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Installation and Operation KI-1976

# MCX300 AM-FM Tuner and Cassette Tape Player



**Rauland-Borg Corporation**

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**Rauland-Borg Corporation**  
3450 West Oakton Street  
Skokie, Illinois 60076-2958  
(847) 679-0900  
[www.rauland.com](http://www.rauland.com)

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# 1

## General Information

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### Description



The Rauland MCX300 AM-FM Tuner and Cassette Tape Player comes ready to be rack-mounted. It includes a separate 12-VDC power supply that can be plugged into any convenient 120-VAC power outlet. There is a standard female “F” connector to accommodate a coaxial cable from the external antenna required for the AM-FM tuner, and an RCA-type phono jack for connecting the unit’s unbalanced monaural audio output to a sound or communications system. The audio output provides ample signal for the auxiliary input of an amplifier or a communications system.

### Revised Model

This manual is for the revised MCX300, which began shipping in May 1996. It features a slightly different tuner and tape player but retains the same specifications and convenient plug-in connectors as the previous model. For the older-versions of the MCX300, see KI-1745, KI-1967, KI-1950 and KI-1972.

### Drawings, Diagrams, and Other Graphics



This document includes the following drawings, diagrams, and/or supplemental graphics:

- ✓ Installation Example (IL0153)
- ✓ Wiring Diagram (KM0710)

# Packing List and Unpacking Process



The MCX300 comes completely assembled. The only separate items besides the main chassis are the AM/FM cassette receiver manual, the 12-VDC power supply and the screws, washers, & self-retaining nuts for fastening the chassis to the rack:

Supplied Parts		
Quantity	Part	Part Number
1	12-VDC power supply.	PS12
4	Black #10 flat washers.	WJ0305
4	Fiber washers.	WL0315
4	#10-32 self-retaining nut fastener.	AB3640
4	Black machine screws (#10-32 $\times$ $\frac{5}{8}$ " pan-head Phillips).	B0439
1	Manufacturer's AM/FM Cassette Radio Manual	none

Parts to be Supplied by the Installer	
Quantity	Part
1	FM antenna with mast and supporting hardware.
1	AM antenna wire with mast and hardware.
1	AM/FM antenna coupler and protective housing.
1	75 W shielded coaxial cable from the antennas to the tuner.
1	Lightning-protection system.
1	Shielded cable to connect the MCX300 to a sound or communications system. One end should have an RCA-type phono plug; the other, a suitable connector for the sound or communication system's Auxiliary or Tuner input.

**Equipment Damaged in Transit:** This equipment was carefully inspected and tested at the factory before it was shipped. If it has been damaged in transit, notify the transportation company immediately to place your claim.

## Required Antenna

An external 75-ohm antenna is required for the AM-FM tuner. The type of antenna to use depends upon the equipment's location within the building and the strength

of the radio signals in the area. For most installations, Rauland recommends the antenna system shown in the attached wiring diagram, KM0710.

### Important:

The system should be installed with some protection against lightning. Articles 810 and 820 of the National Electrical code, ANSI/NFPA No. 70-1978, provide detailed information regarding the grounding of (a) the mast and the supporting structure, (b) the lead-in wire to an antenna discharge unit, and (c) the coaxial cable system. The Code also specifies the size of the grounding conductors, the locations of the antenna discharge units, the connections to the grounding electrode, and the requirements for the grounding electrode. An example of an installation meeting these requirements is given in the attached illustration, IL0153.



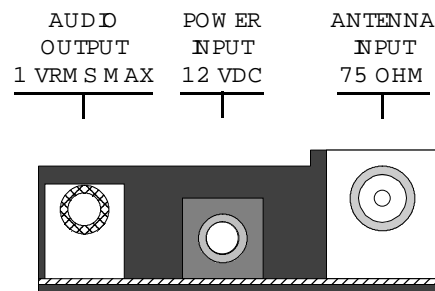
## Audio Output

Obtain a single-conductor shielded cable of suitable length to connect the Audio Output jack on the back of the chassis to the Auxiliary or Tuner input of the sound or communications system. Terminate one end of the cable in a male RCA-type phono plug; the other end should have a connector that matches the input of the system.

Plug the RCA-type phono plug into the “Audio Output” jack of the MCX300, and the other end of the cable into the “Auxiliary” or “Tuner” input of the main system.

## Power

Insert the output plug of the power supply into the “Power Input” jack on the back of the MCX300, then plug the power supply itself into a suitable 120-VAC outlet.



