THE PES™ 5000 IS A HIGH-PERFORMANCE, FLEXIBLE VERY SMALL APERTURE TERMINAL (VSAT) THAT SUPPORTS HIGHLY RELIABLE TWO-WAY DATA, VOICE AND MULTIMEDIA AND ONE-WAY VIDEO COMMUNICATIONS. ORGANIZATIONS LOOKING TO ESTABLISH EFFICIENT, RELIABLE AND COST-EFFECTIVE LAN/WAN CONNECTIVITY BETWEEN MULTIPLE, GEOGRAPHICALLY DISPERSED LOCATIONS SHOULD LOOK NO FURTHER THAN THE PES.

Designed modularly, the PES family of VSATs can be seamlessly customized at each remote location providing the most scalable VSAT solution in the industry.

As the most widely used VSAT in the world with over 250,000 in operation, the PES provides:

- Built-in IP router functionality eliminating the need for external routers.
- Concurrent multi-protocol support, capable of simultaneously carrying SDLC, X.25, TCP/IP with IP routing, SLIP, PPP and several other LAN protocols in bridged mode, and voice.
- Broadband IP-access seamlessly coexisting with and complementing HNS’ DIRECWAY™ platforms.
- Integrated Voice over IP (VoIP) capability using ITU-T G.729 (8 Kbps) voice compression and ITU-T H.323 recommendations for multimedia communications over the Internet.
- Efficient use of space segment employing the unique TDMA Flexroute™ satellite access technique and efficient LAN/WAN data compression.
- Optimal application response times and throughput using protocol and application prioritization.

- Ease of implementation and rapid deployment.
- Unparalleled reliability with field proven MTBF of over 100,000 hours.

The PES 5000 is optimized to support numerous applications across a wide cross section of vertical industry segments such as Banking and Financial, Retail, Automotive, Retail Petroleum/Convenience Stores, Lottery, Internet Service Providers (ISPs) and more.

APPLICATIONS

- LAN internetworking.
- Point Of Sale (POS) transactions
- Distance Education and Training
- Multimedia (Video, Audio) Delivery
- Voice
- SCADA
- Batch File Transfer
- Inventory Control
- Automatic Teller Machine (ATM)
- Internet/Intranet Access
- Lottery Transactions
- Fax and Image transfer
PERSONAL EARTH STATION

NETWORK ARCHITECTURE

TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ku-band, C-band</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DATA RATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asynchronous:</td>
</tr>
<tr>
<td>Synchronous:</td>
</tr>
<tr>
<td>Up to 19.2 Kbps</td>
</tr>
<tr>
<td>1.2-64 kbps (Standard rates)</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>PORTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard:</td>
</tr>
<tr>
<td>Optional:</td>
</tr>
<tr>
<td>Up to 4 serial ports with LAN</td>
</tr>
<tr>
<td>2 voice ports</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>INTERFACES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data:</td>
</tr>
<tr>
<td>LAN:</td>
</tr>
<tr>
<td>Voice:</td>
</tr>
<tr>
<td>RS-232, RS-422, or V.35</td>
</tr>
<tr>
<td>Ethernet: 10BaseT Token-Ring: Type 1, Type 3</td>
</tr>
<tr>
<td>RJ-11 two-wire loop start</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ANTENNA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ku-band: 0.98, 1.2, 1.8, and 2.4 meters</td>
</tr>
<tr>
<td>C-band: 1.8 and 2.4 meters</td>
</tr>
<tr>
<td>RF Power: 0.5, 1.0 and 2 watt (Ku-band) 2 watt (C-band)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OUTROUTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>512, 128 Kbps</td>
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</table>

<table>
<thead>
<tr>
<th>INROUTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>256, 128, 64 Kbps</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>PROTOCOL SUPPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethernet (10 Mbps)</td>
</tr>
<tr>
<td>Token-Ring:</td>
</tr>
<tr>
<td>Transparent Bridging:</td>
</tr>
<tr>
<td>SDLc to Token Ring</td>
</tr>
<tr>
<td>X.25</td>
</tr>
<tr>
<td>BSC 3270</td>
</tr>
<tr>
<td>Bit and Byte Transparent</td>
</tr>
<tr>
<td>HASP</td>
</tr>
<tr>
<td>Frame Transparent</td>
</tr>
<tr>
<td>X.3/X.28/X.29 PAD</td>
</tr>
<tr>
<td>Broadcast</td>
</tr>
<tr>
<td>Telnet</td>
</tr>
<tr>
<td>SLIP/PPP</td>
</tr>
<tr>
<td>TCP/IP</td>
</tr>
<tr>
<td>Specialized Protocols</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROTOCOL SUPPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/16 Mbps (optional)</td>
</tr>
<tr>
<td>SDLC (PU4-PU2, PU4-PU4)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BIT ERROR RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1x10^-7 at threshold</td>
</tr>
<tr>
<td>1x10^-9 typical</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPERATING TEMPERATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outdoor Equipment</td>
</tr>
<tr>
<td>Indoor Equipment</td>
</tr>
<tr>
<td>-30°C to +55°C</td>
</tr>
<tr>
<td>+10°C to +40°C</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>POWER</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-264 VAC, 47-63 Hz</td>
</tr>
<tr>
<td>-24 VDC</td>
</tr>
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</table>

Customized protocols and configurations may be available. Please contact your local HNS representative for details.

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