

## IRG Series

### Rack Mounted, Reference Generation Units.



#### Reference Generator Products;

<b>IRG01</b>	single output
<b>IRG02</b>	2-way output
<b>IRG04</b>	4-way output
<b>IRG08</b>	8-way output
<b>IRG12</b>	12-way output
<b>IRG16</b>	16-way output

For equivalent remote mount units, please see PRG series.






The 19 inch, 1U rack mounted **IRG series** of reference generation & distribution units from Peak Communications are designed to provide highly stable reference generation coupled with multi-way fan-out, primarily for satellite earth station applications.

The **IRG series** units are mains powered and are constructed of high-grade components to give the ultimate in stability.

Reference signal fan-out distribution has many advantages over cascade methods, including: no down-stream equipment loss of lock or mismatches associated with in-service cabling modifications, optimised & balanced signal levels presented to each connected unit, no loss of signal level when compared to a passive cascade approach.

These units can be provided to give reference signals of 5, 10, 50 or 100MHz and are supplied with an optional external reference input to synchronise to the station clock, in which case the internal reference generation circuitry provides a back-up which detects the absence (in the event of a station clock failure or disconnection of the external reference) of the external reference and automatically switches back to the internal reference system.

#### Peak Features

-  High stability internal reference, with automatic external reference detection & locking
-  Compact with up to 16-way fan-out in a single 1RU chassis
-  Ideal signal levels presented to connected equipment
-  Optional BUC/ BDC/ LNB powering
-  Customising available



## IRG series – Typical Specification

### Performance (IRGxx)

Ways (xx)	01, 02, 04, 08, 12 & 16-way available
Frequency	10MHz
Option 3a;	5MHz
Option 3b;	50MHz
Option 3c;	100MHz

### Stability;

Allan deviation	<5 x 10 <sup>-12</sup> over 1s
Ageing	<3 x 10 <sup>-10</sup> per day, <3 x 10 <sup>-8</sup> per year
Temp stability	<2 x 10 <sup>-9</sup> over -10 to 50°C

Phase noise	-110dBc/Hz at 10Hz
	-130dBc/Hz at 100Hz
	-145dBc/Hz at 1kHz
	-150dBc/Hz at ≥10kHz

Output level 0dBm nominal

*Note: for higher output level options please contact the factory*

Output connections BNC (f), 50Ω

### High stability (Option 4)

Allan deviation	<3 x 10 <sup>-12</sup> over 1s
Ageing	<2 x 10 <sup>-10</sup> per day, <2 x 10 <sup>-8</sup> per year
Temp stability	<3 x 10 <sup>-9</sup> over -10 to 50°C
Phase noise	-130dBc/Hz at 10Hz
	-140dBc/Hz at 100Hz
	-155dBc/Hz at 1kHz
	-160dBc/Hz at ≥10kHz

### Reference 'Monitor' (Option 2a, 2b)

Level	-20dBm ±3dB
Connector	BNC (f), 50Ω
Option 2a;	Front panel monitor port
Option 2b;	Rear panel monitor port

### External Reference Input with automatic detection & locking

Frequency	10MHz (5MHz factory settable)
Level	0dBm ±3dB
Connector	SMA (f), 50Ω

### BUC/ BDC/ LNB DC drive (Option 5)

Provides switchable power to BUC/ BDC/ LNB via D-Type connection

Voltage	+17 to +24VDC (factory settable)
Current	500mA typical
Control	Rear panel manual switching
Connection	9-way, D-Type

*Note: for other power connection, power or level configurations, please consult the factory.*

### Mechanical

Width	19", standard rack mount
Height	1U (1.75")
Depth	250mm, plus connectors
Construction	Aluminium chassis
Weight	Approx. 2kgs (4.5lbs)

### Environmental

Operating temp	-10°C to +50°C
EMC	EN55022 part B & EN50082-1
Safety	EN60950

### Power supply

Voltage	90-264VAC
Frequency	47-63Hz
Power	30 Watts max.
Redundancy (Option 7)	provides a redundant power supply configuration with separate prime power inputs

### Control System Interface

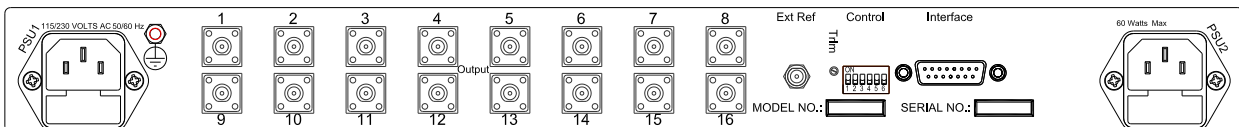
Discrete 'alarms interface'	PSU fail External reference failure
Connection	D-Type, 15-way

### Options

- 2a) Reference front panel monitor port
- 2b) Reference rear panel monitor port
- 3a) 5MHz reference system
- 3b) 50MHz reference system
- 3c) 100MHz reference system
- 4) High stability internal reference
- 5) BUC/ BDC/ LNB DC drive, switchable, via D-Type connection
- 7) Redundant power supplies

*Note: the addition of options can modify the typical specification, for details please consult the factory*

## Rear panel view (16-way output version shown)



Peak Communications reserves the right to alter the specifications of this equipment without prior notice. IRGseries-210920.

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