

# IFF AESA

## IFF AESA

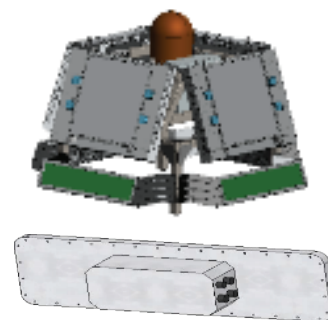
The Tactical IFF system is a lightweight, portable four-panel compact IFF interrogator AESA. It is a short-range (200 km) short-range air defense (SHORAD) system. With only eight elements to the system gives and its low cost and SWaP, this gives the system a tactical portability and reliability when compared to rotating mechanical systems. The beam-width is steerable in azimuth to  $\pm 45^\circ$  with the capability of reaching  $\pm 50^\circ$ .

This system integrates with the customer's primary radar system and is interrogator agnostic. SUM and DIFF patterns are provided simultaneously via 2 RF connectors

|                     |             |
|---------------------|-------------|
| <b>Antenna Type</b> | SHORAD AESA |
| <b>Application</b>  | x           |
| <b>Frequency</b>    | x           |
| <b>Polarization</b> | x           |

## FEATURES

- RF SUM and DIFF connectors
- Ethernet control of beam position
- Fixed elevation pattern using element providing narrower pattern
- Low scan loss



IFF AESA

Revised December 16, 2022



## Specifications

|                                     |   |
|-------------------------------------|---|
| <b>Frequency</b>                    | 1030 to 1090 MHz  |
| <b>Polarization</b>                 | Linear vertical   |
| <b>AZ Beamwidth - SUM</b>           | 10° to 25° across all scan angles and frequencies                                 |
| <b>AZ Sidelobe Levels - SUM</b>     | -15 dBr max over all scan angles  |
| <b>AZ Scan Range</b>                | +/-45° typical with capability to +/-50°  |
| <b>AZ Scan Step</b>                 | 1.5° near boresight increasing to 3.0° at ±45° scan                               |
| <b>Tx/Rx Beam Alignment</b>         | Across range of ±45° scan, no more than 4° difference from 1030 to 1090 MHz       |
| <b>Null Width and Depth - DIFF</b>  | 10 dB beamwidth of 10° and depth of -25 dBr w/r/t to gain of the SUM port         |
| <b>SUM and DIFF Alignment at Rx</b> | 3° max  |
| <b>EL Beamwidth</b>                 | 85° max with no sidelobes   |
| <b>DC Power Requirement</b>         | 50 VDC @ 50 A peak, 3 A avg : 5 VDC @ 6 A max: -10 VDC @ 250 mA                   |
| <b>Tx Input Power</b>               | +35 dBm MAX   |
| <b>Tx Channel EIRP</b>              | +74 dBm or greater with an input power of +32 dBm, 30.25 μsec pulse width 2% duty |
| <b>RF Channel Performance</b>       | -20 dB/K max G/T: 10 dB gain electronics and combiner                             |
| <b>Beam Steering Control</b>        | Ethernet  |
| <b>Dimensions</b>                   | 1200 mm x 250 mm x TBD  |
| <b>Weight</b>                       | 55 kg max   |



8880 Gorman Road, Laurel, MD 20723 | 301-937-8888 | [ara-inc.com](http://ara-inc.com)

The data described herein may be subject to licensing under the International Traffic Arms Regulations (ITAR) 22 CFR Parts 120-130. This data sheet has been released into the public domain in accordance with these regulations. Specifications are subject to change without notice.