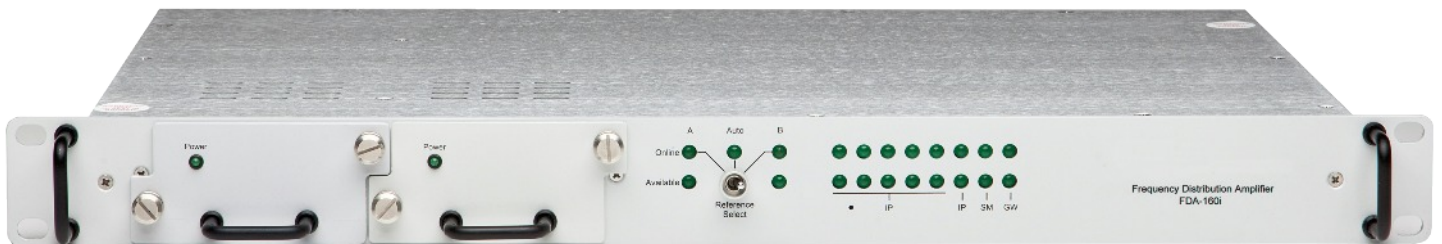


# FDA-160i - ADVANCED FREQUENCY DISTRIBUTION



**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



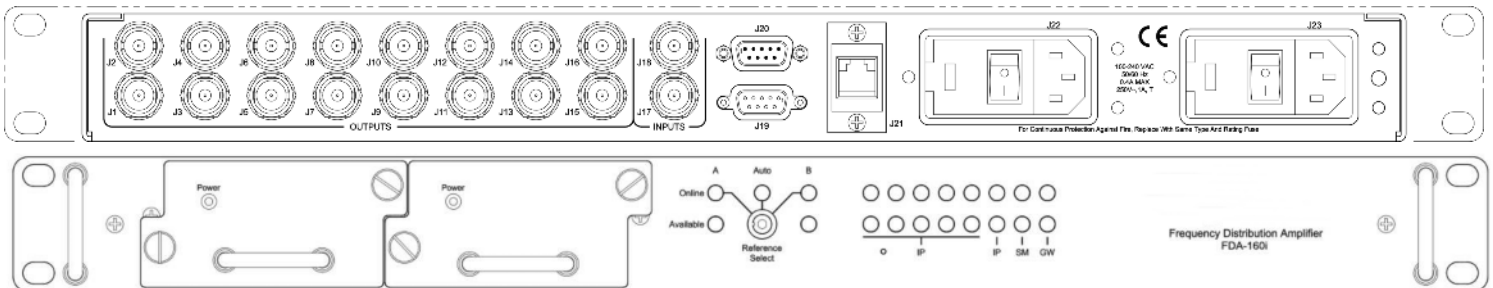
The FDA-160i is a high quality, general purpose frequency distribution unit (1 - 20 MHz typical) with dual redundant hot swap PSUs. Applications for the FDA-160i include secure communications systems, satellite ground stations, digital television broadcasting and any application requiring highly reliable 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 BP CMC Engineering Malaysia	EDF Energy Indian Navy Jakarta Metro Leonardo Electronics Defence And Security London Stock Exchange London Underground MBDA Ltd MTRC Hong Kong National Air Traffic Services	NASA NEC Network Rail Northrop Grumman Park Air Systems Ltd Qinetiq Ltd Raytheon Systems Ltd Rockwell Automation SBS Transit Singapore Siemens Transportation	Singapore Stock Exchange Telent Technology Services Limited Teligent Thales UK Transport For London Viacom
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## Sales Contacts and Global Representatives

### TFS UK Head Office

Mrs Laura Cain  
 Sales Coordinator  
 TFS, Witham, CM8 3AL, UK  
 Tel : +44 (0) 1376 514114  
 laura.cain@timefreq.com

### Europe, Middle East, Africa, Australia

Mr David Wright  
 Director of Sales, Europe, Middle East,  
 Africa, Australia  
 Tel : +44 (0) 1694 722891  
 dwright@timefreq.com

### Asia, China, India, Japan

Mr Neil Pitman  
 Director of Sales - Asia  
 China, India, Japan  
 Mobile : +44 (0) 7973 859342  
 neil.pitman@timefreq.com

