

## FDU-240

### Frequency Distribution Unit



- 5 MHz or 10 MHz Outputs Available
- Reference Frequency Input Option
- Auto Changeover with Ref. Input Option
- Low Phase Noise Outputs
- Twenty four Outputs
- Front Panel Status Indicators
- Fault Discrete Inputs
- Compact 1U, 19" rack mount

The Brandywine Communications Model FDU-240 offers the user modern, often requested and reliable frequency distribution features. The base unit outputs twenty-four sine waves that are input directly from the rear panel to the transfer switch. For enhanced phase noise performance an optional clean up oscillator is positioned between the rear panel inputs and the inputs of the transfer switch. A clean up oscillator may be installed between both Input A and Input B inputs or only on Input A.

A three-position front panel switch chooses automatic operation or may be used to manually select one of the two input sources. When the AUTO mode is selected the AUTO indicator will be illuminated and Input A will be used if it is available. Should Input A fail Input B will be chosen automatically. Indicators show the status of the inputs and which input has been selected.

Each of the twenty-four outputs is monitored. Should an output fail a group alarm Fault indicator will illuminate.

A front panel Power indicator is also provided.

Rear panel input Fault Discrete signals allow external equipment to force the outputs to be derived from either input source.

When fitted with the optional clean up oscillators stability of the outputs is the same as that of the input(s). This is accomplished by disciplining the clean up oscillator(s) to the reference input(s).

The ability to choose clean up oscillators on one or both inputs enables the user to perform cost-performance trade offs not available in other products.

Applications for the Model FDU-240 include reliable signal distribution in systems designed for satellite ground stations, secure military communications and range timing.

## FDU-240 Specifications

### Reference Frequency Inputs

Connector	Two rear panel BNC's
Amplitude	0.5Vrms – 1Vrms
Input Impedance	50 Ohms
Frequency	10 MHz

### Fault Discrete Input

Number of Inputs	2
Connector	DB9
Level	TTL
Active level	Link selectable, high or low

### Sine Wave Outputs<sub>1</sub>

Number of Outputs	24
Connector	BNC
Frequency (MHz)	Same as input
Level	+13, ± 2 dBm into 50 Ohms

### SSB Phase Noise (with clean-up osc. Option)

Offset (Hz)	dBc/Hz
1	-60
10	-110
100	-140
1000	-150
10,000	-155

**Harmonics** 30 dBc

**Spurious** -80 dBc

### Stability

Without clean-up option	Same as input
With clean-up option	±3 X 10 <sup>-9</sup> , 0° to +50°C

### Aging

Without clean-up option	Same as input
With clean-up option	5X10 <sup>-7</sup> per year

### Environmental-Physical-Power

Temperature	
Operating	0 to + 50°C
Storage	-40 to +85°C
Humidity	To 95% non-condensing
Power	115/230 Vac 50/50 Hz, <25 W
Optional Power	18-36 Vdc, 36-72 Vdc, -48Vdc
Dimensions	19 inch Rack Mount, 1.73 inches high (1U) 14.5 inches deep
Weight	7.5 lb typical
EMC Emission	To EN50081-1 as EN55022
EMC Immunity	To EN50082-1 as EN1000-4-2 ESD, IEC 801-3 HF Field, IEC 801-4 Burst

### Options

Frequency <sub>1</sub>	Replace 10MHz with 5MHz
One clean-up oscillator	
Two clean-up oscillators	

## UNITRONIX Pty Ltd

PO Box 486, Morisset NSW 2264

NSW: Tel: 61 2 4977 3511 Fax: 61 2 4977 3522

WA: Tel: 61 8 9455 2424 Fax: 61 8 9455 2458

unitsyd@unitronix.com.au www.unitronix.com.au

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