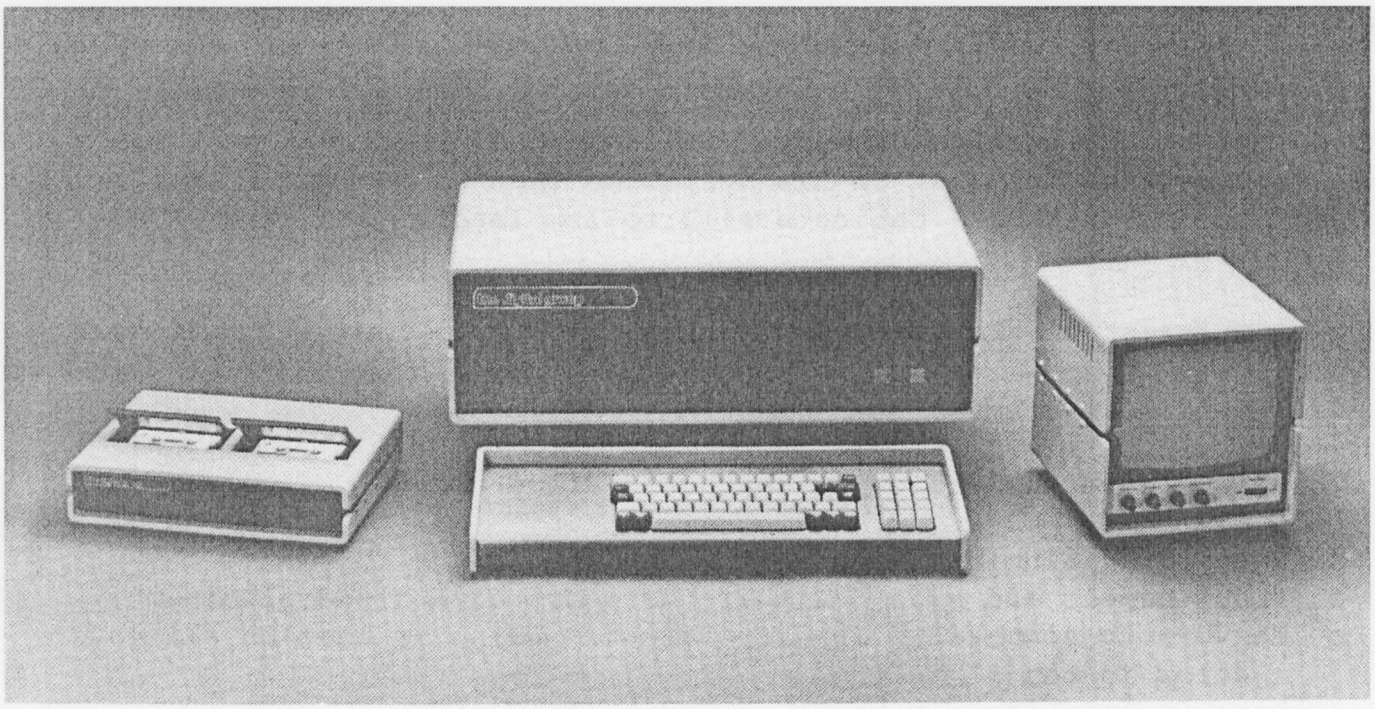
the digital group

flyer

NUMBER 5 through 8A CONSOLIDATED



INTRODUCTION

This flyer is intended to give you an overview of the systems and products we now have available. We also hope to give you an idea of what we consider important in designing effective computer systems.

We've broken this flyer into separate sections for your convenience. Hopefully, you won't have to wade through parts in which you have little interest in order to get the information you're after.

This flyer contains all pertinent information from Flyers 1 through 8A. You will automatically receive new flyers as they become available.

As always, thank you for your support and encouragement.

THE DIGITAL GROUP

the digital group
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TABLE OF CONTENTS

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SYSTEM PHILOSOPHY - or - Why we are doing what we're doing

We feel that the Digital Group Systems represent by far and away the most significant systems for computer hobbyists available today. We would like to discuss why our systems offer major advantages to the serious hobbyist.

CHANGE

If there is one constant that is already evident in this field, it is constant change. You are about to invest (or already have invested) a significant amount of money in a microcomputer system. That system should be able to easily adapt itself to new microprocessors by different manufacturers and take advantage of new technologies with higher levels of integration. Otherwise, no sooner do you make your investment than another faster, cheaper, better, or enhanced micro chip comes out and you have to start over - or live locked-in to an obsolete design. That can be very frustrating.

The Digital Group Systems are designed specifically to easily adapt to change. The designs are also tailored for maximum flexibility in user support. We hope to demonstrate by specific area why the Digital Group Systems are the best choice for the hobbyist with the following discussions.

INVESTMENT

Most manufacturers continually emphasize their CPU's cost and features. However, the major portion of your investment is not spent on the CPU and CPU support circuitry. The major portion of investment is spent on memory, interfaces, software, and peripherals. This ratio will continue to swing even more heavily away from the CPU as CPU chip prices continue their rapid decline.

