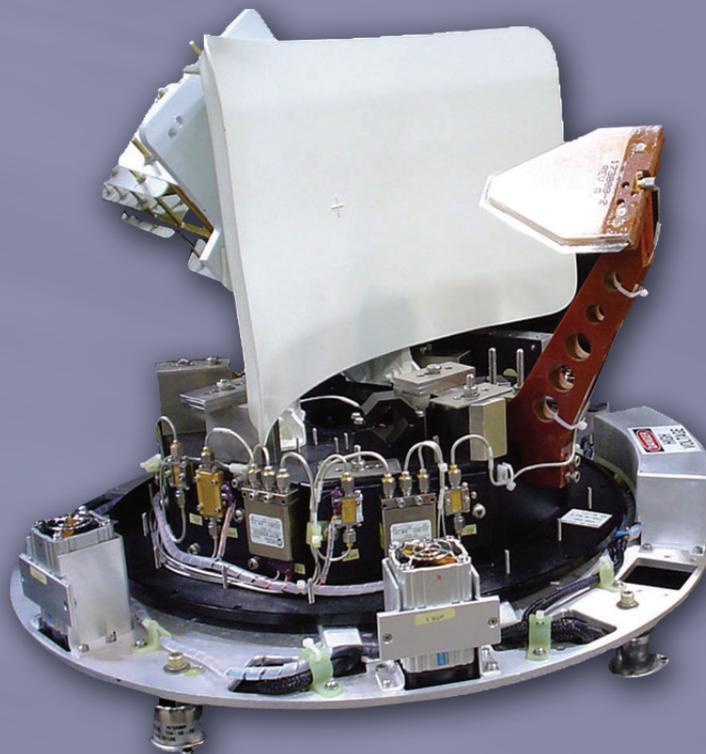


# CS-1018ABN Airborne Spinning DF Antenna Unit



The CS-1018ABN is a versatile high performance airborne spinning DF antenna unit covering 0.5 to 18 GHz.

The CS-1018ABN is an enhanced version of the CS-1018 spinning DF antenna to accommodate a wider airborne operating temperature range. The CS-1018ABN covers the 0.5 - 18 GHz frequency range. The antenna modes of operation include point, sector azimuth scan and spin, with spin rates from 0 to 200 RPM. DC power and fiber optic control are provided by the CS-1950 Antenna Interface Unit. The antenna is designed to mount in/on an aircraft fuselage using a customer furnished radome and mounting hardware.

The antennas in the spinning DF segment include a LOG periodic antenna covering the 0.5 - 2 GHz band and a parabolic antenna with LOG periodic feed (optional vertical and horizontal separate feeds available).

The 0.5 - 2 GHz antenna is mounted at a 45 degree angle to provide the best overall characteristics for vertical and horizontally polarized signals. A single 45 degree feed or optional dual feed with simultaneous vertical and horizontal outputs (switch selected in the spinning DF portion) are available for the 2 - 18 GHz antenna. The dual feed configuration allows the user to evaluate the source signal for characteristics based upon vertical and horizontal components detected via the two feeds.

One of the two DF bands, either with or without preamplification, is selected and routed through a rotary joint to the pedestal, where additional electronics are used to amplify and equalize the signals for cable loss. Programmable attenuators can also be optionally provided.

Power and communication to the spinning DF are routed from the pedestal through slip rings. A microprocessor in the spinning DF section controls various switches for antenna selection, preamp and vertical or horizontal feed selection (2 - 18 GHz band).

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## SPECIFICATIONS

Frequency	0.5 - 2 GHz LPA 2 - 18 parabolic reflector/LPA feed(s)		
Polarization	0.5 - 2 GHz: 45° slant linear 2 - 18 GHz: 45° slant linear		
Option 1	2 - 18 GHz, vertical & horizontal switchable with 10-12 dB typ V/H isolation		
Elevation beamwidth	20° typ (-5° to +15°)		
DF antenna gain	<u>Freq (GHz)</u>	<u>Min (dBi)</u>	<u>Typ (dBi)</u>
Log periodic	0.5 - 2	4.0	6.5
parabolic	2.0	8.0	10.5
	4.0	12.0	14.5
	8.0	15.0	16.5
	12.0	17.0	19.0
	18.0	19.0	21.0
DF antenna beamwidth	<u>Freq (GHz)</u>	<u>Max (deg)</u>	<u>Typ (deg)</u>
Log periodic	0.5 - 2	85.0	72.0
parabolic	2.0	24.0	20.0
	4.0	12.0	10.5
	8.0	6.0	5.5
	12.0	4.0	3.3
	18.0	3.0	2.4
Azimuth squint	<u>Freq (GHz)</u>	<u>Typ (deg)</u>	
	0.5 - 2	±4.0	
	2 - 12	±1.5	
	12 - 18	±1.0	
DF antenna modes	Spin, sector scan, point		
Spin rate/DF search	0 to 200 RPM selectable		
Scan rate >30 deg sector	10 - 60 deg/sec		
Scan rate <30 deg sector	2 x sector width deg/sec		
Size	19.5 in (50 cm) diameter x 20.5 in (52.1 cm) height		
DF spinner and pedestal	14.5" (36.8 cm) exposed to slip stream for enclosure within customer's radome		
Weight – spinning DF	42 lbs (19.1 kg) max		
Pedestal	30 lbs (13.6 kg) max		
Power	48 VDC, 3.8 A (182 W)		

## PRODUCT ATTRIBUTES

- 0.5 - 18 GHz DF standard
- Internal preamplification
- Fiber optic interface
- Point, sector scan and spin modes
- Includes pedestal and controller
- 0 - 200 RPM spin rate

## OPTIONS

- Option 1
  - Selectable vertical/horizontal polarization (2 - 18 GHz)
- Option 2
  - Programmable attenuator (DF selected feed)

## RELATED EQUIPMENT

CS-1940*	Antenna Control Unit
CS-1950*	Antenna Interface Unit
CS-1960	RF Distribution Unit
CS-3001/3002	Pulse Analyzer Unit
CS-5020C	Microwave Receiver
CS-5040	VXI Microwave Tuner
CS-5111	VME Microwave Tuner

\*Required equipment

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

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For more information contact:

Rockwell Collins  
3200 East Renner Road  
Richardson, TX 75082-2420  
Phone: 972.705.1438  
Fax: 972.705.1436  
email: [ewsigint@rockwellcollins.com](mailto:ewsigint@rockwellcollins.com)  
[www.rockwellcollins.com/ewsigint](http://www.rockwellcollins.com/ewsigint)

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