



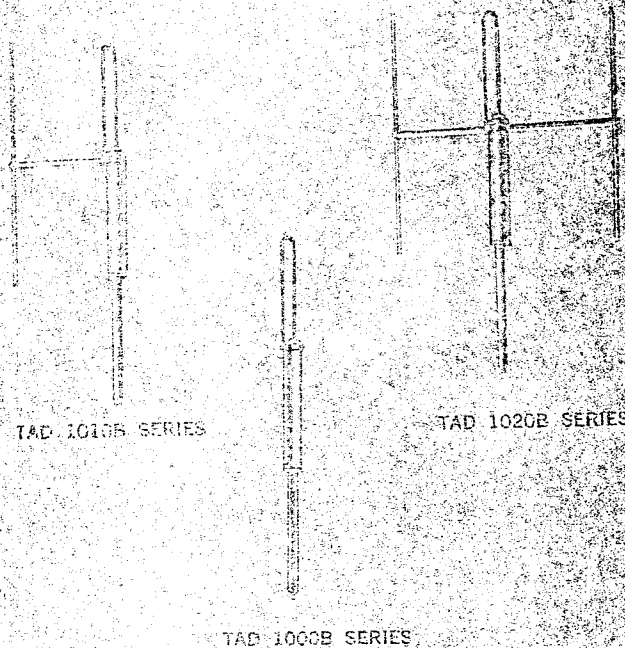
# FOLDED COAXIAL BASE STATION ANTENNAS

136-174 mc

**OMNIDIRECTIONAL TAD 1000B Series.**  
Radiation pattern over full 360° for normal coverage applications. Basic half-wave center feed design provides lower radiation angle and increased radiating aperture compared to the typical quarter-wave "ground plane" antennas.

**CARDIOD TAD 1010B Series.**  
Extended coverage over 180° angle with minimum directive gain of 3 db in direction of maximum signal strength. Ideal for special coverage applications, particularly base stations on shorelines or geographic borders.

**UNIDIRECTIONAL TAD 1020B Series.**  
Yagi design provides unidirectional pattern for point-to-point and selected area coverage use. Radiation concentrated in forward direction with minimum directive gain of 5.8 db.



## FEATURES:

**COMPLETE LINE MEETS ALL COVERAGE NEEDS**—Three basic antennas meet all coverage requirements of high VHF band base station users. Units cover frequencies between 136 and 174 mc and serve stations with up to 500 watts RF power output.

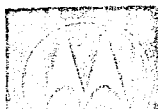
**RUGGED CONSTRUCTION**—Antennas are ruggedly constructed to withstand wind and weather. The use of corrosion resistant materials throughout eliminates gradual signal degradation and bothersome maintenance problems. Mounting hardware is supplied with antennas.

**NO GROUND PLANES NEEDED**—The coaxial skirt section replaces the projecting rods of ground plane type antennas, minimizing the likelihood of wind damage and simplifying installation. Aluminum support tube is mounted easily on pipe, pole or tower and uses a new specially designed clamp for maxi-

imum support. Low VSWR is maintained by an integral, low-loss matching transformer in the support staff along with precision mechanical design and exacting element dimensions. DC ground feature minimizes signal degradation from electrostatic discharges and provides protection against destructive voltage surges from lightning strikes. Non-ferrous metals and stainless steel hardware are used throughout for long, maintenance-free life.

**LOW VSWR**—Voltage Standing Wave Ratio is maintained within 1.5:1 within the specified bandwidth in all models. This insures a high percentage of available power actually transmitted.

**ACCESSORIES**—A full selection of adaptors, connectors and transmission lines is available to complete antenna installation.