What does that mean? If you purchase a CPU that quickly becomes obsolete (as they all will) and you fully invest in memory and peripherals specifically tailored only for that CPU, you risk having your entire investment become totally obsolete.

The Digital Group Systems are designed to be independent of the manufacturer's CPU chip design. Complete system compatibility is maintained at the CPU card level. All memory, input/output, and peripherals are completely independent of the CPU selected. With the Digital Group Systems, you may now select different CPU architectures from four manufacturers. We are offering:

Zilog/Mostek Z80
Intel/AMD 8080A
Motorola 6800
MOS Technology 6501/6502

With the Digital Group Systems, you can change from a Z80 to a 6800 by literally unplugging the Z80 card and plugging in the 6800 card. Switch on power, read in the 6800 operating system cassette and you have changed your system to a 6800. The same is also true for the MOS Technology 6502 or 8080. Your major investment in memory and peripherals has been protected at a minimal additional cost and effort.

Each of the CPU's is completely interchangeable at the CPU card level with any other. Other CPU's will be made available from us as the technology advances. Each CPU chip has specific strengths and weaknesses. Your selection of a CPU will, of course, depend upon your application's requirements. As your requirements change, alternative CPU's may prove more attractive. The beauty of the Digital Group Systems is that you can change your mind.

As an added bonus, the user is also able to take advantage of nifty applications written on another manufacturer's

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machine with minimal software conversion (mostly I/O device reassignments). Total software conversion can be avoided. This approach will continue to become more attractive as CPU costs drop.

System Orientation

Another fact that has surfaced in this field is that there is a phenominal variety of OEM's, businessmen & hobbyists out there with vastly different abilities and resources available to them. Having a single option of being allowed only to purchase an assembled system or an empty box with a single power supply does not fully address many user's needs.

The Digital Group has always believed that, as an option, the purchaser should be able to purchase only the parts of a system he needs. This allows the advanced experimenter, engineer, or end-user to take advantage of:

1. Using what he already has on hand. Allowing conversion from other CPU systems without repurchasing every component.
2. Getting use out of a manufacturer's evaluation chip set.
3. Unbundling the power supply and cabinet for custom designs.
4. Different TV screen sizes and keyboard layouts.
5. Different cabinet preferences.

Many partial system prices are available in our price list or on request by letter or over the phone. We are not able to offer completely bare board systems but are usually more than willing to meet you halfway. Naturally, any item announced as a bare board (I/O, Memory) will continue to be available as a bare board for those that desire it.

Quality

Why is quality so important? The Digital Group insists on the highest quality in all of its products. Manufacturers will shave corners to keep costs down. With the average electronics kit product, that approach is usually acceptable to the purchaser. However, we feel that the corner shaving approach is totally unacceptable for the Microcomputer system user. What you are building is a real honest-to-God computer system. There are literally thousands of parts and interconnections in the system - any single failure can bring the system down. If quality shortcuts have been made, reliability is reduced. The experimenter may end up spending most of his time debugging and fixing his computer rather than using it to develop and run applications.

The Digital Group's level of quality is reflected in what we supply in all our products:

PC Boards-
- FR-4 heat-resistant epoxy base material (superior to G-10)
- Double sided boards with plated-through holes
- Gold plated connector fingers
- All circuits solder-fused (a special plating process which enhances solderability and reliability)

Connectors-
- Wire-wrap only - gold plated

Integrated Circuits-
- Distributor or Factory prime IC's

Parts-
- Resistors are 5% or better
- Capacitors are 10% or better
- Bypass capacitors are distributor/factory prime
- Trimpots are sealed type

Sockets-
- Every IC is socketed

Maintenance

Every computer system will eventually go down. It is at that point that the maintenance design features become very important. The Digital Group Systems are specifically designed for ease of maintenance.

Pluggable Boards:
Every Digital Group System board is a plug-in board. The board plugs into a

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connector on one side. Bolt-together boards are very inconvenient to maintain. Ribbon cables and dip plugs going every which-way from all sides of each PC board also contribute to maintenance problems.

IC Sockets:
Every Digital Group kit contains a socket for each IC - not just the expensive ones. Even though the socket may be almost as expensive as the IC, when you need to replace a 7400 gate you don't want to risk destroying a double-sided PC board trying to unsolder the IC.

Standard Parts:
Standard parts and common IC's are used throughout. Custom IC's "selected" IC's, or single-source parts have been avoided wherever possible to avoid part replacement availability problems and to maintain compatibility.

HARDWARE APPROACHES - The way we view it

CPU Variations

Each microprocessor CPU that the Digital Group offers has various strengths and weaknesses. All can accomplish any given application. However, there is no single microprocessor that is "best" for everything. The differences occur in the amount of storage used, the time required to produce a given result, and various system features. Proper CPU selection is solely dependent on application requirements.

Z-80:
The Z-80 is the newest and, in our opinion, the most powerful microprocessor available today. The Z-80 offers all the major advantages of the 6500, 6800, and 8080. It excels at input/output, direct bit manipulations and memory manipulation. The Z-80 is software compatible with the 8080 and, therefore, can utilize the largest application support base that is available for microprocessors today.

