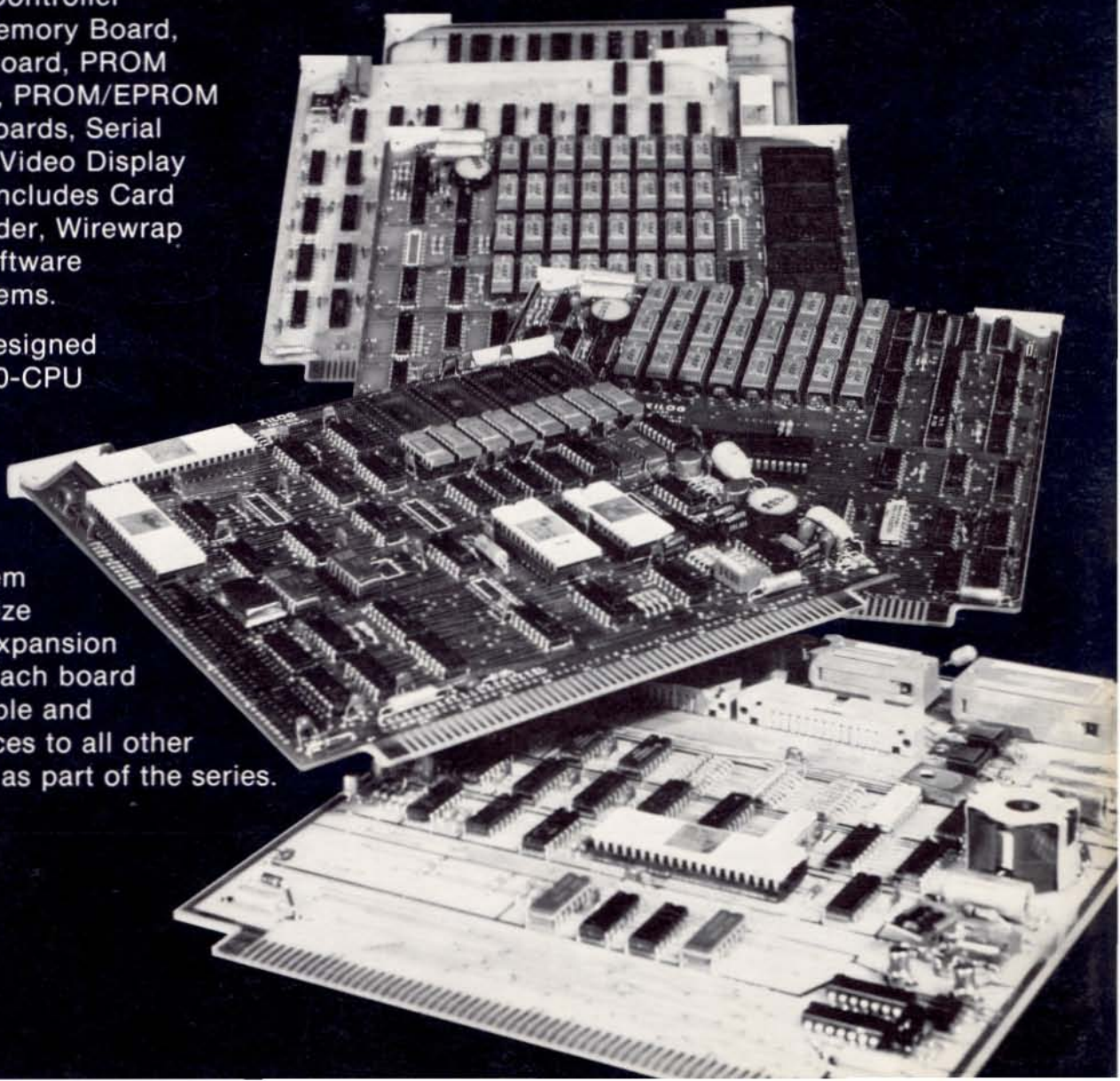




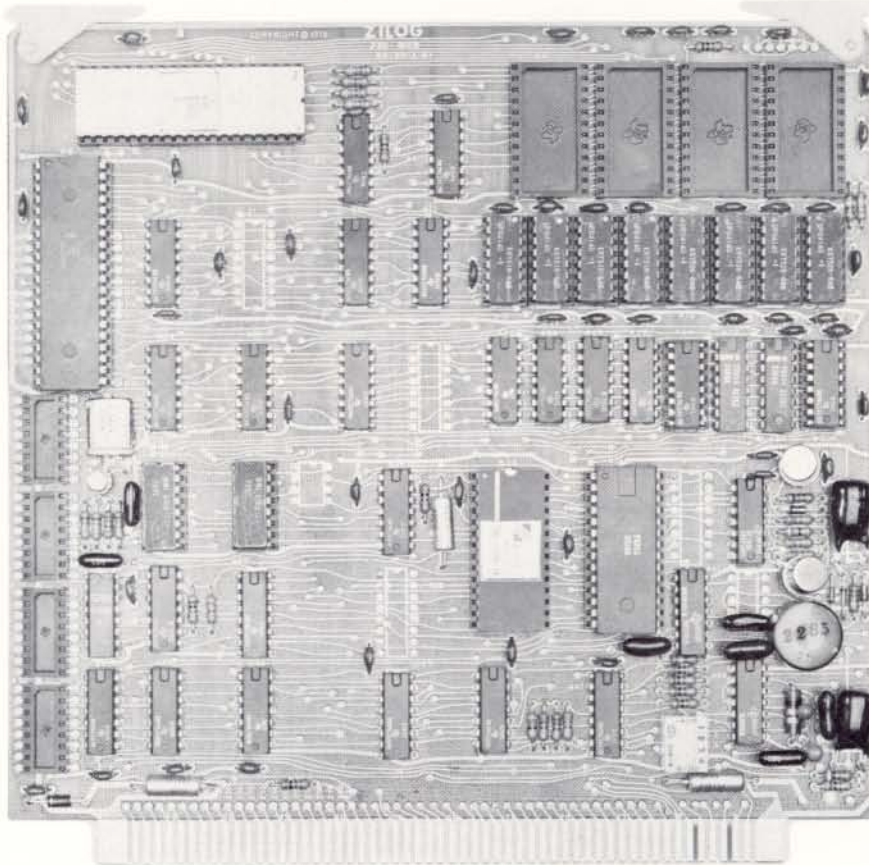
Z-80 Microcomputer Board Series

Zilog Z80 Microcomputer Board Series provides a modular approach to a complete computing and processing system. This series consists of a Microcomputer Board, Memory/Disk Controller Board, RAM Memory Board, Input/Output Board, PROM Memory Board, PROM/EPROM Programmer Boards, Serial I/O Board and Video Display Board. It also includes Card Chassis, Extender, Wirewrap Boards, and software as additional items.

The series is designed with Zilog's Z80-CPU processor and its 158 instruction set. It provides a very powerful computer system in a compact size with memory expansion to 64K bytes. Each board is bus compatible and directly interfaces to all other boards offered as part of the series.



Z80-MCB Microcomputer Board



The Z80-MCB Microcomputer Board is designed to operate as a complete single board computer including its own self-contained memory plus serial and parallel I/O ports. It features the use of Z80-CPU, Z80-CTC and Z80-PIO devices that have become standard of the microcomputer industry.

The MCB features the largest instruction set available and is designed to operate on a single 5-volt supply.

Features

