The Serial Hawke connects VMEbus computers to military computers and peripherals with MIL-STD-1397C Type D (NTDS Serial) and E (Low Level Serial) interfaces. But it’s capabilities go far beyond those of a conventional I/O board. It’s architecture is unique in the industry because it combines the power and reliability of a 32-bit MC68020 processor and an industry standard VMEbus interface controller. With onboard memory, an onboard debugger, and the ability to run C or assembly language programs from RAM or EPROM, the Serial Hawke is a powerful and versatile single board computer with a full duplex NTDS I/O channel. The Serial Hawke supports distributed processing with the ability to run user applications onboard, which improves VMEbus bandwidth and offloads the host computer.

General Product Features

**TYPES D and E**
- MIL-STD-1397C, Type D and E compliant
- Full-duplex, 32-bit serial NTDS transfers at 10Mbits/sec.
- User-programmable MC68020 CPU
- Standard VMEbus Interface Controller (VIC) for 100% VMEbus compatibility
- High-speed, 32-bit Block Mode VME transfer

**TYPE E**
- Single word or burst mode NTDS transfers
- Fully configurable SIS/SOS control frames
- Ability to disable SIS/SOS for testing
- Programmable Sink and Source time-out counters
- Supports all MIL-STD-1397C System Integrity Features
- Parity error, framing error, illegal condition
- SIS time-out (No SIS control frame or IF from source)
- SOS or IF time-out (No SOS control frame response from Sink)
- Sink NOT READY time-out (SIS NOT READY control frame response from Sink)

- Supports Distributed Processing
- On-board Monitor and Debugger
- EPROM for User Applications
- 512KB RAM for NTDS I/O, CPU, and VMEbus access
- Dynamically allocate RAM for NTDS I/O or onboard programs
- User EPROM socket supports up to 1MB of user programs
- Parallel access to NTDS data and status words
- Independent word count registers and time-out counters for NTDS input and output
- Independent transmit and receive transaction cancel
- Maskable interrupts
- Built-in Test (BIT) with internal loopback capability
- Built-in, menu-driven System Monitor program links Serial Hawke to PC or terminal via RS-232C port
- Built-in Assembler/Disassembler and Debugger
- Perform loopback and basic NTDS operations from a menu-driven interface without software
- Perform internal loopback without disconnecting cables
- Front panel LEDs for Reset, Bus Error, User, Halt, Test and Watchdog timer
- Up to 16 Serial Hawke boards may be used in a single VMEbus system
Software Drivers Available*

- SNAPs
- PowerIO

(Operating Systems supported by PowerIO™ drivers and includes: Windows NT®, VxWorks®, Solaris™, Linux®, HP-UX)

*Contact factory for new OS support

### Hawke VME NTDS Serial D and E Technical Specs

<table>
<thead>
<tr>
<th>Specification</th>
<th>D Details</th>
<th>E Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTDS interface</td>
<td>MIL-STD-1397C, type D</td>
<td>MIL-STD-1397C, type E</td>
</tr>
<tr>
<td>VMEbus interface</td>
<td>VME revision C.1 (IEEE P1014)</td>
<td></td>
</tr>
<tr>
<td>Processor</td>
<td>MC68020, 32 bit CPU</td>
<td></td>
</tr>
<tr>
<td>RAM</td>
<td>512 KB</td>
<td></td>
</tr>
<tr>
<td>NTDS I/O connector D</td>
<td>2 BNC isolated coaxial, (Amphenol P/N 31-10-75)</td>
<td>2 tri-axial –isolated, (Trompeter P/N BJ77TL)</td>
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<tr>
<td>RS-232C connector</td>
<td>DB9 male</td>
<td></td>
</tr>
<tr>
<td>Form factor</td>
<td>Single-wide 6U eurocard</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>540 g (1 lb. 3 oz.)</td>
<td></td>
</tr>
<tr>
<td>Power consumption</td>
<td>+5Vdc @ 2.6A</td>
<td>-12Vdc @ 60mA</td>
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<tr>
<td>Relative humidity</td>
<td>0% to 90% (non-condensing)</td>
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</tr>
<tr>
<td>User EPROM</td>
<td>8KB to 1MB supported</td>
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</tr>
<tr>
<td>Operating temperature</td>
<td>0°C to +55°C</td>
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</tbody>
</table>

Specifications subject to change without notice (E and OE)