8080A:
The 8080A is a register-oriented general purpose microprocessor. It is the most popular microprocessor on the market today and, therefore, enjoys the highest level of currently available support. If the application can be processed mostly within its internal registers, it is very fast.

6800:
The 6800 is a memory-oriented general purpose microprocessor. Almost all operations involve transfers to and from memory. It has a sophisticated bus-oriented architecture. The instruction set is very comprehensive - similar to a PDP-11. Support from many sources is available. It it different to interface a full-function front panel.

6502:
The 6502 from MOS Technology has an architecture very similar to the 6800 with a slightly smaller instruction set. The 6500 excels at data handling applications. It uses the 6800's bus structure and adds a front panel capability for single-stepping.

Obviously, the foregoing comments are only intended to give the briefest highlights. For further comparisons, we would recommend the series on Microprocessor Benchmarking in EDN magazine which began in the April 20, 1975 issue. EDN is usually available at large public libraries or college engineering libraries and has carried an extensive series of articles on microprocessors.

System Base Comparisons

There have been a number of approaches to microprocessor system design. Each has something to recommend it. We are presenting our analysis of four basic system bases.

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There are, of course, variations among systems, but we still feel the comments are valid.

Toggle Switches and LED Bit Lamps: The first microprocessor system designs were based on toggle switch input and LED bit lamp readouts. Programs were small or took hours to enter and were lost when power was switched off.

Numeric Keyboard and 7-Segment Readout: This system base represents the first level of improvement. Each byte entered requires 2-3 key depressions rather than 8 toggle switch flips. The 7-segment readout eliminates the requirement for the user to interpret pure binary. However, only one character and address at a time is displayed - the coding interrelationships are available only byte-by-byte. Operator effort for analysis is proportionally high.

Teletype: Teletype based systems represent the next level of improvement and offer some significant advantages. They usually have some form of monitor in ROM (ex-Motorola MIKBUG, etc.) which allows the operator to type in code and helps isolate him from errors. The total program is printed out in hard copy. In addition, paper tape is usually available to provide an economical media for program storage and exchange.

There are some trade-offs, however. New teletypes cost $1000 and up. Teletypes are electro-mechanical devices which require significant maintenance - used surplus teletypes are the worst offenders. The input/output speed is usually around 10 characters per second - a dump of 1K bytes in octal can take almost 7 minutes. And creates a great deal of irritating noise. In addition, paper tape is a damage-prone and bulky media.

Video and Cassette: The latest improvement has been the movement to using a TV set as an output display, a full alphanumeric keyboard for input, and an audio cassette for program storage and exchange. Video-based systems provide full user to system interaction at minimal cost. The speed of system response is practically instantaneous. Operations may be performed in almost complete silence. Reliability is enhanced as electro-mechanical mechanisms are limited to the keyboard and cassette recorder. Data media storage density is much higher - you can store over 2000 feet of paper tape on one side of a single C-90 audio cassette.

The cost/performance trade-offs with The Digital Group's video-based systems represent what we feel is the best performance at the most reasonable cost. Even a commercial system with a new commercial monitor, high quality cassette recorder, and a new keyboard could be assembled for less than $400 in additional cost. If the purchaser supplies a modified TV set as the monitor (ref BYTE #2), a moderate quality cassette recorder, and a like-new surplus keyboard, he should be able to get going for around $150 in additional cost. All interfaces and operating system software are supplied as standard with each Digital Group system.

Front Panels

Front panels have offered three major features to users - allowed forced loading or changing of memory to get going, limited display of information, and the ability to single step through instructions.

The Digital Group System does not require a front panel. All instructions needed to "get going" are contained in an EROM Bootstrap loader. Loading or changing of memory is supported by two major TV-oriented functions - Keyboard Program and Storage Dump. Each may be accessed or called from the other interactively. Addresses may be set or reset to allow

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operations or visibility at any time. Instructions are keyed in through the keyboard with the preceding 10 addresses and contents visible in a push-up stack. Storage Dump displays 96 bytes of storage and addresses in Octal or Hexadecimal (system dependent) on the screen at a time. Pages are directly selectable or may be advanced serially by depressing the space bar on the keyboard. A full screen update occurs in less than 1/30 of a second.

In addition, a storage dump trap may be inserted in the instructions to catch and display all registers, flags, and storage contents at any specific point in a program's execution. This has proven to be a very powerful debugging tool for software development.

However, the bus structure of the Digital Group Systems will support a plug-in front panel as an option for those who feel that their needs require one. A schematic for a basic front panel which will plug into any available memory space is included in the Digital Group's system manual.

Digital Group Video-Based System Operation

Initiating operation on a basic Digital Group System consists of four steps:

1. Place a system cassette or saved program cassette in the audio cassette recorder and depress play.
2. Turn system power on.
3. After the cassette is read in, select an application code from the list displayed on the TV monitor.
4. Enter the code on the keyboard and the application begins operation.

Digital Group Video-Based Operating System

Each Digital Group System is supplied with a standard operating system on cassette for video-based operations. The functions supplied are:

1. Read Cassette
2. Write Cassette
3. Program from Keyboard*
4. Dump Storage*
5. TV Monitor Functional Support Routines

*These functions may be supplied in either Octal/Hexidecimal or both (Z-80) depends on system selected.