- Z80-CPU single chip n-channel processor with 158 instructions (including all of the 8080A's and 8085's 78 instructions for total software compatibility). (See Z80-CPU Product Specification for additional details)
- 4K bytes of high speed, low power dynamic RAM.
- Strapping option available to allow the use of 16K X 1 dynamic RAM's in place of 4K X 1 RAM's presently installed.
- Capacity for 4K bytes of EPROM, PROM or masked ROM for user's program storage. Zilog monitor system firmware is available in 1K and 3K byte versions.
- Programmable full duplex serial I/O port with RS-232 or current loop interface. 14 separate BAUD rates from 50 BAUD to 38.4K BAUD.
- Bus drivers are provided for memory and I/O expansion to other boards included in this series.
- Universal parallel I/O can be programmed to define any direction and data-transfer characteristics for two 8-bit ports. Data transfer can be accomplished under full interrupt control.
- 19.6608 MHz crystal oscillator divided to 2.457 MHz for Z80-CPU operation and dividable by Z80-CTC for programmable BAUD rate generation.
- Monitor system firmware has terminal handler, set and display memory and register commands, breakpoints and floppy disk controller.

Specifications

Memory Capacity: 4K Bytes Dynamic RAM plus up to 4K bytes PROM, ROM or EPROM.

Expandable by use of Z80-RMB 16K RAM boards to 64K bytes of memory or with 16K RAM's.

