IRG Series

Rack Mounted, Reference Generation Units.

Reference Generator Products;

IRG01	single output
IRG02	2-way output
IRG04	4-way output
IRG08	8-way output
IRG12	12-way output
IRG16	16-way output
IRG24	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^{-12} over 1s
Ageing	<3 x 10^{-10} per day, <3 x 10^{-8} per year
Temp stability	<2 x 10^{-9} over -10 to 50^{0}C
Phase noise	-110dBc/Hz at 10Hz
	-130dBc/Hz at 100Hz
	-145dBc/Hz at 1kHz
	-150dBc/Hz at ≥10kHz
Output level	0dBm nominal
Option 8a;	+10dBm 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^{-12} over 1s
Ageing	<2 x 10^{-10} per day, <2 x 10^{-8} per year
Temp stability	<3 x 10^{-9} over -10 to 50^{0}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), 50Ohm
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), 50Ohm

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")

Note: 24-way units and above offered in a 2RU chassis size.

Depth	250mm, plus connectors
Construction	Aluminium chassis
Weight	Approx. 2kgs (4.5lbs)

Environmental

Operating temp	-10^{0}C to +50^{0}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

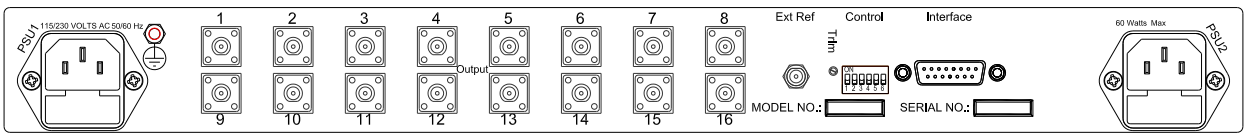
Discrete 'alarms	PSU fail
interface'	External reference failure
Connection	D-Type, 15-way

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
8a) Higher output power level to +10dBm nominal

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

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



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