

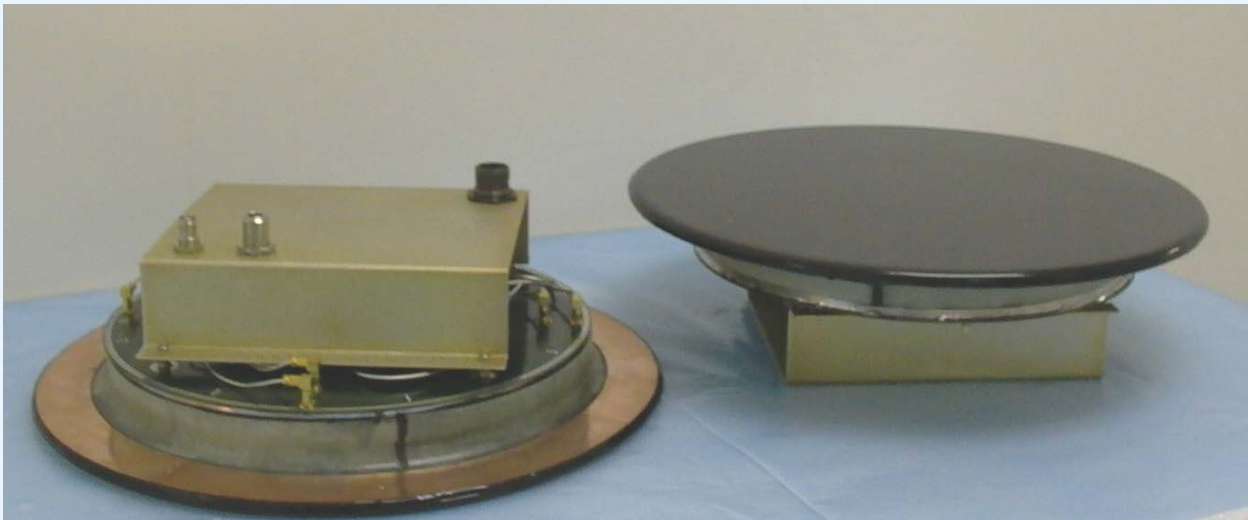
# TechComm

Direction Finder  
Systems

511 SE 32<sup>nd</sup> Court • Ft. Lauderdale , Florida 33316

Telephone: (954) 712-7777 • Facsimile: (954) 712-8880 • e-mail: techcomm@techcommdf.com

## ***PRELIMINARY DATA***



TC-8111-6  
30-6000 MHz  
Conformal DF Antenna Array  
For  
Airborne or Ground Mobile Applications

***PRELIMINARY DATA***

*This document meets the requirements of ITAR paragraph 125.6 governing the distribution of public domain product marketing literature. Any technical data, demonstration or sale of equipment described herein is subject to U.S. State Department Export License requirements in accordance with ITAR regulations.*

The Tech Comm, Inc. TC-8111-6 is a Three-Bay Annular Slot Direction Finder Antenna providing accurate DF measurements over a broad 30 to 6000 MHz frequency range. The TC-8111-6 retains the same mechanical foot print and electrical interface as the TC-8111-2 and TC-8111-3 Arrays. The TC-8111-6 is intended for use with the TC-9300 COMINT/DF system. The antenna uses a patented non-disruptive phase/amplitude processing technique to provide line of bearing information from the Direction Finder Antenna to the radio transmission source.

## **General Specifications**

Antenna Model	TC-8111-6
Frequency	30 – 6000 MHz Band 1 Operates 20-350 MHz Band 2 Operates 350-2000 MHz Band 3 operates 2000-6000 MHz
Polarization	Vertical
Horizontal Coverage	360 degrees
Sense Antenna	None Required
Accuracy	4 degrees RMS, typical
Impedance	50 Ohms, nominal
Pre-Amplifier	Switchable In / Out
RF Outputs	DF, OMNI
Electronics	3 Goniometers: Low, Mid & High Band
Goniometer Control	Automatic, supplied by DF Processor
Power	+12 VDC, supplied by DF Processor
Diameter	Element: 11.25 inches (Overall 14 inches)

Height	
Element	2.50 inches (1.5" high radome)(design goal, 1.0")
Electronics	3.00 inches
Overall	5.50 inches
Weight	9.5 pounds, Nominal
Environmental	
Operating Temperature	-20 to +60° C
Non-Operating Temperature	-50 to +70° C
Relative Humidity	0 to 95%

The TC-8111-6 includes a BIT (Built-In Test) feature to verify DF array performance via GUI screens used with companion DF Processor. The TC-8111-6 can be configured with or without an internal Omni antenna for signal intercept and monitoring functions.

The TC-8111-6 goniometer accepts RF inputs from the annular slot elements. Low noise, high 3<sup>rd</sup> order preamps (LNA's) are used with combining circuits to provide a single, commutated phase & amplitude DFRF output to the companion TC-6000pps system receiver. TC-8111-6 control and DC power is provided via a 15-pin MS connector from the companion TC-373 DF Processor.

TC-8111-6 development is in progress as of 1 June 2018. The design will add a third bay of elements above the existing 30-2000 MHz annular slot elements from the TC-8111-3 antenna. The goniometer will be re-designed to incorporate high band LNA's and combining circuitry. Prototype build & test is scheduled for October 2018. Release to production is scheduled for December 2018.