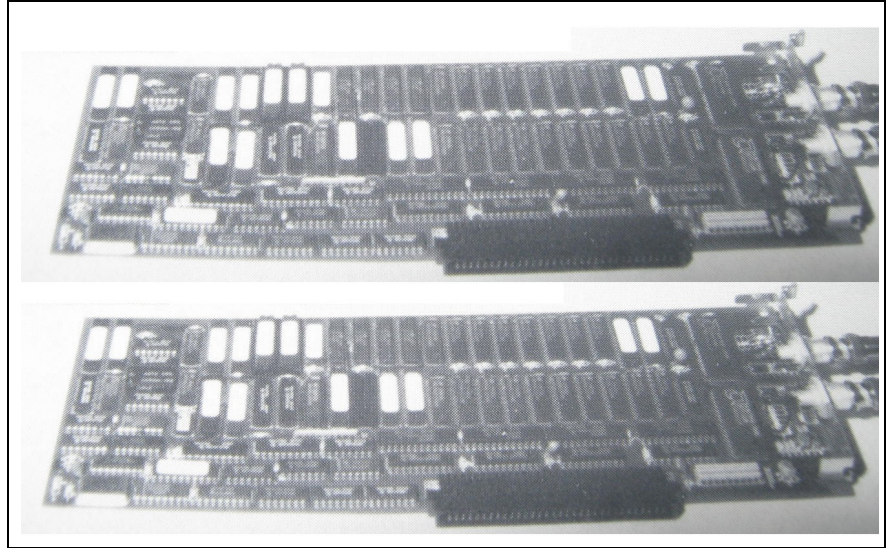


LL1000

NuBus to NuBus LINK

FEATURES

- High speed bus to bus link
- Fiber Optic or Coax Cable
- Up to 2Km system separation
- Programmable address windows
- Symmetrical Master/Slave operation
- Both busses run independently
- Remote Reset Function
- 32 Bit NuBus addresses
- 8/16/32 Bit data transfer
- Can Generate Interrupts



SUMMARY

LL1000 is a NuBus to NuBus link that allows the physical address space of one NuBus based computer to be mapped into that of another. Bus masters on either bus can have direct, random access to the other bus. Remote memory and IO devices appear to be within the local machine, even though they may be physically located up to 2Km away.

Up to 4096 address segments, or 'windows' on one of the busses can be mapped into the other bus. In addition, the addresses can be translated as they pass across the link.

The LL1000 does not tie up both systems when one is in use. Both systems may run independently.

The LL1000 links the systems over a pair of high speed fiber optic or coax cables. Fiber may span up to 2Km. The fiber cable provides the benefits of long distance, ease of installation, and high noise immunity.

APPLICATIONS

LL1000 and other Lextel Bus Links are being used to solve these kinds of problems:

- | | |
|------------------|--|
| BUS EXTENSION: | When equipment needs to be connected up to 2Km apart without loss of throughput. |
| BUS CONVERSION: | When one bus architecture needs to be used with another. |
| BUS EXPANSION: | When more bus slots are needed |
| NOISE IMMUNITY: | Fiber optics are immune to EMI, RFI and crosstalk. |
| HIGH SPEED DATA: | When a standard LAN isn't fast enough. |

Example Application areas are Test and Measurement, Control Systems, Factory Floor, and Image Transmission.



DESCRIPTION

Fiber Cable

Data is transmitted at 125Mhz on 62.5/125 um fiber cable. The fiber link may span up to 2Km, providing noise immunity, security, light weight and ease of installation.

Coax Cable

A lower cost alternative over distances up to 200ft. is Coax cable, which uses Dual conductor cable and Dual-BNC type connectors

NuBus Address Translation Map

Up to 4096 individual Local NuBus address windows can be mapped into the remote NuBus. The address can be translated prior to transmission to the remote bus.

Symmetrical Link

All operations are allowed from both ends of the link. This includes acquiring bus mastership, asserting interrupts, resetting the remote bus, and setting up programmable IO registers on the link boards.

Communication RAM

Unused portions of the Address Translation Maps can be used as a communication area between the two systems.

Interrupts

The NuBus NMRQ line can be asserted on the bus by asserting a bit in a control register. Thus, a Local processor can interrupt a Remote one simply by writing to a register on the Remote board.

Data Throughput

Maximum data throughput is 4MBytes/sec. Typical throughput will depend on the system and application software.

Block Data Transfer and Write Queing

These two performance enhancement features help speed data across the link, especially useful on long cable runs, where cable delay becomes a factor.

SPECIFICATIONS

NuBus

| | |
|-----------------|--------------------------------------|
| Power | 2.0A @+5VDC |
| Form Factor | PC Style (for MAC-II) |
| System Control | 25.6uS timeout |
| Address,Data | 32 Bits Address, 8/16/32 Bit Data |
| Slave Registers | 2 registers, 8KBytes Map/Comm Ram |
| Other | Can generate 'Try again Later', NMRQ |

FIBER CABLE

| | |
|------------|------------|
| Connectors | ST Bayonet |
| Cable | 62.5/125um |
| Length | 2Km max |

COAX CABLE

| | |
|------------|------------|
| Connectors | Dual BNC |
| Cable | RG-108A/U |
| Length | 200ft. max |

ENVIRONMENT

| | |
|-------------|--------------------------|
| Temperature | 5 to 50 degrees C |
| Humidity | 20% to 80% Noncondensing |

ORDERING INFORMATION

BUS LINKS

| | |
|--------|---------------------------|
| LL100x | NuBus-NuBus |
| LL200x | VMEbus-VMEbus |
| LL300x | NuBus-VMEbus |
| LL500x | ISA-ISA |
| LL510x | ISA-NuBus |
| LL520x | ISA-VMEbus |
| LL540x | ISA-TurboChannel |
| LL600x | TurboChannel-TurboChannel |
| LL610x | TurboChannel-NuBus |
| LL620x | TurboChannel-VMEbus |

| | |
|-----|---------------------|
| x = | 1:Coax, 200ft max |
| | 3:Fiber, 2Km max |
| | 4:Fiber, 1000ft max |

All Links include 2 circuit boards, user manuals, and sample software. Cable is ordered separately.

CABLE ASSEMBLIES

| | |
|--------|--|
| LC0xxx | Duplex Coax Cable Assembly, xxx = ft. |
| LFxxx | Duplex Fiber Cable Assembly, xxx = ft. |

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