

# FDA-160i - ADVANCED FREQUENCY DISTRIBUTION



**16 Output Wide Band (1- 20 MHz), Network Enabled  
Programmable Frequency Distribution Amplifier Unit  
with Dual Redundancy**



AS9100D Certificate Number : C0210021-AS3



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## Product Overview



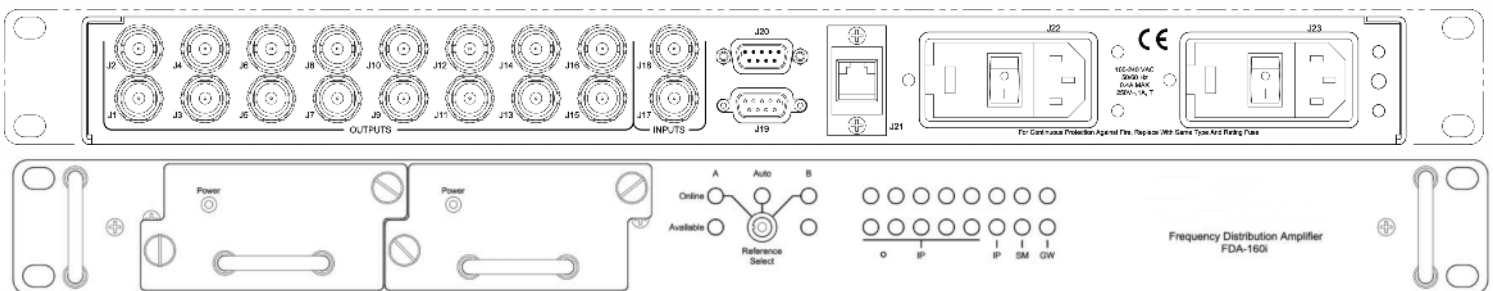
The FDA-160i is a high quality, general purpose frequency distribution unit (1 - 20 MHz typical) with dual redundant hot swap PSUs. Applications for the FDA-160i include secure communications systems, satellite ground stations, digital television broadcasting and any application requiring highly reliable frequency outputs and/or where networking capability and programming is a requirement.

The FDA-160i base unit model has sixteen short circuit proof wide band outputs grouped as 2 banks of 8, available at the rear panel via BNC connectors, driven in response to one of two independent and isolated (Ref A & Ref B) signal source reference inputs. Each reference input is capable of driving all 16 outputs.

Each output has a network programmable amplitude and reference signal assignment along with fully independent status checking and fault condition reporting via the SNMPv2c trap based network interface and rear panel D type connectors. Once selected, reference signal sources are automatically switched over should a reference fail with the facility to pre-program the system response and reversionary timings once the normally assigned reference is restored. A three-position front panel switch facilitates the manual override selection of either reference A or reference B. With automatic mode selected, each output will be driven by the programmatically assigned reference.

Front panel indicators show the status of the input selection and output condition along with power status indication. Each of the sixteen outputs is continually monitored and should an output fail for any reason, then a group alarm fault indicator will illuminate and trigger a rear panel fault alarm signal that may be used by external equipment to modify the reference and output signal routing and selection.

The unit has a built in user friendly web based SNTP server interface available via an RJ45 10/100BaseT rear panel network port facilitating unit setup and subsequent system monitoring.



## Key Feature Summary

### Options & Features

- Network Enabled Frequency Distribution Amplifier
- Dual Frequency Inputs with Auto Failover
- Low Phase Noise Reference Frequency Outputs
- Programmable per channel amplitude
- SNMP v2c, HTTP, DHCP, IPv4 Protocols : RFC 1901, RFC 1905, RFC 1906, RFC 2578
- 1U 19" rack mount
- Dual Redundant Hot Swap Power Supplies

### Signals

- 16 discrete, fault tolerant and fully monitored sine wave outputs on BNC connectors
- Two reference signal inputs with automatic switching
- Fault status indication and fault driven reference changeover

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## Specifications ( Note : For narrowband, 1, 5 or 20 MHz operation, please refer to our FDU-160i)

Specifications - FDU-160i	
Reference Frequency Inputs	Details
Connectors	2 x Rear panel BNC
Amplitude	0.5 V to 1.0V RMS - Nominally factory set at 1V RMS - Transformer coupled
Input Impedance	50 Ohms
Frequency	1 - 20 MHz
<b>Fault Discrete Input</b>	
Number of inputs	2
Connector	9 Way D Type Socket
Level	TTL
Active Level	Link selectable, high or low to force reference changeover
<b>Sine Wave Outputs</b>	
Number of outputs	16 - Grouped as 1 x 16 or 2 x 8 based on input selection assignment
Connectors	BNC
Frequency (MHz)	Same as input, 1 - 20 MHz
Level	+5dBm to +13 dBm into 50 ohms - programmable per output
Stability with external reference	Same as input
Stability with clean-up oscillator	Temperature: $\pm 3 \times 10^{-9}$ from 0 - 60°C / Aging: $5 \times 10^{-7}$ per year
<b>Noise pickup</b>	
Distortion	-40dBc
Cross Talk	-80dBc
Spurious	-80dBc
<b>Environmental</b>	
Temperature	Instrument : -10°C + 50°C / Antenna -40°C to + 85°C
Humidity	95 % non condensing
Power	85VAC - 265VAC 50/60Hz or DC with hot swap dual redundancy < 15W
Power Options	18-36 VDC, 36-72 VDC, - 48VDC
<b>Network Interface</b>	
Interface	RJ45 - 10/100BaseT
Protocols	HTTP, SNMPV3, DHCP, IPV4
<b>Console Port</b>	
Interface	9 Way D type socket 115K Baud - 115200, N, 8, 1
<b>Display</b>	
Type and Function	16 Bi-Colour LEDs - Output Status and Ethernet Settings
<b>Alarms</b>	
Electrical	Dry relay form C contacts - Function Summary of all input/output alarms (relay)
Ethernet Network	SNMP trap - SNVpV3
<b>Physical</b>	
	19" Rack 1U 1.75" (H) x 7.5" (D) x 17" (W) [ 4.4 cm(H) x 19 cm (D) x 43.2 cm (W) ] Weight : 3.5 lb (1.6 Kg)
<b>Compliance</b>	
	CE Approved - EMC Emissions to EN55022 as EN55024 - FCC Part 15B, Class A EMC Immunity to EN50082-1 as EN61000-4-2 ESD, IEC801-3 HF Field & IEC 801-4

### Narrow band options :

For fixed frequency narrow band applications (1, 5, 10 MHz), please also consider the FDU-160i unit

# Satisfied customers include..

ABB Singapore

Airbus Defence & Space

ASM Technologies Ltd

Atkins

Babcock International

BAE Systems

BBC

Carillion Rail

CMC Engineering Malaysia

EDF Energy

Finmeccanica, UK

Indian Navy

Jakarta Metro

Leonardo Electronics Defence And Security

London Stock Exchange

London Underground

MBDA Ltd

MTRC Hong Kong

National Air Traffic Services

NEC

Network Rail National

Northrop Grumman Park Air Systems Ltd

Qinetiq Ltd

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