FDU-160i - ADVANCED FREQUENCY DISTRIBUTION

16 Output Low Phase Noise, Network Enabled Programmable Frequency Distribution Unit with Dual Redundancy

NSF-ISR Registered to AS9100 (with ISO 9001)

ANAB ACCREDITED ISO/IEC 17025 ANSI/NCSL Z540-1

AS9100D Certificate Number : C0210021-AS3

JOSCAR

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Product Overview

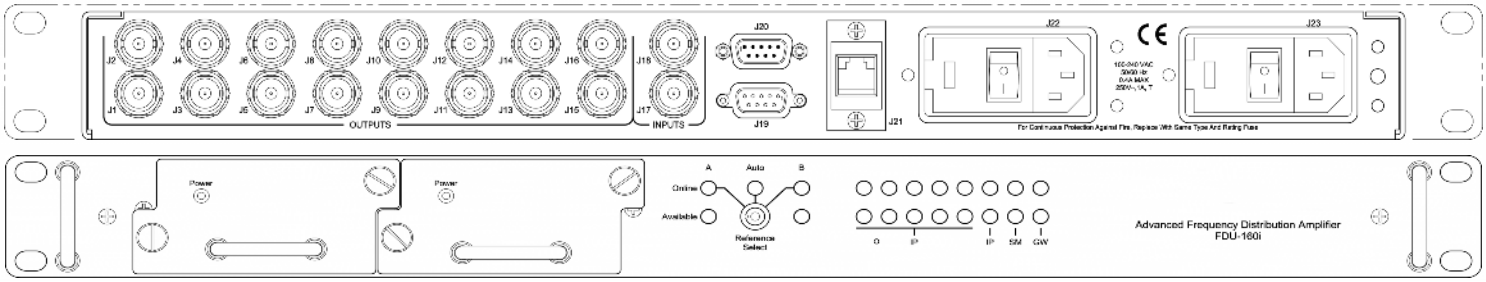
The FDU-160i Frequency Distribution Unit is a high quality, programmable frequency distribution platform offered with dual redundant hot swap PSUs and a number of frequency based functional variants. Applications for the FDU-160i include secure communications systems, satellite ground stations, digital television broadcasting and any application requiring highly reliable frequency outputs and/or where networking capability and programming is a requirement.

The FDU-160i base unit model has sixteen short circuit proof, low phase noise sine wave outputs (typically 10MHz) 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 wideband, 1 - 20 MHz operation, please refer to our FDA-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	10 MHz +/- 5ppm
Fault Discrete Input	
Number of inputs	2
Connector	9 Way D Type Socket
Level	TTL
Active Level	Link selectable, high or low to force reference changeover
Sine Wave Outputs	
Number of outputs	16 - 2 x 8 @ 10MHz or 1 x 8 @ 5MHz + 1 x 8 @ 10MHz - other combinations available
Connectors	BNC
Frequency (MHz)	Same as input, nominally either 1, 5, 10 or 20MHz - 10MHz factory default
Level	+5dBm to +13 dBm into 50 ohms - programmable per output
Stability with external reference	Same as input
Stability with clean-up oscillator	Temperature: ± 3 x 10-9 from 0 - 60°C / Aging: 5 x 10-7 per year
Noise pickup	
Distortion	-40dBc
Cross Talk	-80dBc
Spurious	-80dBc
Additive Phase Noise @10MHz	**dBc/Hz**
1 Hz	-132
10 Hz	-142
100 Hz	-155
1000 Hz	-163
> 1000 Hz	-163
Environmental	
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
Network Interface	
Interface	RJ45 - 10/100BaseT
Protocols	HTTP, SNMPV3, DHCP, IPV4
Console Port	
Interface	9 Way D type socket 115K Baud - 115200, N, 8, 1
Display	
Type and Function	16 Bi-Colour LEDs - Output Status and Ethernet Settings
Alarms	
Electrical	Dry relay form C contacts - Function Summary of all input/output alarms (relay)
Ethernet Network	SNMP trap - SNVPv3
Physical	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)
Compliance	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

Common product configurations :

INPUTS : 2 x 1MHz, 5MHz or 10MHz with OUTPUTS : 16 x 1Mhz, 5MHz or 10MHz Output
INPUTS : 1 x 5MHz & 1 x 10MHz with OUTPUTS : 8 x 5MHz + 8 x 10MHz Output

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