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Find the *Versalogic VL-7709b* at our website: ***Click HERE***

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- Manual PDF (2.2 MB)



VL-7709b

64 KB/256 KB Memory Board

Static RAM and/or ROM memory card.

Features

- 64 KB or 256 KB Capacity
- 16 or 20-bit Address Bus Decoding
- Accepts 8 KB or 32 KB RAM/ROM Parts
- 4-10 Year Data Retention with On-Board Battery Backup
- Write Protect Switches
- Programmable Bank Selection
- STD Z80, STD 80 Compatible
- MEMEX Signal Supported
- Individual Socket Disable Jumpers
- Extended Temperature Version (VL-77CT09)
- Enhanced Plug-In Replacement for Pro-Log's 7709

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Description

The VL-7709 Memory board is designed to give maximum flexibility in systems using 16 or 20-bit addressing. It can hold up to 256 KB of RAM, EPROM, or a combination of both. Up to four cards can provide up to one MB of directly addressed memory.

The battery backup feature and write-inhibit circuitry protects against data loss from power-out conditions and spurious write signals.

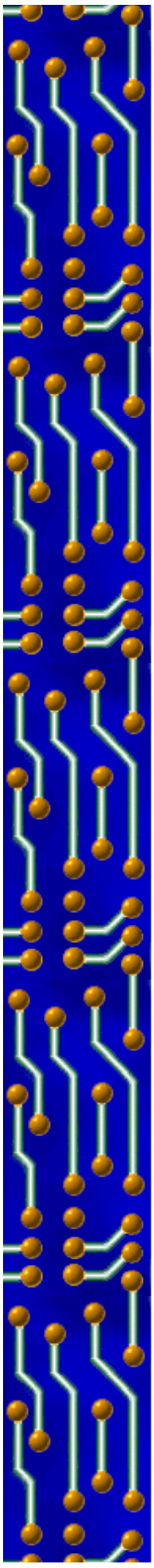
Bus Interface
Full data, address, and control line buffering is provided to and from the STD Bus.

Addressing
Both 16 and 20-bit systems are supported. The 20-bit mode is STD 80 compatible. It extends the system addressing capability by strobing and latching A16-A19 from the D0-D3 bus lines. The 20-bit addressing mode allows up to 1 megabyte of memory to be directly addressed by the CPU.

The 16-bit addressing mode is compatible with most 8-bit CPUs. It includes a programmable bank select control that allows 8-bit systems to address more than 64 KB of memory. Sixty-four banks of 32 KB or 64 KB of memory each can be selected by the processor for up to 4 megabytes of system memory. The bank select control port can be addressed at any I/O location (00h-FFh).

Both 16 and 20-bit addressing capacity can be doubled by using the MEMEX signal which is also decoded by the VL-7709.

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Memory Sockets and Chips
Eight 28-pin JEDEC compatible memory sockets accept either 8 KB or 32 KB RAMs and ROMs. Each of four pairs of sockets can be jumper configured for RAM/EPROM or ROM/PROM use, and to choose when they will be powered by the on-board battery when system power is lost. Each socket can be individually disabled, removing it from the memory map. The VL-7709 board has a capacity of up to 256 KB when 32 KB chips are used.

Memory chips used with the VL-7709 should be selected according to the capacity required, speed of the system CPU, and power required while in the standby mode (if the chip will be battery backed). The tables below detail these parameters.

Minimum RAM/ROM Access Times				
CPU Type	STD Z80	STD Z80	STD 80	STD 80
Operating Speed (MHz)	4	6	5	8
RAM/ROM Access Time (ns)	220	110	325	180

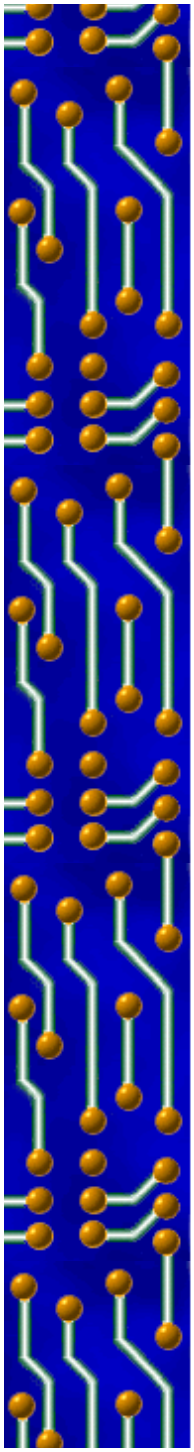
Typical Memory Devices	
8K RAM Hitachi HM6264LP* (2µA)** Toshiba TC5564PL* (0.01µA)**	**32K RAM** Hitachi HM62256LP* (2µA)** Toshiba TC55257PL* (2µA)**
8K PROM Intel 2764A Intel 27C64* Hitachi HN482764 Hitachi HN27C64 AMD AM2764A TI TMS2764	**32K PROM** Intel 27256 Hitachi HN27256 64 Hitachi HN27C6256* AMD AM27256
*CMOS part **Typical standby current	

Memory Mapping
With 20-bit addressing the VL-7709 can be located at any 64 KB (with 8 KB chips) or 256 KB (with 32 KB chips) boundary. With 16-bit addressing the board can be configured as 64 KB of memory, 64 KB of bank selectable memory, or as two overlapping 32 KB blocks of bank selectable memory.

Battery Backup
The battery backup feature provides automatic backup power for on-board RAMs. The high Amp/Hour lithium battery assures data retention for power outages of up to 10 years. The backup circuitry also monitors the system power level and protects on-board RAM from spurious writes during power up and power down. An LED indicator and a Battery Low output signal allow the condition of the battery to be monitored if desired.

Ordering Information

VL-7709b . . . . . 64 KB to 256 KB Memory Boards
VL-77CT09. . . . . Extended Temperature -40° to +85°C
VL-7709b-xxx . . . . . .64 KB to 256 KB Memory Boards with xxxK RAM



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Specifications

[Specifications are typical at 25°C with 5.0V supply unless otherwise noted]

Size:
Meets all STD Bus mechanical specifications

Storage Temperature:
VL-7709: -40° to +85°C
VL-77CT09: -40° to +85°C

Free Air Operating Temperature:
VL-7709: 0° to +65°C
VL-77CT09: -40° to +85°C

Power Requirements:
VL-7709:
5V ±5% @ 150 ma typ. (without on-board memory)
5V ±5% @ 175 ma typ. (with 8 low power RAMs)
VL-77CT09:
5V ±5% @ 150 ma typ. (without on-board memory)
5V ±5% @ 175 ma typ. (with 8 low power RAMs)

Memory Sockets:
Eight 28-pin JEDEC compatible

Battery Type:
Lithium

Battery Voltage:
3.5V nominal (2.5V min.)

Battery Capacity:
750 mAH

Data Retention Time/Battery Life (at 25°C):
64 KB (8Kx8 chips) @ 2µA/chip: 4 years
64 KB (8Kx8 chips) @ 0.01µA/chip: 10 years min.
256 KB (8Kx32 chips) @ 2µA/chip: 4 years

Bus Compatibility:
STD Z80: Full compliance, all bus speeds
STD 80: Full compliance, all bus speeds
STD 32: Memory slave, 20 bit addressing

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