I/O Channels: Serial I/O port with RS-232 or 20 MA current loop interface.

Two (2) software configurable bidirectional 8-bit parallel I/O ports.

Expansion: The MCB is bus compatible with all other boards in the series. Expansion of more I/O or memory is simply completed through the backplane being used.

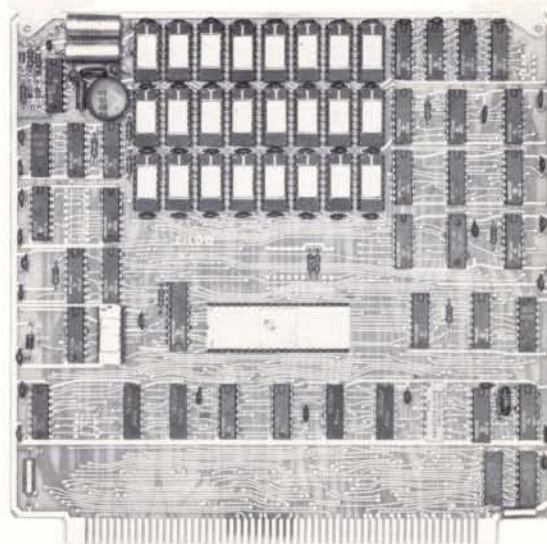
Z80-MDC

Memory/Disk Controller Board

The Z80-MDC Memory/Disk Controller Board provides 12K bytes of dynamic RAM memory for program or data storage plus a floppy disk controller that is capable of handling up to eight floppy disk drives.

Features

- MDC can control up to 8 floppy disk drives.
- 12K bytes of high speed dynamic RAM. Strapping option allows setting start address of each 4K byte page.
- Floppy disk controller allows all formatting and control to be done by the CPU.
- Optional PROM based software to control up to two Shugart 800 floppy disk drives. Provides all control functions and does all transfer from 32 hard sectors per track (77 tracks per disk).
- 16-bit CRC cyclic redundancy check.
- On board voltage converter provides voltages required from the single +5 volt input for the dynamic memory array.
- Strapping options allow utilization of 16K RAM's in place of present 4K X 1 RAM's being used in the board.



Specifications

Memory Capacity: 12K bytes using 4K bit dynamic RAM's.

I/O Channels: Two (2) bidirectional 8-bit parallel I/O ports. Capable of handling up to eight disk drives using daisy chain interconnect.

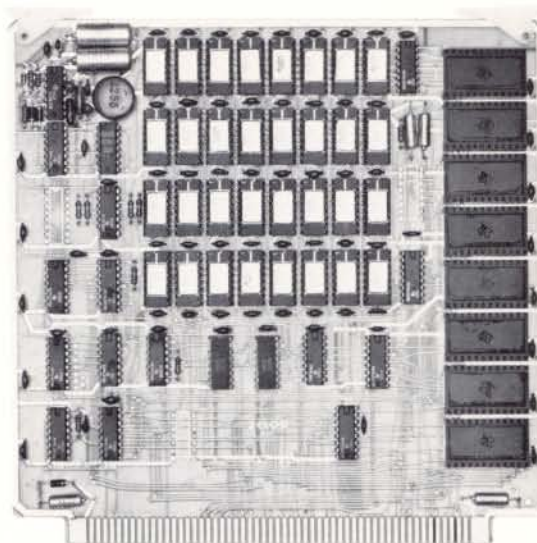
Z80-RMB

Memory Board

The RMB provides the Zilog Microcomputer family with additional 16K bytes RAM per board plus ROM or PROM capability. Jumper options allow the 16K bytes of RAM to reside in any segment of the 64K address space. The RMB also provides 8 sockets for additional PROM or ROM.

Features

- 16K bytes dynamic RAM per board.
- 8 sockets for up to eight ROM or PROM circuits per board.
- Strapping option allows the memory to reside in any segment of the 64K memory space.
- On board DC to DC voltage converter supplies voltages from single +5 volt supply for Dynamic RAM's.
- Strapping option allows use of 16K X 1 memory components in place of the installed 4K X 1 devices.



