NSGDatacom Inc.

Model 1280T - PSK

Tactical/Airborne HF Data Modem

- **Airborne Qualified**

- **Multi-Mode PSK or FSK**

- **Synchronous or Asynchronous Operation**

- **Full or Half Duplex Operation**

- **Built-in Test Capability**

- **Excision Filtering**

- **KG-84/KG-84C Compatible**

The Model 1280T - PSK is a high performance, multi-mode HF data modem capable of transmitting and receiving up to 4800 bits per second in a standard 3KHz sideband HF radio channel. Packaged in a ruggedized tactical/airborne enclosure, the modem has been qualified as meeting the rigid environmental requirements for shock, vibration, temperature, EMI, acceleration, altitude, immersion and other extreme environmental conditions. The Model 1280T - PSK utilizes ATR style mounting for seamless installation in any airborne or tactical platform.

Designed to meet the performance requirements of MIL-STD-188-110A, STANAG 4285, STANAG 4529, and STANAG 4481, the Model 1280T - PSK provides additional flexibility due to its compatibility with other widely used FSK modems. It features full duplex / half duplex operation, and a synchronous or asynchronous DTE interface.

A powerful adaptive equalizer eliminates the detrimental effects of multipath associated with HF transmissions, and convolutional coding with soft decision Viterbi decoding provides error detection and correction. Protection against co-site interference is provided by excision filtering, which automatically removes unwanted interfering signals.

Additional operational modes can be supported with the modems powerful Digital Signal Processing (DSP) design, and expanded memory. Standard Flash memory provides the ability to perform software upgrades in the field.

1280T - PSK Specifications

Model 1280T - PSK

Environmental

Shock: Operational: RTCA/DO-160-C, Section 7, Paragraph 7.2
Bench Handling: MIL-STD-810E, Method 516.4, Procedure VI

Vibration: BS 3G.100: Part 2: Section 3: Subsection 3.1
MIL-STD-810D, Method 514.3, Category 8

Temperature: BS 3G.100: Part 2: Subsection 3.2 aircraft class 2
subsonic, Grade "A".
Operating - 30 C to +55 C,
Non-Operating -40 C to +90 C;
In-Flight -15 C to +36 C.

Rapid Decompression: RTCA/DO-160-C, Section 4, Paragraph 4.6.2

Overpressure: RTCA/DO-160-C, Section 4, Paragraph 4.6.3

Acceleration: BS 3G.100: Part 2: Section 3, Subsection 3.6 Normal: Grade "D", Crash: Grade "G"

Magnetic Influence: RTCA/DO-160-C, Section 15, Equipment Class "Z"

Immersion: MIL-STD-810D, Method 512.2, Procedure I, Basic Leak

Humidity: MIL-STD-507.2, Procedure III, Humidity Cycles

Fungus: MIL-STD-810D, Method 508.3, 28 days

Sand and Dust: MIL-STD-810D, Method 510.2, Procedure I, Blowing Dust

Salt Fog: MIL-STD-810D, Method 509.2, 5% salt solution for 48 hours

Interfaces

Data: MIL-STD-188-114, MIL-STD-188C,
EIA-RS-422 and EIA-RS-432 compatible
(synchronous or asynchronous)

Audio: 600 ohms balanced and isolated

Serial Tone Mode

Data Rates:
75, 150, 300, 600, 1200, 2400 and 4800 bps

Interoperability:
- MIL-STD-188-110A
- STANAG 4285
- STANAG 4529

Modulation:
8-ARY PSK at 2400 symbols per second

Error Detection and Correction:
Convolutional coding with soft decision
Viterbi decoding

Interleaving:
Selectable at 0.6 or 4.8 seconds or no interleaving.

FSK Mode

Data Rates:
50, 75, 100, 150, 300, 600 and 1200 bps

Modulation:
Phase continuous binary FSK

Mark/Space Frequency:
300 to 3000 Hz (selectable in 1 Hz increments)

Shift:
85 to 1200 Hz

Physical

Size: ¾ ATR
7.6" (19.3 cm) H
X 7.5" (19.05cm) W
X 15.8" (40.13cm) D

Weight: 15 lbs (6.8kg)

Dual Rack: Adaptor for 19" rack mount of two
1280Ts, 1280TAs or KG-84As

Electrical

Power: Source: 11 to 32 VDC
Dissipation: 35 watts maximum

AC/DC Supply:
AC from 90 to 265 volts
DC from 11 to 32 volts

- **Remote Controllable**
- **AC/DC Power Options**
- **Non-Volatile 10 Channel Memory**
- **RX Clock Recovery**
- **Internal or External Clock**

Specifications subject to change without notice.

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