The storage requirement for the Operating System is 1.5K.

In addition, system maintenance routines will be included or made available. The first of these is a memory checker routine which will test all possible single bit patterns and display any failing memory IC's board location on the monitor. This routine is designed to keep running until interrupted. After all the possible single bit combinations have been tested without error, an alpha symbol is displayed and execution continues. Therefore, memory may be tested for extended periods of time and the number of successful tests is indicated by the number of alphas on the monitor.

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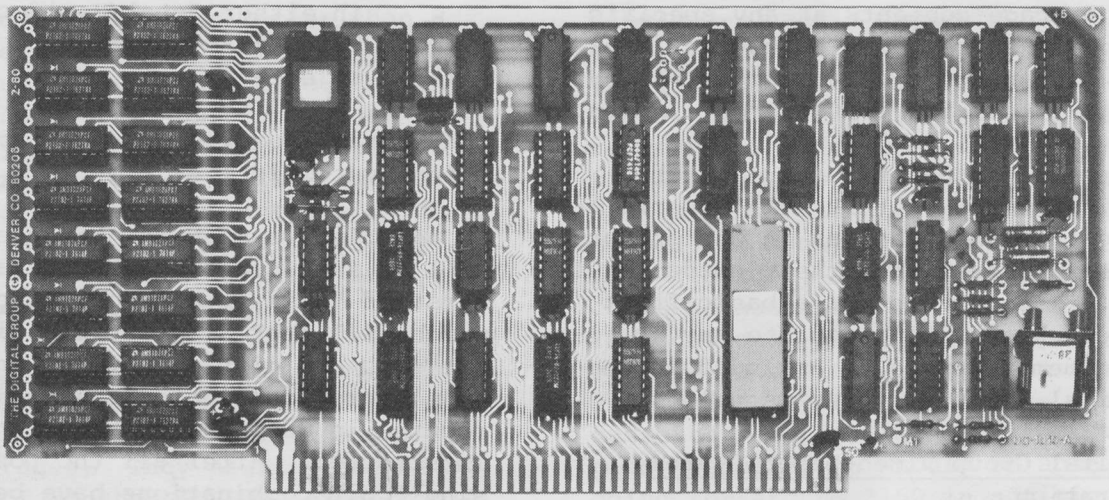
INDIVIDUAL CARDS

Central Processing Units (CPU's the computer part of your computer).

We are currently offering 4 CPU's but we're a little biased at the moment. The Digital Group considers the Z-80 to be the next major microprocessor and expect it to outsell all others and become the leader very quickly.

with the 8080A. Excluding timing loops, all of our 8080-based software runs without change! That means you can take advantage of the Z-80 and immediately utilize all the 8080 support that is already out there.

What else? Plenty. With a Digital Group System's video-based operation, software approach, and the Z-80 you are quickly at the state of the art with a full system. As always, the Z-80 CPU card is completely



Z-80 CPU Card

We have never before been able to recommend any of our processors (6500, 6800, 8080A) without some qualifications as to their suitability for certain applications. The Z-80 has ended that.

Why? The Z-80 offers all the major advantages of the 6500, 6800, 8080, and even IBM 360-like instructions. Zilog added 80 new major instructions to the 8080's instruction set which increases the power of the system dramatically.

Control operations are vastly simplified with direct bit manipulation. Data handling has also been significantly improved with block memory moves and block I/O.

But the final touch is that the Z-80 is completely software compatible

system compatible and merely requires exchanging CPU cards to change processors. But the best part of all is that you can get a Digital Group System with a Z-80 processor for only $50 more than our already reasonable price.

Z-80 Features:

- Complete compatibility with 8080 object code
- 80 new instructions for a total of 158 696 Op codes
- Extensive 16-bit arithmetic
- 3 Interrupt modes (incl 8080), mode 2 provides 128 interrupt vectors
- Built-in automatic dynamic memory refresh
- Eleven addressing modes including:
  - Immediate

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Immediate extended
Page zero
Relative
Extended
Indexed
Register
Implied
Register indirect
Bit
Combination of above

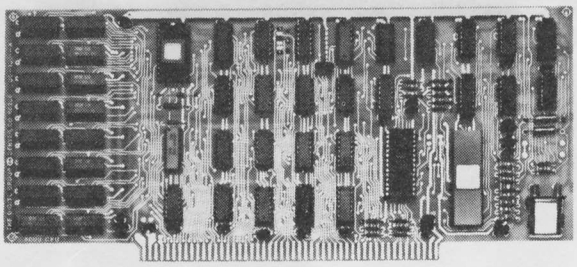
New Instructions (highlights):
Block move up to 64K bytes memory to memory
Block I/O up to 256 bytes to/from memory directly
Input/Output from any register
String Search
Direct bit manipulation