# BASE STATION ANTENNAS

## GUARANTEED PERFORMANCE SPECIFICATIONS

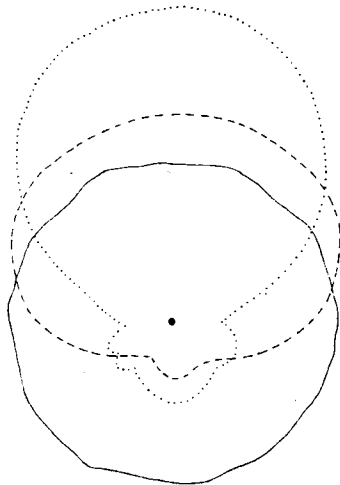
Model†	Freq. (mc)	Termination	Wind Rating		Net Weight	Shipping Weight	Features
			with 1/2" radial ice	without ice			
<b>OMNIDIRECTIONAL</b> TAD 1001B TAD 1002B TAD 1003B TAD 1004B	136-141 141-150 150-162 162-174	UHF Female	100 mph	150 mph	6 lbs.	7 lbs.	Impedance ..... 50 ohms (nominal) Maximum Power ..... 500 watts Maximum VSWR ..... 1.5:1 Maximum Height ..... 56 in. (Note 1) Mounting ..... to 1 1/8"-3 1/2" O.D. pipe Maximum Lateral Thrust with 100 mph wind and 1/2" radial ice ..... 32 lbs.
<b>CARDIOID</b> TAD 1012B TAD 1013B TAD 1014B	141-150 150-162 162-174	UHF Female	100 mph	125 mph	7 lbs.	8 lbs.	Impedance ..... 50 ohms (nominal) Maximum Power ..... 500 watts Maximum VSWR ..... 1.5:1 Half-Power Angle ..... 180° Front-to-back Ratio ..... 10 db Gain Over Half-Wave Dipole ..... 3 db in forward direction Maximum Height ..... 56 in. (Note 1) Mounting ..... to 1 1/8"-3 1/2" O.D. pipe Maximum Lateral Thrust with 100 mph wind and 1/2" radial ice ..... 55 lbs.
<b>UNIDIRECTIONAL</b> TAD 1021B TAD 1022B TAD 1023B TAD 1024B	150-156 156-162 162-168 168-174	UHF Female	100 mph	125 mph	7 1/2 lbs.	8 1/2 lbs.	Impedance ..... 50 ohms (nominal) Maximum Power ..... 500 watts Maximum VSWR ..... 1.5:1 Half-Power Angle ..... 85° Front-to-back Ratio ..... 10 db Gain Over Half-Wave Dipole ..... 5.8 db in forward direction Maximum Height ..... 56 in. (Note 1) Mounting ..... to 1 1/8"-3 1/2" O.D. pipe Maximum Lateral Thrust with 100 mph wind and 1/2" radial ice ..... 75 lbs.

†Includes mounting clamp kit

Note 1: From top of folded element to bottom of support staff

## HORIZONTAL RADIATION PATTERNS

relative field strength



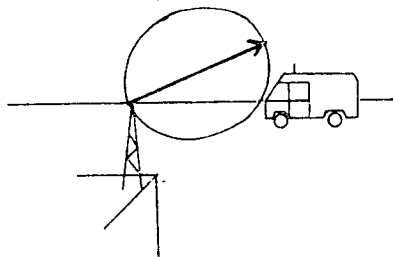
OMNIDIRECTIONAL  
CARDIOID  
UNIDIRECTIONAL

Dimensions and weights are approximate

advantages of folded coaxial design

STANDARD QUARTER-WAVE "GROUND PLANE" ANTENNA

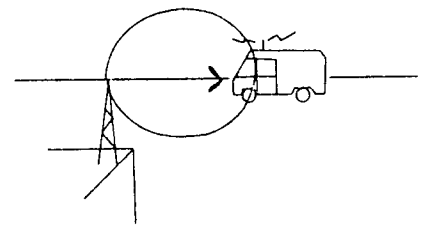
Beam Max.



Basic design acts to tilt radiation pattern upwards, reducing coverage effectiveness through wasted signal power.

MOTOROLA FOLDED COAXIAL DESIGN ANTENNA

Beam Max.



Center fed half-wave design lowers radiation pattern, aims it at the horizon to stretch out effective fringe coverage.

WHEN ORDERING, SPECIFY FREQUENCY

Specifications Subject to Change Without Notice