Rear Connections on the MCX300

## Setting the Controls

Refer to the manufacturer’s AM/FM Cassette Receiver Manual for descriptions and functions of the unit’s controls and features. The midpoint settings for the various

audio adjustments can be tried initially. Make adjustments as needed to obtain the desired performance. You may find it helpful to play the unit through its monitor speaker for the initial settings.



**Important:**

The Balance and Fader adjustments affect the level and quality of the audio, and should be adjusted to the midpoint or “centered” position.

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## Outdoor Antennas

The attached IL0153 suggests a grounding system for an AM/FM antenna system; the attached KM0710 illustrates a way of mounting the AM and FM antennas.

The following Rauland-Borg parts are used in the suggested system:

FMT-65 FM Antenna.

LV0027 AM/FM Antenna Coupler, which includes:

- ✓ The coupler itself.
- ✓ An outdoor housing.
- ✓ Two screws for mounting the coupler inside the housing.
- ✓ A “U” bolt and related hardware for mounting the housing to the mast.

QC0126 Lightning Arrestor. This includes the hardware needed to mount the coupler to the mast.

The remaining parts shown in KM0710 (wires, coaxial cable, the antenna-mounted matching transformer, “F” connectors, the masts, and the AM insulators) are readily available from suppliers.



**Important:**

Mount the parts firmly to the mast, as shown in the illustrations, to properly ground the antenna system.

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## Operating Instructions

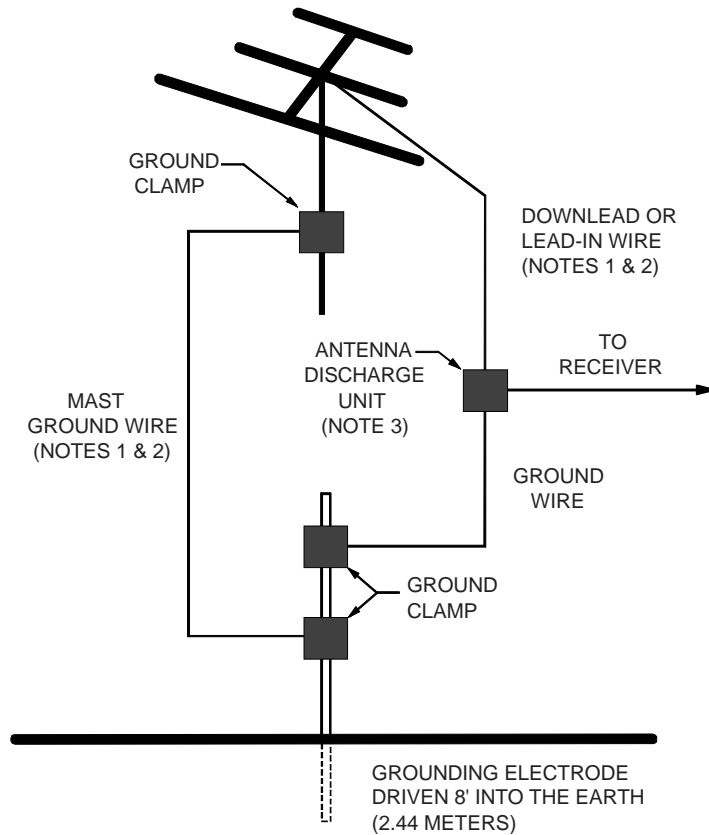
Refer to the separately supplied vendor's instructions for the tuner and cassette player's operation and care.

### The Monitor-Program Switch

The MCX300 includes a front-panel speaker and a four-position switch:

- ✓ The “Monitor” position plays the unit through the front-panel speaker.
- ✓ The “Program” position plays the unit through the interconnected system.
- ✓ The “Program/Monitor” position plays the unit through both the system and the monitor speaker.
- ✓ The “Off” position disconnects the unit’s output from both the system and the monitor speaker.





NOTES:

1. USE #10 AWG COPPER, #8 AWG ALUMINIUM, OR #17 AWG COPPER-CLAD STEEL OR BRONZE WIRE (OR LARGER) AS GROUND WIRE FOR BOTH MAST AND LEAD-IN.
2. SECURE THE LEAD-IN WIRE FROM THE ANTENNA TO THE ANTENNA DISCHARGE UNIT AND SECURE THE MAST GROUND WIRE TO BUILDING STRUCTURE WITH STAND-OFF INSULATORS SPACED FROM 4 TO 6 FEET APART.
3. MOUNT THE ANTENNA DISCHARGE UNIT AS CLOSELY AS POSSIBLE TO WHERE THE LEAD-IN ENTERS THE BUILDING STRUCTURE.

FIGURE 1  
 EXAMPLE OF ANTENNA GROUNDING PER NATIONAL  
 ELECTRICAL CODE INSTRUCTIONS.