<p><b>Austria, Germany &amp; Switzerland</b>  <b>Semic RF Electronic GmbH</b>                  Contact : Wolfgang Gruber                  Tel: +0049 89 614 1520                  Email: sales@semic.de                  Web : www.semic.de</p> <p><b>Australia &amp; New Zealand</b>  <b>Unitronix</b>                  Contact : Tim Marshall                  Tel: +0061 02 4977 3511                  Email: sales@unitronix.com.au                  Web : www.unitronix.com.au</p> <p><b>Brazil</b>  <b>Sigtron Instrumentos e Servicos Ltda</b>                  Contact : Eduardo Strafacci                  Tel: +0055 11 5031 7359                  Email: eduardo@sigtron.com.br                  Web : http://sigtron.com.br/</p> <p><b>China, Hong Kong &amp; Macau</b>  <b>Spectrum &amp; Master Comms. Technologies</b>                  Contact : Mr William Lai                  Tel: +852 2529 1111 / Mobile +852 9378 9271                  Email: smcthk@netvigator.com</p> <p><b>Indochina (Vietnam, Laos, Cambodia)</b>  <b>Hanova JSC</b>                  Contact : Mr Hai Le                  Tel: +84 91 351 4905                  Email: hai.le@hanova.vn                  Web : www.hanova.vn</p> <p><b>India</b>  <b>PDAC Microsystems Pvt Ltd</b>                  Contact : Mr Pradeep Dhar                  Tel: +91 40 40247626 / Mobile +91 80082 95670                  Email: pradeep@pdac.in                  Web : www.pdac.in</p> <p><b>Janus Trading Co</b>                  Contact : Mr Santosh Krishnan                  Tel: +91 124 408 6641                  Email: santosh@januscorp.in                  Web : www.januscorp.in</p> <p><b>Signowave Solutions Private Limited</b>                  Contact : Santosh Kulkarni                  Tel : +91 40 6717 2356 / Mobile : +91 70327 09060                  Email: santosh.kulkarni@signowave.com                  Web : www.signowave.com</p>	<p><b>Israel</b>  <b>IES Electronics Agencies (1986) Ltd</b>                  Contact : Avi Nataf                  Tel: +00972 37530700                  Email: info@nisko-ies.com                  Web : www.nisko-ies.com</p> <p><b>Italy</b>  <b>Millimettrica RF &amp; Microwave Components SRL</b>                  Contact : Aldo Cagno                  Tel: +0039 011 317 9910                  Email: acagno@millimettrica.it                  Web : www.millimettrica.it</p> <p><b>Japan</b>  <b>Nacelle Co Ltd</b>                  Contact : Mr Hisato Tadokoro                  Tel : +81 3 5921 5099                  Email : tadokoro@nacelle.co.jp                  Web : www.nacelle.co.jp</p> <p><b>Korea</b>  <b>ETOOB</b>                  Contact : Jaydon Lee                  Tel : +82-2-6677-3409                  Email : jaydon.lee@etooob.co.kr                  Web : www.etooob.co.kr</p> <p><b>Malaysia</b>  <b>Alam Sinergi Teknik Sdn. Bhd.</b>                  Contact : Mr HH Chew                  Tel: +60 3 7847 5925 / Mobile: +60 13 5131068                  Email: hhchew@alamsinergitekNIK.com</p> <p><b>North America : USA &amp; CANADA</b>  <b>Brandywine Communications Inc.</b>                  Tel: +1 877 367 7962 Fax: +1 714 755 0175                  Email: info@brandywinecomm.com                  Web : www.brandywinecomm.com</p> <p><b>North Africa, Mauritania, Morocco, Tunisia, Algeria, Libya, Egypt, Chad, Mali</b>  <b>ProComSat</b>                  Contact : Hussein Ait Si Selmi                  Tel: +0021321548618                  Email: hussein@procomsat.com                  Web : www.procomsat.com</p> <p><b>Spain &amp; Portugal</b>  <b>Tecnologia GPS S.A.</b>                  Contact : Jose Luis Estaban                  Tel: +34 91 323 72 30                  Email: comercial@tecnogps.es                  Web : www.tecnogps.es</p>	<p><b>Philippines</b>  <b>Imaginet International Inc</b>                  Contact : Mr Blair Duncan                  Tel: +63 2 895 9755 / Fax : +63 2 895 9766                  Email: blair@imagnet.com.ph                  Web : www.imagnet.com.ph</p> <p><b>Singapore</b>  <b>PROGRESO Networks (S) Pte Ltd</b>                  Contact : Victor Tang                  Tel: +65 6509 9600 / Mobile +65 9735 1700                  Email: victor@progreso.com.sg                  Web: www.progreso.com.sg</p> <p><b>Thailand</b>  <b>CSG Solution (Thailand) Company Ltd</b>                  Contact : Mr Chinnaret Kusathisiriphan                  Tel: +66 2 575 2971 / Mobile +66 94 951 6524                  Email: chinnaretk@csgs.co.th                  Web: www.csgs.co.th</p> <p><b>Turkey</b>  <b>Merit Elektronik</b>                  Contact : Levent Celebi                  Tel: +0090 312 472 7495                  Email: leventc@meritelektronik.com.tr                  Web : www.meritelektronik.com.tr</p> <p><b>South Africa</b>  <b>Satellite 2000 Systems International Inc</b>                  Contact : Fred Joubert                  Tel: +001 818 991 9794                  Email: sales@sat-2k.com                  Web : www.sat-2k.com</p> <p><b>U.A.E.</b>  <b>Zener Fire &amp; Security LLC</b>                  Contact : Ranjith Nambiar                  Tel: +0021321548618                  Email: ranjith@zenerfire.com                  Web : www.zenerfire.com</p>
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**tfs Time & Frequency Solutions**

25 Eastways, Witham, Essex, CM8 3AL, UK  
 Phone +44 (0) 1376 514114 | Fax +44 (0) 1376 516116  
 Email : enquiries@timefreq.com

**brandywine communications**

153 Warner Ave, Tustin, CA 92780, USA  
 Phone +1 714 755 1050  
 Email : Info@brandywinecomm.com

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