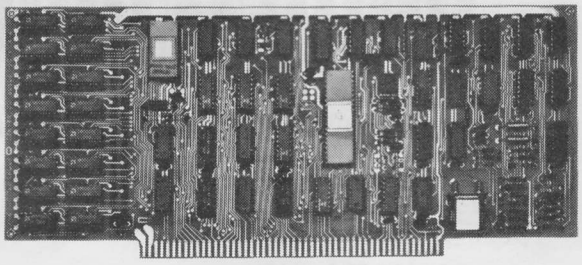
22 Registers - 16 general purpose
1, 4, 8, and 16 bit operations

Digital Group Z-80 CPU Card:

2K bytes 500ns static RAM
256 bytes EPROM bootstrap loader (1702A)
2 Direct Memory Access (DMA) channels
Hardware Interrupt controller
Supports all 3 modes of interrupt
Mode 2 supports 128 interrupt vectors
Data and Address bus lines drive 30 TTL loads
Z-80 runs at maximum rated speed- 400 ns cycle
Single step or single instruction step
EPROM de-selectable for full 64K RAM availability (programs may start at location Ø)
Complete interchange with Digital Group 8080A, 6800, and 6500 CPU's
Order Code = Z80-CPU

8080A CPU (Intel, AMD and Others)
The 8080A CPU Board features:
2K of RAM onboard
Single stepping
1702A EPROM programmed for bootstrap load
DMA capability
8-level hardware vectored interrupt
Data bus lines drive 30 TTL loads
Crystal controlled clock (2 MHz)
Order Code = 8080-CPU





6502 CPU (MOS Technology)
The 6502 CPU Board features:
2K of RAM onboard
Single stepping
1702A EPROM programmed for bootstrap load
DMA capability
11-level software vectored interrupt
Data bus lines drive 30 TTL loads
Crystal controlled clock (2 MHz)
Order Code = 6502-CPU

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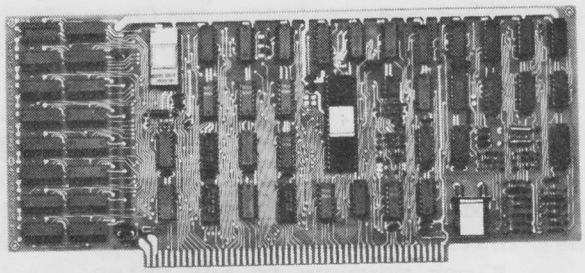
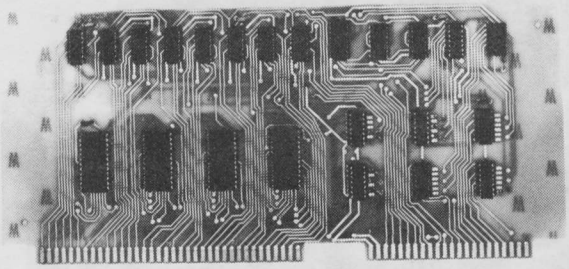
6800 CPU (Motorola/AMI)

The 6800 CPU Board features:

- 2K of RAM onboard
- Single stepping
- 1702A EPROM programmed for bootstrap load
- DMA capability
- 11-level software vectored interrupt
- Data bus lines drive 30 TTL loads
- Crystal controlled clock (2 MHz)

Order code = 6800-CPU





INPUT/OUTPUT

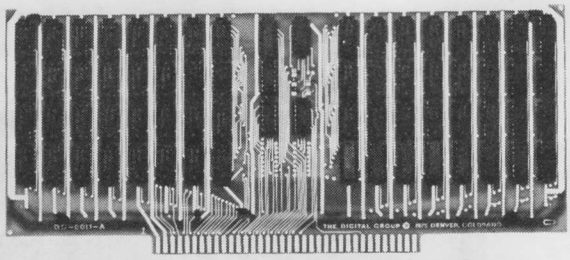
- Four 8-bit Input Ports
- Four 8-bit latching Output Ports
- Full 16-bit port addressing - supports memory oriented I/O structures (68/6500) and Z80/8080 approaches
- Signals are standard TTL level

Order Code = IO-F

8K STATIC RAM MEMORY - 500ns 21-2's

- No wait states required for any Digital Group CPU
- Static RAM used for ease of maintenance
- Buffered address lines
- Applies only 1/20 TTL load to bus lines
- Address decoding covers full 64K range in 8K boundaries
- Power consumption = 2A of 5V per 8K

Order Code = MEM-8



8K FAST, LOW-POWER STATIC RAM MEMORY

- 300 ns 91L02C
- Same features as MEM-8
- Power consumption: 1 Amp per 8K
- Uses AMD 91L02C chips for best combination of speed and power consumption

