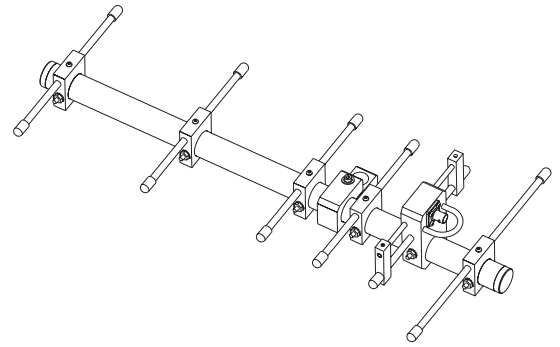


# Professional UHF Wireless Systems

ATW-A65 UHF Yagi Beam Antennas, 655-681 MHz

ATW-A75 UHF Yagi Beam Antennas, 721-747 MHz



## Installation and Operation



**CAUTION!** For personal safety and reliable system operation, make certain that (1) the antennas are mounted clear of any physical contact with individuals, (2) any supporting structures used are stable, even if moved or bumped, and (3) the antennas are securely attached to the supporting structures.

In addition, to reduce the risk of electric shock, do not allow the antennas or their supporting structures to come in contact with any exposed wiring or other sources of electricity.

### Introduction

ATW-A65 and ATW-A75 UHF directional beam antennas provide enhanced signal pickup for wireless systems in their designed frequency ranges. Supplied in pairs, these antennas are ideal for extending the range and reliability of diversity UHF wireless systems.

The six-element Yagi design – comprising four directors, a balanced dipole and a reflector – provides 10 dB gain and excellent rejection of off-axis interference. An encapsulated balun transformer efficiently matches the “driven” dipole element to 50-ohm coax, conveniently attached via a BNC connector.

The antennas are constructed using industrial-grade, black-anodized aluminum rod and tubing, Delrin® acetyl resin mountings and stainless steel hardware throughout, assuring long life and stable performance under even difficult conditions. The antennas are supplied completely assembled.

### Installation

#### Location

For best performance, the antennas should be mounted:

- Above head-height,
- In direct line-of-sight to the likely transmitter location(s),
- At least 3' (1 m) away from each other, and
- At least 3' (1 m) away from any large metal objects or sources of interference.

In addition, the length of RF cable run to the receiver should be minimized. Some experimentation with antenna positioning may be required to determine the best location under typical conditions of use.

#### Mounting

Near the balance-point of the boom is a Delrin mount for attachment of the antenna. For convenience, the mount is threaded for  $\frac{5}{8}$ "-27 microphone stands and risers. Although Delrin is an extremely rugged engineering resin, **exercise care to avoid cross-threading** when making the threaded connection. Also, engage the  $\frac{5}{8}$ "-27 thread **at least** six full turns (about  $\frac{1}{4}$ " / 6 mm **minimum**), to ensure secure mounting in case the antenna is mechanically jarred. Use of a “jam nut” (an additional  $\frac{5}{8}$ "-27 nut on the threaded stand/riser, often supplied with it) run up snugly against the bottom of the mount will help maintain the desired position of the antenna.

When the screw securing the mount to the boom is loosened, the antenna boom may be rotated in the mount, varying the effective polarity of the antenna. Because wireless microphone transmitters usually are in motion and/or are affected by the presence of people and objects, the effective polarization of their RF signals typically varies widely. Rotating the booms so the elements of one antenna are tilted “45 degrees to the left” and the others are “45 degrees to the right” should further enhance the performance advantages of diversity reception. (The booms of both antennas should still be pointed toward the target transmitter area.)

NOTE: Other than the #10 screw with wing nut that tightens the mount on the boom, **do not adjust any hardware. Do not attempt to change the length or position of any elements, or to tamper with the output connector or balun. Any modification may degrade the antenna's performance and will void the warranty.**

#### Connections

Once the antennas have been installed, connect them to the antenna inputs of either a wireless receiver or an antenna distribution system. Use RG58-type cable for cable lengths of up to 25' (8 m). For cable lengths greater than 25', RG8-type low-loss RF cable is recommended. RG8-type cable lengths over 100' (30 m) may cause significant signal loss. Because cable requirements vary considerably from one installation to another, RF cables are not included. High-quality, pre-terminated RF cables available from Audio-Technica will be found listed on the back page under “Optional Accessories.”

## Specifications

	ATW-A65	ATW-A75
Frequency Range	655-681 MHz	721-747 MHz
Design Configuration	Six-element Yagi	Six-element Yagi
Gain (typical)	10 dBi	10 dBi
Integral Matching Device	Balun transformer	Balun transformer
Output Connector	BNC	BNC
Output Impedance (nominal)	50 ohms, unbalanced	50 ohms, unbalanced
VSWR	≤ 1.5:1	≤ 1.5:1
Dimensions		
Length	18.25" (46.4 cm)	18.25" (46.4 cm)
Width (maximum)	8.46" (21.5 cm)	8.00" (20.3 cm)
Mounting	5/8"-27 thread	5/8"-27 thread
Net Weight (each)	1 lb. 4 oz. (0.56 kg)	1 lb. 4 oz. (0.56 kg)

## Optional Accessories

- AC12** RG58-type antenna cable, 12' (3.65 m) long, terminated with BNC connectors.
- AC25** RG8-type low-loss antenna cable, 25' (7.62 m) long, terminated with BNC connectors.
- AC50** RG8-type low-loss antenna cable, 50' (15.24 m) long, terminated with BNC connectors.
- AC100** RG8-type low-loss antenna cable, 100' (30.48 m) long, terminated with BNC connectors.

### One-Year Limited Warranty

Audio-Technica professional wireless systems purchased in the U.S.A. are warranted for one year from date of purchase by Audio-Technica U.S., Inc. (A.T.U.S.) to be free of defects in materials and workmanship. In event of such defect, product will be repaired promptly without charge or, at our option, replaced with a new product of equal or superior value if delivered to A.T.U.S. or an Authorized Service Center, prepaid, together with the sales slip or other proof of purchase date. **Prior approval from A.T.U.S. is required for return.** This warranty excludes defects due to normal wear, abuse, shipping damage, or failure to use product in accordance with the instructions. This warranty is void in the event of unauthorized repair or modification, or removal or defacing of the product labeling.

**For return approval and shipping information**, contact the Service Dept., Audio-Technica U.S., Inc., 1221 Commerce Drive, Stow, Ohio 44224.

Except to the extent precluded by applicable state law, **A.T.U.S. will have no liability for any consequential, incidental, or special damages; any warranty of merchantability or fitness for particular purpose expires when this warranty expires.**

This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Outside the U.S.A., please contact your local dealer for warranty details.

**Visit our Web Site: [www.audio-technica.com](http://www.audio-technica.com)**



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