Specifications

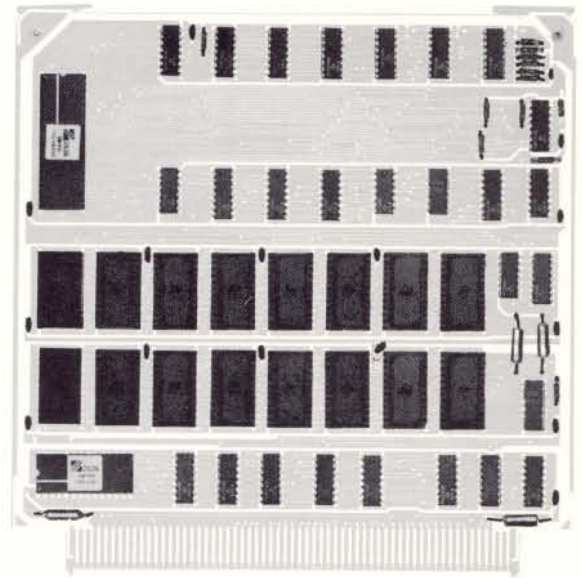
Memory Capacity: 16K bytes per card. Additional sockets for up to eight ROM, PROM or EPROM circuits per board.

Z80-PMB/PROM Memory Board

The PMB PROM Memory Board provides additional memory capability to the Zilog Microcomputer System. The board contains sockets for up to 32K bytes of ROM, PROM or EPROM. Jumper options allow each 16K bytes of memory to reside in any segment of the 64K address space. Universal parallel I/O can be programmed to define any direction and data transfer characteristics for two 8-bit ports.

Features

- 16 sockets for 32K bytes of ROM, PROM or EPROM.
- Single +5 power supply.
- Jumpers allow bank address selection.
- Universal parallel I/O can be programmed to define two 8-bit ports for a total card capability of 16 programmable I/O lines.
- Terminator/Driver sockets.
- Four programmable Counter/Timer channels.



Specifications

Memory Capacity: 32K bytes of ROM, PROM or EPROM

I/O Channels: Two 8-bit parallel I/O channels can be programmed for byte or bit transfer in either direction.

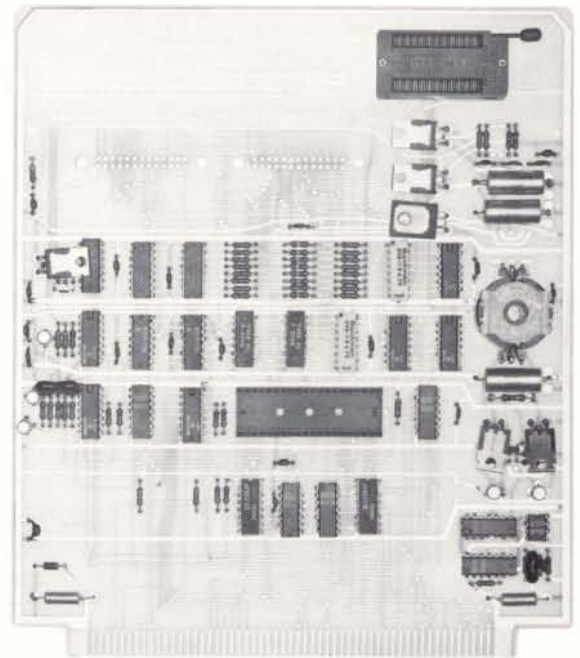
Counter/Timer Channels: Four Programmable Channels.

Z80-PPB/PROM Combination PROM/EPROM Programmer Board

The CPB/PROM Combination Board is a combination of the PPB/EPROM and the PPB/PROM Programmer Boards. It allows the Zilog Microcomputer user to program EPROMS of the 2704 or 2708 type and PROMS of the Harris 7620, 7621, 7640 or 7641 type. The board comes with zero insertion force sockets that are mounted on the top of the card. The card is inserted into the system and extends beyond the front end of the card cage to allow easy access to the sockets.

Features

- Programs 2704 or 2708 type EPROMS and Harris 7620, 7621, 7640 or 7641 type PROMS.
- Zero insertion force sockets extend beyond the end of the card cage for easy access.
- Single +5 volt power supply - on board DC to DC converter creates +5 and -12 volts required to program EPROMS.
- Communication with CPU is done through the Z80-PIO in parallel I/O under full interrupt control.
- Software operates in the ZDOS Debug environment and provides the user with the capability to PROGRAM, VERIFY, LIST and DUPLICATE.



Specifications

Programming Capacity: 24 Pin EPROMS of the 2704 and 2708 type and 16 and 24 pin PROMS of the Harris 7620, 7621, 7640, and 7641 type.