Order Code = MEM-8C

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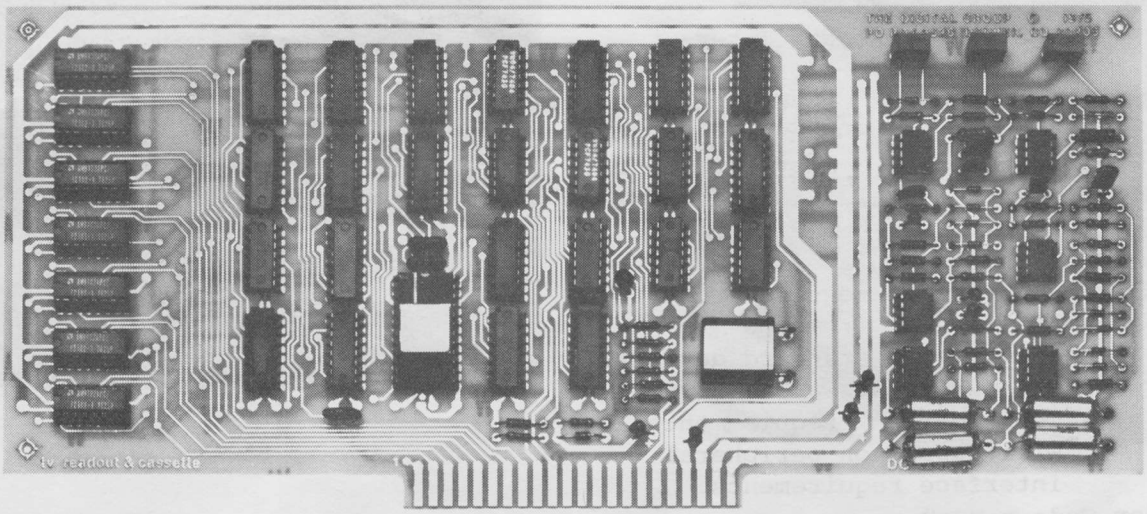

TV READOUT & AUDIO CASSETTE INTERFACE

TV Readout - Cursor under software control
512 characters
16 lines by 32 characters
7 x 9 character matrix - shifted (effective 7 by 1)
Full 128 character ASCII
Upper and Lower case Alphabet
Math Symbols
Special Symbols
Greek Alphabet
Direct Video Output to standard monitor or modified TV set
Single 8-bit parallel port interface

Cassette Interface - Uses standard unmodified audio cassette recorder
Extremely reliable FSK recording
Standard wide-shift teletype frequencies 2125 HZ and 2975 HZ
Operates at 1100 baud or 100 characters per second-1K loads in 11 seconds
Single bit TTL interface (9 in and 9 out)
Uses crystal-controlled software UART for serialization/deserialization
Order Code = TVC-F

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MOTHER BOARDS

Standard Mother - Each standard mother provides space for:

- 1 CPU card with 2K RAM
- 1 TV Readout and Cassette Interface
- 4 Input/Output cards or Peripheral Interfaces
- 3 Memory cards or 2 Memory cards and 1 Front Panel (24K additional RAM)

Size: 10 3/8" deep by 12" wide

Power: A fully populated Standard Mother will require about 10 1/2 Amps from the +5V supply with standard devices. Other currents are minimal. Total current requirements will depend on peripheral interface requirements.

Order Code = MB-2

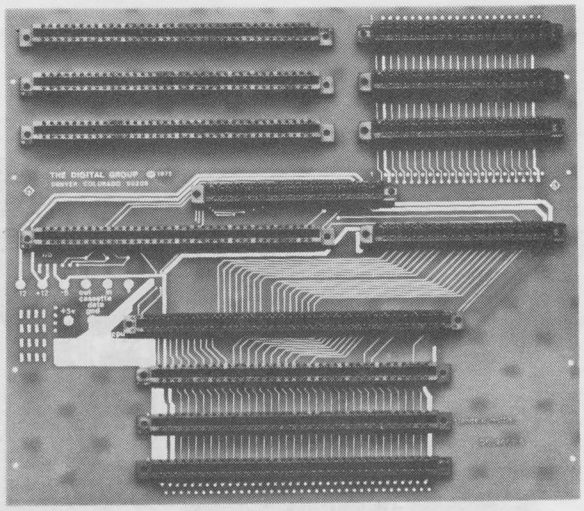


Photo above is of a Standard Mother Board with connectors installed in every available slot. Mother boards come without connectors. Each system board you buy has the connectors it requires to plug into the mother board. The Standard Mother will support up to 26K of memory and 16 input ports and 16 output ports. In addition, it will support a TVC and a CPU of your choice (Z80, 8080, 6500, 6800.)

MINI-MOTHER

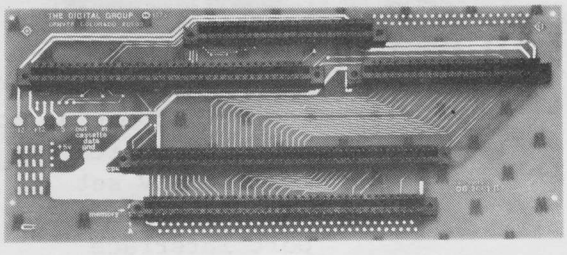
Each Mini-Mother provides space for:

- 1 CPU card with 2K RAM
- 1 Input/Output Card
- 1 TV Readout & Cassette Interface
- 1 8K RAM Board

Size: 5 3/8" deep by 12" wide

Power: A fully populated Mini-Mother (w/10K) will require about 4.5 Amps from the +5V supply with standard devices. Other currents are minimal.

