------------|---------------------|
| Light usage: | Yearly basis. |
| Medium 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. Remove the turntable top by:
 - 1) Remove black cover plugs over each hole.
 - 2) Remove 1/4 washers and 1/4-20 nuts securing top to carousel section.
 - 3) Pull top up and off carousel section.

CAUTION

If a binding problem is encountered, DO NOT pull the turntable top off the carrousel. This could damage the carrousel and associated components. Use a long bar or similar tool to pry the top up and off the carrousel.

- b. Remove the top cover of the rotation drive enclosure by:
 - 1) Remove the five (5) screws that secures the cover to the enclosure.
 - 2) Remove the cover by sliding it forward out of the holding lip under the main drive gear and from under the drive chain.
- 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 Roller Wheels Lubrication Procedure

Lubricate each roller wheel by applying grease to each grease fitting on the outside face of each wheel. This should be done on a six month to yearly basis.

6.3 Drive Chain Lubrication Procedure

As required, lubricate the drive chain using a chain-type lubricant, either spray or liquid.

7.0 Operating and Shipping Precautions

7.1 Operating Precautions

Never operate the turntable with the red shipping plug still in the motor.

Before the EM-4710 Turntable is placed into operation, a red shipping plug must be removed from the drive motor within the Rotation Drive Enclosure. If the plug is not removed, a partial vacuum could develop within the motor that will interfere with motor operation.

Store the shipping plug for future use in the plastic zip-lock bag provided for this purpose.

Never move the assembled turntable using the top of the table.

Always move the assembled turntable using the base section of the unit. Moving the turntable using the top of the table can damage the carousel assembly beneath the unit.

7.2 Shipping Precautions**Never ship the turntable or Rotation Drive Enclosure without first inserting the shipping plug back into the motor.**

Whenever the turntable is shipped either to another location or as a return to Electro-Metrics, the red shipping plug **must be re-inserted** into the drive motor. If the turntable or Rotation Drive Enclosure is shipped without the red shipping plug in place on the drive motor, the oil within the motor can leak out during shipping.