Software Operations: PROGRAM, VERIFY, LIST, DUPLICATE.

Z80-AIO

Analog Input/Output Board

The Z80-AIO Analog Input/Output Board provides 32 single ended analog inputs and 2 analog outputs to the Zilog Microcomputer user. The board includes an analog input multiplexer, high gain instrumentation amplifier, sample and hold amplifier, 12 bit A/D converter, and on board DC-DC converter. The analog output includes two 12-bit D/A converters with double buffering.

Features

- 32 single ended or 16 differential input channels.
- Maximum throughput of 35 μ sec./channel.
- 12 bit resolution.
- 2 analog channels out.
- Single +5 volt power supply.

Z80-AIO/N

Analog Input/Output Board

Features

- 32 single ended or 16 differential input channels
- Maximum throughput of 35 μ sec./channel.
- 12 bit resolution.
- 2 analog channels out.
- Power supplies required: +5, \pm 15 volts.

Z80-AIB

Analog Input Board

The Z80-AIB Analog Input Board provides 32 single ended analog inputs to the Zilog Microcomputer user. The board includes an analog input multiplexer, high gain instrumentation amplifier, sample and hold amplifier, 12 bit A/D converter, and on board DC-DC converter.

Features

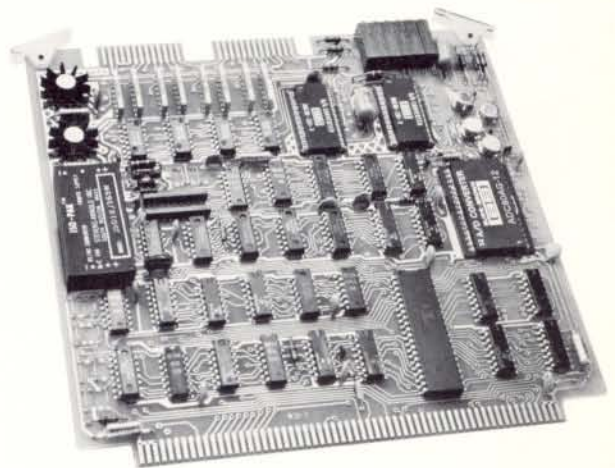
- 32 single ended or 16 differential input channels.
- Maximum throughput of 35 μ sec./channel.
- 12 bit resolution.
- Single +5 volt power supply.

Z80-AIB/N

Analog Input Board

Features

- 32 single ended or 16 differential input channels.
- Maximum throughput of 35 μ sec./channel.
- 12 bit resolution.
- Power supplies required: +5, \pm 15 volts.



Specifications

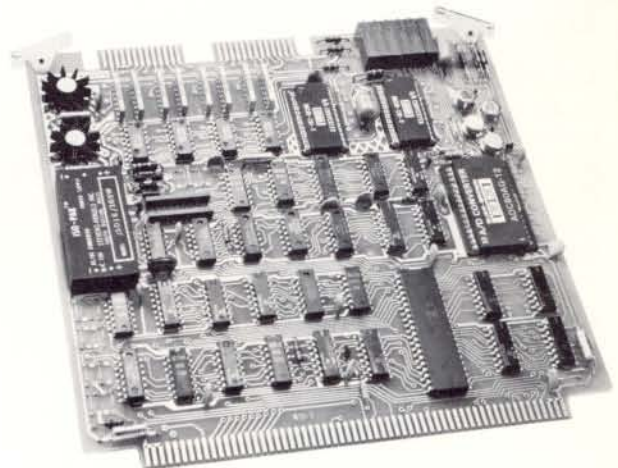
Number of Channels: 32 single ended or 16 differential input and 2 output.

ADC Gain Ranges: 0-5 volt, 0-10 volt, \pm 2.5 volt, \pm 5 volt, \pm 10 volt.

Amplifier Gain Ranges: 1 to 1,000.

Throughput: Maximum 35 msec/channel.

Settling Time: 10 μ sec.



Specifications

Number of Channels: 32 single ended or 16 differential input.

ADC Gain Ranges: 0-5 volt, 0-10 volt, \pm 2.5 volt, \pm 5 volt, \pm 10 volt.

Amplifier Gain Ranges: 1 to 1,000.

Throughput: Maximum 35 μ sec./channel.