Order Code = MB-1



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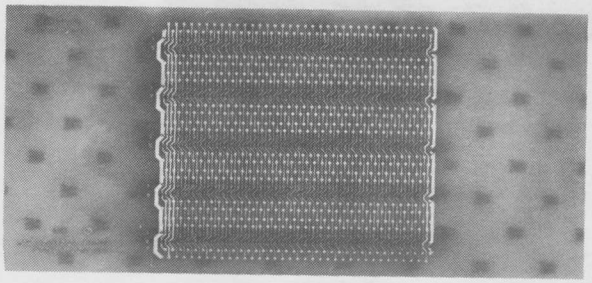
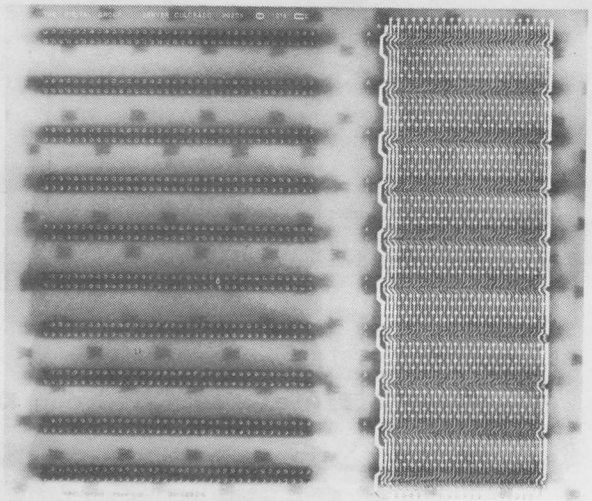
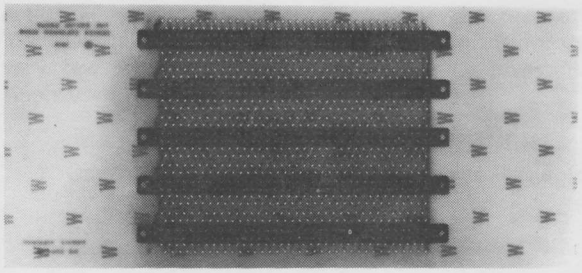
EXPANSION MOTHER BOARDS

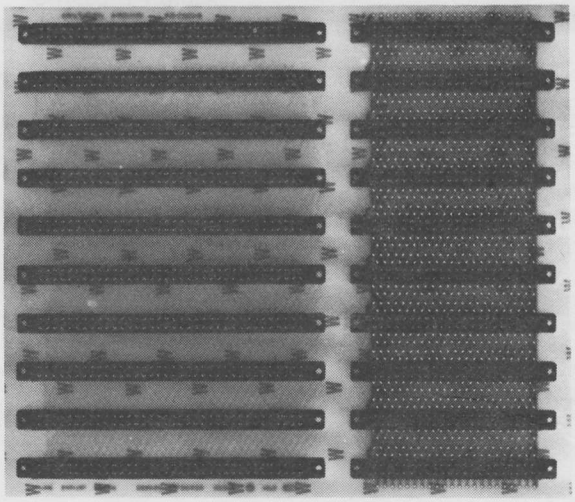




Memory Expansion Mother Board - The Memory Expansion card attaches to either the Mini-Mother or the Standard Mother. It provides space for 5 more Memory cards (40K RAM) or 4 more Memory cards (32K RAM) and a front panel. 5 1/2" deep by 12" wide.
Order Code = MB-3

Input/Output Expansion Mother Board - The Input/Output Expansion card attaches to either the Mini-Mother or the Standard Mother. It provides space for 10 more Input/Output or Peripheral Interface cards. 10 3/8" deep by 12" wide.
Order Code = MB-4





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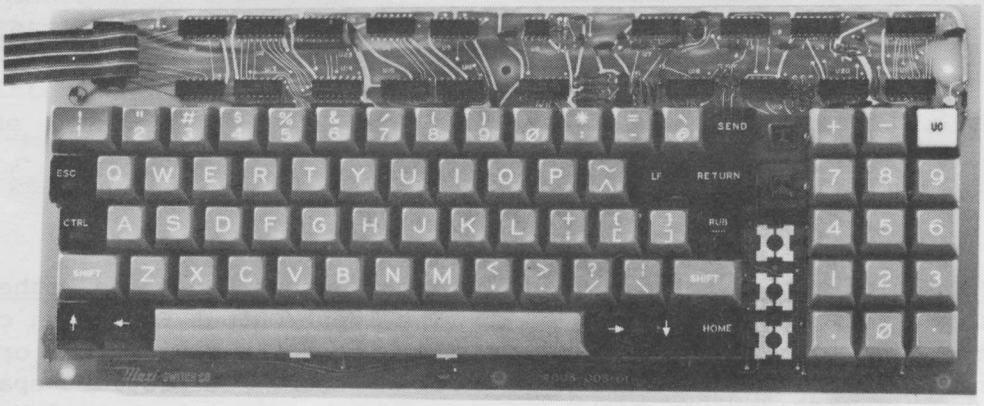
The First Official Digital Group Keyboard



Features:

- o 128 character ASCII
- o Numeric Pad
- o 76 Keys
- o Cursor controls
- o Lighted Upper-Case Key
- o Good Tactile Feedback (2 level)

