Multidrop capability reduces cost
- Differential line drivers and receivers provide ±7 V common-mode noise rejection
- Software transparent link
- Supports up to 1,000-ft cables
- Supports the configuration of large I/O systems
- Supports 8-, 16-, and 32-bit data transfers
- Supports 16-bit addressing
- Double Eurocard form factor
- Link includes one master board, one slave board, and a wide variety of cable length options
- DIN-type I/O connectors
- Supports up to 16 slave-only chassis per master
- Slave chassis is placed in reset if master chassis is powered down or cables are disconnected

OVERVIEW — The VMIVME-5504L is designed to use a single master repeater board which may be connected to as many as 16 slave repeater boards using a single pair of cable assemblies with cable taps. This configuration allows VMEbus slave I/O boards residing in one VMEbus chassis to be controlled by a VMEbus master residing in another chassis. The VMEbus chassis in which VMEbus masters reside is referred to as a master chassis, while the VMEbus slave boards reside in a slave chassis.

A typical multidrop configuration is shown in Figure 1. This design concept allows the user to configure large I/O subsystems using a minimum number of slots in the master chassis.

For users who require dedicated, high-performance, long-line links, a single master VMIVME-5504 Master may be connected to a single VMIVME-5504 Slave as shown in Figures 2 and 3.

Detailed specifications are shown on page 2. The signals which are regenerated from the master VMEbus to the slave VMEbus are summarized below. Note that this product does not support interrupts generated by slave boards in the slave chassis.

The VMIVME-REPEAT Link regenerates the following VMEbus signals:

- D00 to D31 SYSRESET*
- A01 to A15 SYSCLK
- DS0* LWORD*
- DS1* IACK*
- AS* SYSFAIL*
- AM0 to AM5 BERR*
- WRITE* DTACK*

Slave Chassis are placed in Reset if Master Chassis power is OFF or if the cables are disconnected. The VMIVME-5504 Slave supplies Power-on-Reset when Slave Chassis is powered up. The VMIVME-5504 slave board is the only board allowed to assert SYSRESET* in a slave chassis.
• Typical VMEbus cycle delay (for accesses across 10-ft cables)
  — Read delay 340 ns
  — Write delay 380 ns

PHYSICAL/ENVIRONMENTAL

**Temperature Range:** 0 to 65 °C, operating
-40 to 85 °C, storage

**Altitude:** Operation to 3,000 m

**Relative Humidity Range:** 20 to 80 percent, noncondensing

**Cooling:** Forced air convection (standard VME slot)

**Power Requirements:** VMIVME-5504 Master
+5 V at 2.0 A (maximum)
±12 V at 50 mA (maximum)
VMIVME-5504 Slave  +5 V at 2.1 A (maximum)

**MTBF:**
5504L: 117,800 hours (217°F)
5504M: 243,100 hours (217°F)
5504S: 228,600 hours (217°F)

STANDARD CABLE REQUIREMENTS

The VMIVME-5504L requires two cables each. Cables may be ordered from VMIC according to the following model numbers:

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Model Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Cable Assembly - 5 ft</td>
<td>VMIVME-000-64-005</td>
</tr>
</tbody>
</table>

NONSTANDARD CABLE REQUIREMENTS

The VMIVME-5504L requires two cables each.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Model Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>Cable Assembly - 10 ft</td>
<td>VMIVME-000-64-010</td>
</tr>
<tr>
<td>3.</td>
<td>Cable Assembly - 25 ft</td>
<td>VMIVME-000-64-025</td>
</tr>
<tr>
<td>4.</td>
<td>Cable Assembly - 50 ft</td>
<td>VMIVME-000-64-050</td>
</tr>
<tr>
<td>5.</td>
<td>Cable Assembly - 100 ft</td>
<td>VMIVME-000-64-100</td>
</tr>
<tr>
<td>6.</td>
<td>Cable Assembly - 150 ft</td>
<td>VMIVME-000-64-150</td>
</tr>
<tr>
<td>7.</td>
<td>Cable Assembly - 200 ft</td>
<td>VMIVME-000-64-200</td>
</tr>
<tr>
<td>8.</td>
<td>Cable Assembly - 250 ft</td>
<td>VMIVME-000-64-250</td>
</tr>
</tbody>
</table>

Nonstandard cable lengths have long lead delivery times. (Must consult the factory for price and delivery.)

TRADEMARKS

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Figure 1. Typical Multidrop Configuration

Figure 2. Typical Configuration Using a Dedicated Link
Figure 3. Multiple Dedicated Slave I/O Chassis