Z80-VDB

Video Display Board

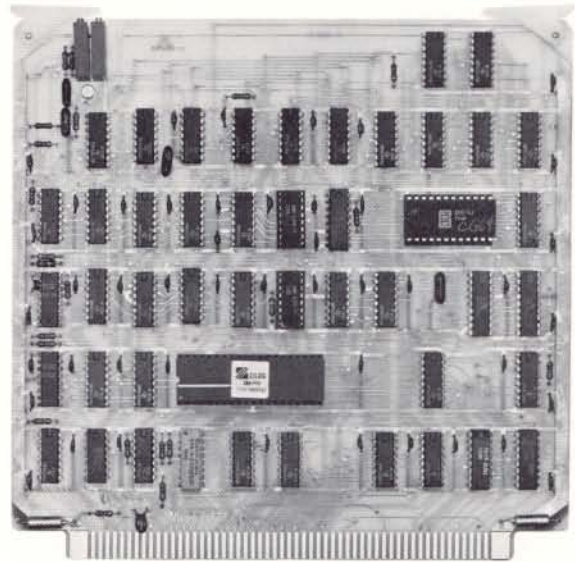
The VDB Video Display Board interfaces the Z80-MCB to a standard video monitor. Memory on the MCB is used as the video refresh buffer (2K bytes). This board contains 256 bytes of RAM for use as a line buffer so that less than 10% of the CPU's time is used for DMA transfer in character mode (75% in dot mode).

Features

- Interfaces directly to TTL horizontal, vertical and video drives of a standard TV monitor.
- Display size is 24 lines with 80 characters per line.
- ASCII character set includes 64 upper case characters and optional 128 upper and lower case characters.
- On board line buffer of 256 bytes for DMA transfers.
- Optional one wire EIA composite video interface is available.
- Software controlled features include image and character invert, automatic scroll, mode control.
- Character and Dot mode.
- Parallel keyboard interface.

Specifications

Memory Capacity: 256 bytes of low power dynamic RAM provide line buffering to the MCB. Two (2) K bytes of MCB memory are used to store the screen image.



Characters: 128 upper and lower case ASCII characters or 64 upper case characters.

Display Size: 24 lines, 80 characters per line.

Interface: TTL interface to horizontal, vertical and video drives of a standard monitor.

Video: Non-interlaced operation 312 lines at 50 Hz and 262 lines at 60 Hz.

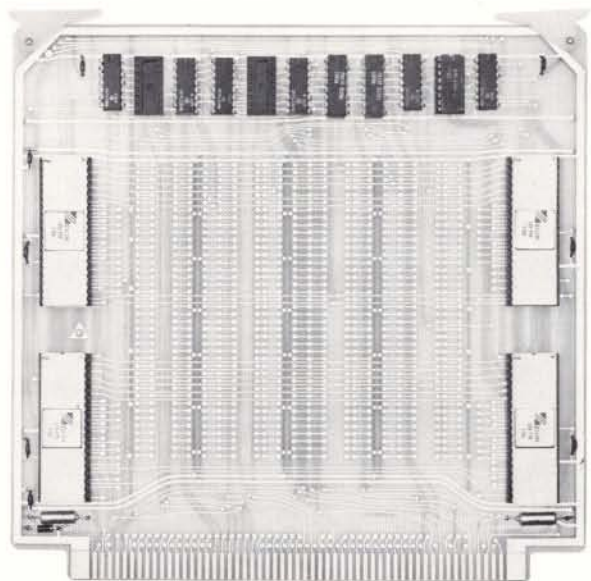
Z80-IOB

Input/Output Board

The IOB Input/Output Board provides the Zilog Microcomputer family with programmable control of up to 64 I/O lines. The board contains four PIO Parallel Interface Controllers and unused space with openings for insertion of sixteen 16 pin wire wrap devices, or a mixture of devices on 0.3" and 0.6" centers.

Features

- 64 programmable I/O lines.
- Single 5 volt supply.
- All ports software programmable, byte output, byte input, byte bidirectional, bit input, bit output.
- Interrupt driven "handshake" for fast response.
- Daisy chain priority interrupt logic included to provide automatic interrupt vectoring without external logic.



