

PRG Series

Remote Mounted, Reference Generation Units.



The **PRG series** remote mounted 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.

Reference signal fan-out distribution has many advantages over cascade methods, including: no downstream 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.

The **PRG series** units are DC powered and are constructed of high-grade components to give the ultimate stability performance.





The **PRG series** units utilise a sealed chassis and are designed for mounting in outdoor, exposed locations and are fully weatherproof.

Reference Generator Products;

- PRG01** Single output
- PRG02** Dual outputs
- PRG04** Quad outputs
- PRG06** Six outputs
- PRG08** Eight outputs

For equivalent rack mount units, please see IRG series.

Peak Features

-  High stability internal reference, with automatic external reference detection & locking
-  Compact with up to 8-way fan-out
-  Ideal signal levels presented to connected equipment
-  Rugged weatherproof housing



PRG series - Typical Specification

Performance (PRGxx)

Ways (xx) 1 to 8-way available
 Note; 8-way and above offered in a larger chassis size, please contact the factory for details

Frequency 10MHz
 Option 3a; 5MHz
 Option 3b; 50MHz
 Option 3c; 100MHz
 Stability $<5 \times 10^{-10}$ over 1s, $<5 \times 10^{-9}$ per day
 Ageing $<5 \times 10^{-7}$ per year
 Temp stability $<5 \times 10^{-8}$ over 0 to 50°C
 Phase noise
 -110dBc/Hz at 10Hz
 -130dBc/Hz at 100Hz
 -145dBc/Hz at 1kHz
 -150dBc/Hz at ≥ 10 kHz

Output level 0dBm nominal
 Note; for higher GCP options please contact the factory
 Output connections TNC (f), 50Ω

High stability (Option 4)

Stability $<2 \times 10^{-12}$ over 1s, $<2 \times 10^{-10}$ per day
 Ageing $<2 \times 10^{-8}$ per year
 Temp stability $<2 \times 10^{-9}$ over 0 to 50°C
 Phase noise
 -130dBc/Hz at 10Hz
 -140dBc/Hz at 100Hz
 -155dBc/Hz at 1kHz
 -160dBc/Hz at ≥ 10 kHz

External Reference Input

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

Mechanical

Width 123mm (4.85")
 Height 172mm (6.8"), plus connections & mounting flanges
 Depth 59mm (2.32")
 Construction Die-cast Aluminium, IP66 rated
 Weight 1.4kgs (3lbs) approx

Environmental

Operating temp
 Option 12; -25°C to +55°C (less solar gain)
 -40°C to +55°C (less solar gain), with extended warm-up time for cold start operation & higher current
 Humidity 0-100% condensing
 EMC EN 55022-part B & EN 50082-1
 Safety EN 60950

Power Supply

Voltage +16.5 to +35VDC
 Current 500mA max
 Connection Fed in on 5-pin control interface connection

Control System Interface

Alarms Summary alarm contacts
 Connection 5-pin circular weatherproof (mating part supplied)

Options

- 3a) 5MHz reference system
- 3b) 50MHz reference system
- 3c) 100MHz reference system
- 4) High stability internal reference
- 12) Low temperature operation to -40°C

Connector panel view (sample)

