

DIRECTION FINDING (DF) ANTENNA SYSTEMS

The **DF Antenna Systems** from ARA covers frequency ranges from 30 MHz to 40 GHz. Single axis and dual axis direction-finding antenna systems from ARA utilize standard components (antennas, pedestals, and mounting) to provide a custom solution for airborne, shipboard, tactical (mobile ground based), and fixed station applications. All DF antennas use our building block approach and many models are designed for easy assembly and disassembly in the field. **DF antenna systems** for tactical applications are available in lightweight carrying cases.

- Fixed feed and Reflector
- Rotating feed and Reflector
- Spinning, Compact, Low profile antenna elements for airborne DF Systems
- Dual Linear and Linear (slant) polarized antenna elements
- Dipoles and Loops
- Elliptical Reflectors providing a constant elevation beamwidth



DFA-118/A4

All **DF Antenna Systems** are optimized for excellent boresight accuracy for achieving reliable DF precision.

- A. The **DFA-118/A4** is a dual axis rotating feed and reflector type direction finding antenna system, covering 1.0 to 18.0 GHz. It includes a linearly polarized feed which can be adjusted for any polarization remotely. A single controller is required to control azimuth/elevation position as well as the polarization rotator. The **DFA-118/CO4** version of the **DFA-118/A4** is available for tactical/military applications. This model includes our CPRA style collapsible reflector for easy assembly and disassembly in the field. A complete system is supplied with a telescopic mast. All components are included in lightweight carrying cases.
- B. The **DFA-1240/F3** has multiple horn feeds with a portable reflector. This design eliminates the need for rotary joints.

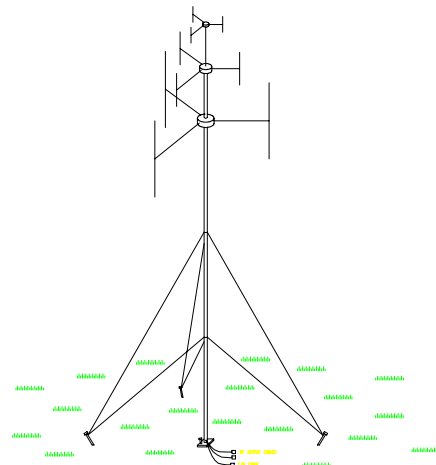
	DFA -118/A4	DFA - 1240/F3
FREQUENCY	1 to 18.0 GHz	12 to 40 GHz
POLARIZATION	Linear, Adjustable(Remotely)	Circular
VSWR	3.0 : 1	2.5 : 1
GAIN	15 to 38 dB	18 to 26 dBic
3 dB BEAMWIDTH	20 to 1.5 degrees	20 to 10 degrees
PEDESTAL	EL/AZ	Azimuth
CONTROLLER TYPE	ACU-3	
REFLECTOR	45" Dia. Parabolic	Elliptical
NUMBER OF BANDS	One	Three (Ku, K, and Ka)

Direction Finding Antenna Systems (cont'd....)

C. **DFA-0213/B3** is a portable DF antenna system using broadband antenna elements and optimized for lightweight, sensitivity, accuracy, and repeatability.

FREQUENCY 20 to 1300 MHz (Usable from 1 to 1300 MHz)
NUMBER OF BANDS Three (20 to 90 MHz, 90 to 400 MHz, 400 to 1300 MHz)
VSWR 2 : 1
BAND SWITCHING Remote
MAST Collapsible
MAST MATERIAL Fiberglass Composite
AZIMUTH PATTERN Omnidirectional
PATTERN FLATNESS ± 3 dB over 360 °

GAIN VARIATION IN EACH BAND ± 6 dB
POLARIZATION Vertical
IMPEDANCE 50 Ohms
RF ISOLATION, ELEMENT-TO-ELEMENT 80 dB
SAME BAND 40 dB
DIFFERENT BAND
ASSEMBLY Collapsible, No tools required
STORAGE Travel bag
WEIGHT < 15 lbs.
MAXIMUM COMPONENT SIZE 36"
INPUT VOLTAGE + 24 Vdc



	LOW BAND FREQUENCIES				MID BAND FREQUENCIES				HIGH BAND FREQUENCIES				
FREQUENCY (MHZ)	10	20	30	45	90	90	200	300	400	400	600	900	1200
ABSOLUTE MIN.GAIN(DB)	-33	-25	-20	-15	-4	-25	-15	-8.5	-4.5	-21	-16	-10	-7

D. **DFA-120** is a fixed DF antenna system covering a frequency range from 100 MHz to 2 GHz, vertical and horizontal polarizations. The **DFA-120** produces sum and difference radiation patterns for highly accurate direction finding.

E. **DFA-350** is an Antenna System offering a frequency range of 100 MHz to 5 GHz suitable for receiving both horizontal and vertical polarization. This antenna is also suited for generating sum and difference radiation pattern for direction finding.