Specifications

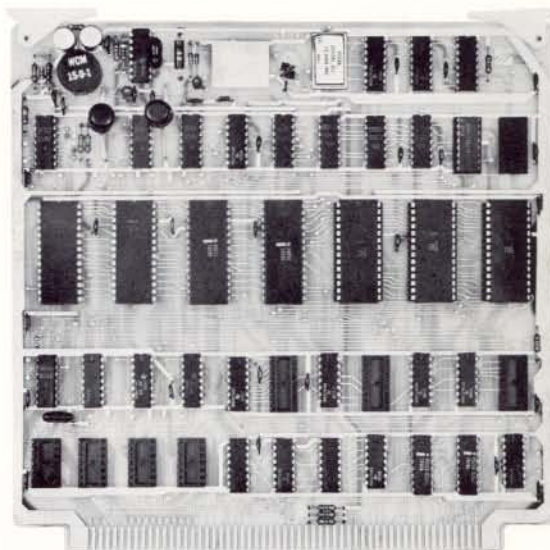
I/O Channels: Eight (8) bidirectional 8-bit parallel I/O ports. I/O is programmable allowing byte or bit transfers for a board total of 64 I/O lines.

Z80-SIB Serial I/O Board

The Z80-SIB Serial I/O Board provides 8 serial (4 full duplex), interface channels. Each channel is programmable and capable of handling most types of serial data transmission protocols described by communication industry specifications. All board timing is handled by a programmable Z80-CTC Counter Timer Circuit.

Features

- Eight independent (4 full duplex) serial ports.
- Asynchronous, synchronous, or Bi-Sync operation.
- Asynchronous data with 5, 6, 7 or 8 data bits; 1, 1½ or 2 stop bits and even, odd or no parity generation/checking.
- BAUD rate generation from 3 separate channels of a CTC and the MCB clock. (Two of the four SIO devices share the same BAUD rate clock.)
- Double buffered transmitter and receiver.
- Two on board Z80-CTC programmable timers.



Specifications

I/O Channels: Four (4) serial channels capable of synchronous or asynchronous data transmission including Bi-Sync protocol.

BAUD Rate: DC to 56K Baud (Sync Mode).

DC to 9.6K Baud (Async Mode).

Z80-SCC Standard Card Cage

The Z80 Standard Card Cage holds up to 9 P.C. cards and can be mounted in a number of different enclosures. This card cage features the use of a printed circuit wire wrap backplane and has slots available for special wirewrapped or customer I/O boards. The Card Cage has 9 P.C. card connectors, 8 flat cable connectors, and a power terminal strip.



Z80 Series Wirewrap Boards

The Z80-Series includes special wire wrap boards for use in the interfacing of special features with the Z80-MCB Microcomputer Board. These boards are the same size as the rest of the boards in this series and utilize the same 122-pin connector.



Z80-Series Extender Board

The Z80 Series Extender Board allows any of the Z80 Series board types to be extended out of the card cage.



Z80-SEC Standard Edge Connector

The Standard Edge Connector is a 122-pin connector and is used for all of the Z80 Series Boards. This standard connector is available from Augat or Garry Manufacturing Companies.



Specifications for Microcomputer Board Series

The following specifications are common to all Z80-Microcomputer Board Series boards:

Specifications:

- Power Supply: +5 VDC \pm 5%
- Connector: 122 pin edge (100 mil spacing)
- Size: Length, 7.7"
Depth, 7.5"
Width, 0.5" spacings
- Environmental: 0 - 50C temperature range. Up to 90% humidity without condensation.

Documentation

Product specifications are available for each of the Microcomputer Boards listed in the brochure. The documents provide specific details on each of the boards in the series. These can be provided by Zilog's sales offices as listed below.

ZILOG SALES OFFICES

NORTH EASTERN REGION

Zilog, Inc.
P.O. Box R
Carlisle, MA 01741
TEL 617 667 2179
TWX 710 347 6660

EASTERN REGION

Zilog, Inc.
P.O. Box 92
Bergenfield, NJ 07621
TEL 201 385 9158

MIDWESTERN REGION

Zilog, Inc.
1701 Woodfield Place
Suite 417
Schaumburg, IL 60195
TEL 312 885 8080
TWX 910 291 1064

WESTERN REGION

Zilog, Inc.
17982 Sky Park Circle
Suite C
Irvine, CA 92714
TEL 714 549 2891
TWX 910 595 2803

EUROPEAN HDQTS

Zilog (UK) Ltd.
Nicholson House
Maidenhead
Berkshire
England
TEL (0628) 36131/2/3
TWX 848 609

ZILOG U.S. DISTRIBUTORS

Western Region

Intermark Electronics
1802 E. Carnegie Avenue
Santa Ana, CA 92705
TEL 714 540 1322
TWX 910 595 1583

