INMARSAT C- and L-Band Pilot Generators

This series of Pilot Generators is designed to operate in INMARSAT satellite communication terminals.

Frequency of Operation	Model Number
6410–6475 MHz	PG-C-INMST
1610–1670 MHz	PG-L-INMST

Features

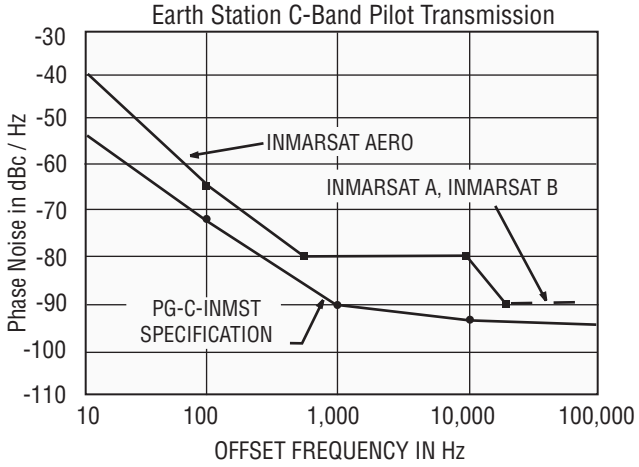
- External 5 MHz reference
- 1 kHz frequency step size
- Low phase noise
- Summary alarm
- Local and remote control
- Digital attenuation control
- Nonvolatile memory

Specifications

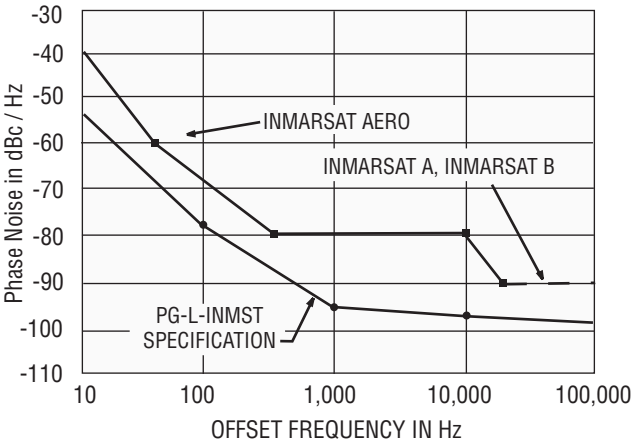
Output characteristics	
Frequency	
PG-C-INMST	6410–6475 MHz
PG-L-INMST	1610–1670 MHz
Frequency step size	1 kHz
Impedance	50 ohms
Return loss	20 dB minimum
Power output	0 dBm nominal
Output mute	60 dB minimum
Spurious output	65 dB minimum
Level adjustment	30 dB
Level adjustment step size	0.2 dB
Reference characteristics	
Frequency	5 MHz (10 MHz optional)
Power	+4 ±3 dBm
Impedance	50 ohms

Phase Noise Specifications

INMARSAT Phase Noise Characteristics
(1.0 Hz Bandwidth)
Earth Station C-Band Pilot Transmission



INMARSAT Phase Noise Characteristics
(1.0 Hz Bandwidth)
Earth Station L-Band Pilot Transmission



Options

8. Output level alarm.

10. Internal 5 MHz crystal oscillator reference.

A. $\pm 2 \times 10^{-8}$ (0 to 50°C),
$\pm 5 \times 10^{-9}$ /day typical (fixed temperature after 24 hour on time).

B. $\pm 1 \times 10^{-8}$ (0 to 50°C)
5×10^{-9}/day typical (fixed temperature after 24 hour on time).

C. $\pm 5 \times 10^{-9}$ (0 to 50°C)
1×10^{-9}/day typical (fixed temperature after 24 hour on time).

D. $\pm 2 \times 10^{-9}$ (0 to 50°C)
1×10^{-9}/day typical (fixed temperature after 24 hour on time).

17. Remote control.

A. RS422.

B. RS485 (supplied as standard).

C. RS232.

D. Contact closure selection of up to sixteen preprogrammed frequencies.

E. IEEE-488.

F. BCD contact closure.

19. Input prime voltage -48 VDC.
Connector MS3102E10SL-3P
PIN A. -48 VDC
PIN B. Common
PIN C. Chassis ground

22. Dedicated remote control panel. Provides remote control and status over a dedicated RS485 bus. Option 17B (RS485 remote bus) must be ordered.

23. Reference configuration (must be ordered with Option 10).

B. An internal 5 MHz reference is provided. The internal 5 MHz reference is brought out of and back into the rear panel with a “U-link” coaxial cable (BNC connectors). This allows, after “U-link” removal, insertion of an external 5 MHz reference input (+4 ±3 dBm).

C. Internal/external reference selection. An SPDT switch is used to select either the internal 5 MHz reference or an external 5 MHz reference. External 5 MHz reference input is through a rear panel BNC female connector (+4 ±3 dBm). Reference selection is controlled from a rear panel toggle switch.

D. Automatic reference switchover. An internal 5 MHz reference and rear panel connector for external reference input (±4 ±3 dBm) is provided. The converter oscillators will lock to the external reference. If external reference is not present, the converter oscillators will automatically lock to the internal reference.

24. 10 MHz reference frequency.

Note: Missing option numbers are not applicable for this product.

Note: For literature describing the local control (front panel) and remote control (bus protocols), refer to MITEQ Technical Note 25T019.

General Specifications

Primary Power

Voltage	100, 120, 220, 230/240 VAC +10%, -13% (rear panel selectable)
Frequency	47–63 Hz
Power consumption	160 W maximum

Summary Alarm

Contact closure/open for DC voltage alarm

Contact closure/open for DC voltage and/or LO alarm

Physical

Weight	20 pounds (9.07 kg) nominal
Overall dimensions	19" [482.6mm] x 3.5" [88.9mm] panel x 22" [558mm] maximum (chassis depth 20" [508mm])
Front panel connector	
Output monitor	SMA female
Rear panel connectors	
Output	N female
Reference input	BNC female
Remote interface	DEM-9S for RS485 and RS422, DB-25P for RS232, DB-25S for contact closure, IEEE-488 receptacle for GPIB
Summary alarm	DE-9P
Redundancy alarm	DE-9P

Environmental

Operating	
Ambient temperature	0 to 50°C
Relative humidity	Up to 95% at 30°C
Atmosphere pressure	Up to 10,000 feet
Nonoperating	
Ambient temperature	-50 to 70°C
Relative humidity	Up to 95% at 40°C
Atmospheric pressure	Up to 40,000 feet
Shock and vibration	Normal handling by commercial carriers

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