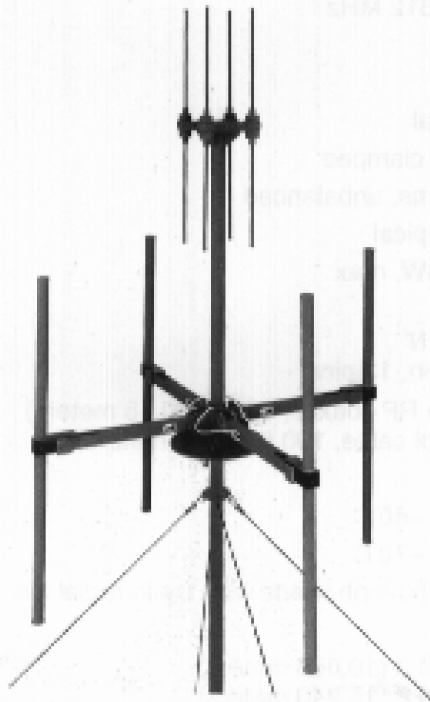


Technical Data



WATKINS-JOHNSON

May 1996



DF Antenna WJ-9881A

Features

- ❑ *Wide frequency coverage, 20 to 512 MHz*
- ❑ *High sensitivity*
- ❑ *Low physical profile*
- ❑ *Lightweight*
- ❑ *Manportable*
- ❑ *Ruggedized*

The WJ-9881A Direction Finding (DF) Antenna is used primarily with the WJ-8990B Manpack Tactical Intelligence System (MANTIS). It incorporates two bays that provide the complete 20 to 512 MHz frequency coverage. The lower bay uses active antenna technology to improve performance at lower frequencies and reduce the size. The upper bay uses resistively loaded dipoles with an integral preamplifier to provide broadbanding and improve DF accuracy at higher frequencies. Automatic band switching is integral to the assembly so only a single RF cable is required.

The ruggedized WJ-9881A is quickly assembled and easily transported. The disassembled antenna stows in a 42 x 14 x 11 inch (106.68 x 35.56 x 27.94 cm) pack.

The WJ-9881A deploys on a WJ-9898 telescoping mast. This mast is composed of a carbon fiber material that makes it lightweight, yet extremely durable. One or two men can easily erect the push-up mast to its maximum height of thirty-five foot (10.67 meters) in less than 15 minutes.

Options*

Option	Function
WJ-9881A-1 Frequency Extension	Extends frequency coverage from 20 to 1100 MHz
Digicompass	Allows automatic monitoring of antenna alignment to magnetic north
Tower-mounting Adapter	Allows antenna deployment on customer-supplied masts for vehicular-mounted or fixed-site applications

* An operator may use the WJ-9881A with other WJ single-channel interferometry DF systems. However, this requires band changing and providing a dc supply voltage for the active antenna devices.

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All International sales of WJ equipment are subject to USA export license approval.

This material provides up-to-date general information on product performance and use. It is not contractual in nature, nor does it provide warranty of any kind.

WJ-9881A

Specifications

Frequency Range	20 to 512 MHz
Azimuth Coverage	360°
Elevation Coverage	±30°
Polarization	Vertical
Input Protection	Diode clamped
Output Impedance	50 ohms, unbalanced
Output VSWR	3:1, typical
Power Consumption	500 mW, max
Connectors	
RF	Type 'N'
Control	Multipin, 13 pins
Cables	Single RF coaxial, 100 ft (30.48 meters) Control cable, 100 ft (30.48 meters)
Temperature Range	
Operating	-20 to +60°C
Storage	-40 to +70°C
Operation In Wind With Ice	Up to 50 mph winds with 1/4-in radial ice
Altitude	
Operating	35,000 ft (10,668 meters)
Storage	50,000 ft (15,240 meters)
Humidity	Watertight
Shock	Designed to meet MIL-STD-810C, Method 516.2, Procedure V

Weights & Dimensions

		Configuration	Height	Array Diameter	Element Length	Weight
WJ-9881A Antenna		Stowed	42 in (116.84 cm)	11 in (35.56 cm)	14 in (35.56 cm)	35 lbs (15.84 kg)
		Deployed:				
		20 to 140 MHz Bay	35.8 in (90.93 cm)	42 in (106.68 cm)	36 in (91.44 cm)	
		140 to 500 MHz Bay	28 in (71.12 cm)	8.5 in (21.59 cm)	28 in (71.12 cm)	
		Low Bay to Antenna Low & High Bays	54 in (137.16 cm) 66 in (167.64 cm)			
WJ-9898	Mast	Stowed	64 in (162.56 cm)	6 in (15.24 cm)	6 in (15.24 cm)	21 lbs (9.5 kg)
		Deployed	35 ft, max (10.67 meters)	6 in (15.24 cm)	6 in (15.24 cm)	
	Accessory Kit	Stowed**	24 in (60.96 cm)	12 in (30.48 cm)	12 in (30.48 cm)	19 lbs (8.6 kg)

* With cables & storage bag

** Accessory kit includes storage bag, guy ropes on reels, stakes, hammer, antenna adapter, and binoculars with a built-in compass.