Intermark Electronics
4040 Sorrento Valley Blvd.
San Diego, CA 92121
TEL 714 279 5200
714 453 9005
TWX 910 335 1515

Intermark Electronics
1020 Stewart Drive
Sunnyvale, CA 94086
TEL 408 738 1111
TWX 910 339 9312

R.V. Weatherford Co.
6921 San Fernando Road
Glendale, CA 91201
TEL 213 849 3451
TWX 910 498 2223

R.V. Weatherford Co.
1550 Babbitt Avenue
Anaheim, CA 92805
TEL 714 634 9600
TWX 910 593 1334

R.V. Weatherford Co.
3240 Hillview Avenue
Stanford Industrial Park
Palo Alto, CA 94304
TEL 415 493 5373

Sterling Electronics
5608 6th Avenue South
Seattle, WA 98108
TEL 206 762 9100
TLX 32 9652

R.V. Weatherford Co.
1095 East Third Street
Pamona, CA 91766
TEL 714 623 1261
TWX 910 581 3811

R.V. Weatherford Co.
3311 W. Earll Drive
Phoenix, AZ 85017
TEL 602 272 7144
TWX 910 951 0636

Mountain

Century Electronics
121 Elizabeth, N.E.
Albuquerque, NM 87123
TEL 505 292 2700
TWX 910 989 0625

Century Electronics
2150 South 300 West
Salt Lake City, UT 84115
TEL 801 972 6969
TWX 910 925 5686

Century Electronics
8155 West 48th Avenue
Wheatridge, CO 80033
TEL 303 424 1985
TWX 910 938 0393

R.V. Weatherford Co.
3905 South Mariposa
Englewood, CO 80110
TEL 303 761 5432
TWX 910 933 0173

Eastern

Hallmark Electronics
4739 Commercial Drive
Huntsville, AL 35805
TEL 205 837 8700
TWX 810 726 2187

Hallmark Electronics
1302 West McNab Road
Fort Lauderdale, FL 33309
TEL 305 971 9280
TWX 510 956 0720

Hallmark Electronics
7233 Lake Ellenor Drive
Orlando, FL 32809
TEL 305 855 4020
TWX 810 850 0183

Hallmark Electronics
3355 Amberton Drive
Baltimore, MD 21227
TEL 301 796 9300
TWX 710 862 1942

Hallmark Electronics
1208 Front Street
Building K
Raleigh, NC 27609
TEL 919 832 4465
TWX 510 928 1831

Hallmark Electronics
Pike Industrial Park
Huntington Valley, PA
TEL 215 355 7300
TWX 510 667 1750

Summit
916 Main Street
Buffalo, NY 14202
TEL 716 884 3450

Midwestern

Hallmark Electronics
180 Grosse Avenue
Elk Grove Village, IL 60076
TEL 312 437 8800
TWX 910 223 3645

Hallmark Electronics
11870 West 91st Street
Congleton Industrial Park
Shawnee Mission, KS 66214
TEL 913 888 4747
TWX 910 749 6620

Hallmark Electronics
9201 Penn Avenue South
Suite 10
Bloomington, MN 55431
TEL 612 884 9056
TWX 910 576 3187

Hallmark Electronics
13789 Rider Trail
Earth City, MO 63045
TEL 314 291 5350
TWX 910 760 0671

Hallmark Electronics
6969 Worthington-Galena Road
Worthington, OH 43085
TEL 614 846 1882

Hallmark Electronics
4846 S. 83rd Road E. Avenue
Tulsa, OK 74145
TEL 918 835 8458
TWX 910 845 2290

Hallmark Electronics
3100-A Industrial Terrace
Austin, TX 78758
TEL 713 837 2814
TWX 910 874 2031

Hallmark Electronics
9333 Forest Lane
Dallas, TX 75231
TEL 214 231 5101
TWX 910 867 4721

Hallmark Electronics
8000 W. Glenn
Houston, TX 77063
TEL 713 781 6100
TWX 910 881 2711

Hallmark Electronics
237 South Curtis
West Allis, WI 53214
TEL 414 476 1270
TWX 910 262 3186

Zilog

Supplied by

MICROPOWER LTD
The U.K.'s only dedicated
ZILOG distributor

HAMPSTEAD HOUSE
BASINGSTOKE HAMPSHIRE
RG21 1LG
Tel: Basingstoke (0256) 54121
Telex: 858572