Specifications:

Technology: Capacitance (solid state)
Power: +5V only
Output level: Fully TTL compatible
Rollover: 2 Key
Keyforce: 2 oz. nominal
Pre-travel: .100 inch
Total-travel: .165 inch
Over-travel: .065 inch
Keyswitch life: In excess of 100 million operations

Order Code = KEY 1

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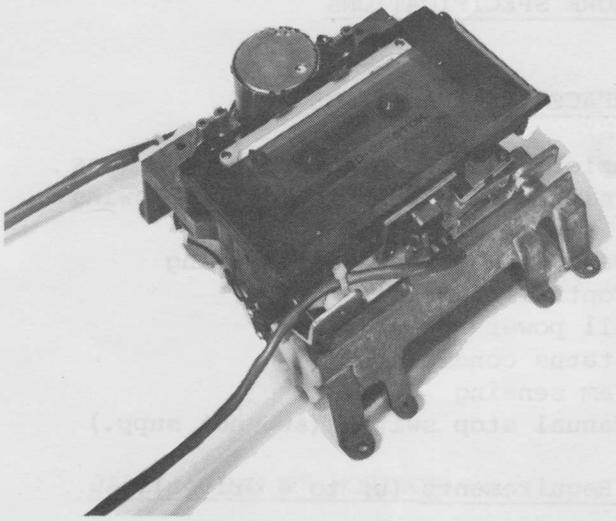

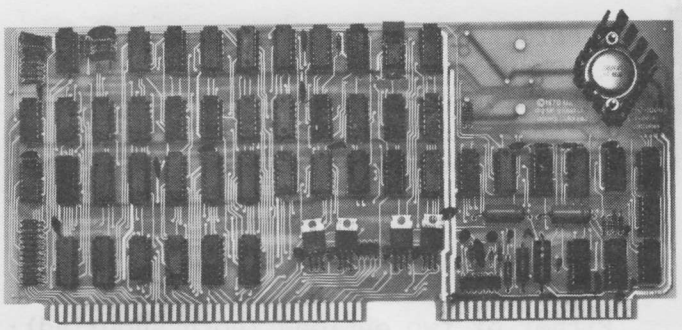

The Digital Group Cassette Storage System

The Digital Group Cassette Storage System gives you total magnetic tape data storage and retrieval for your microprocessor, capable of operating 1 to 4 computer-controlled Phi-Deck cassette transports. Within seconds (20 at most), your system zips to any of over one-quarter million 8-bit bytes per drive. And that really puts it all on-line!

The Digital Group Cassette Storage System is ideal for:

- Large data files – names, accounts, etc.
- Indexed computer-controlled program files
- Sorts
- Inexpensive mass storage
- Work files
- Indexed random retrieval
- Multi-pass compilers
- System residence

In addition, with a Digital Group System and a Phi-Deck transport, your total load procedure is reduced to a single action – turning on power. Everything else is automatic! Your Digital Group System is completely ready for use in a very few seconds. And you avoid a large investment in single-use PROM memory.

MAJOR STORAGE SYSTEM COMPONENTS

1. Controlling and Formatting Interface – single card for 1 to 4 drives
2. Software Operating System
3. Computer-controlled Cassette Drive(s)

Selected Specifications

Data Rate: 800 bytes per second, 8K loads in 10 seconds
Media: High-quality standard audio cassettes
Search Speed: 100 inches per second
Tape Speed: 5 inches per second
Power Requirements: +12V to +20V at .7A peak and +5V at 1A plus 60ma per drive
Port Requirements: One 8-bit parallel input port plus two 8-bit parallel output ports
Cassette Drive is an enhanced Phi-Deck with a digital head, cast head bar, stronger capstan, and four-foot cabling.

SOFTWARE OPERATING SYSTEM

8080 based – 650 bytes
Error Detection: CRC
Retries after soft errors
Automatically bypasses hard errors
Block size = 1 to 256 bytes or multiple of 256 bytes
Functions supplied:

- Record multiple blocks
- Record 1 block
- Read 1 block
- CRC check
- Fast reverse
- Fast forward
- Search for block

FC-S2-8

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THE DIGITAL GROUP CASSETTE STORAGE SYSTEM - MORE SPECIFICATIONS

Recording Density: 1600 FCPI (Flux Changes per Inch)
Interblock gap: 1/8"
Error Rate: Virtually zero when using software package supplied with deck and high-quality media

Power Requirements:

Either of two options (both supplied):

- Option 1 - +12V to +15V single supply, regulated or unregulated. 1.4 Amps average, 1.7 Amps peak

- Option 2 - +12V to +20V at .4 Amps average, .7 Amps peak and +5V regulated at 1 Amp plus 60 ma per drive attached for capstan motor.

DATA CAPACITY

8-bit bytes

No. of Drives	Media C-30	C-60	C-90
1	254,000	508,000	762,000
2	508,000	1,016,000	1,524,000
3	762,000	1,524,000	2,286,000
4	1,016,000	2,032,000	3,048,000

INTERFACE SPECIFICATIONS
(PHI-F)
A complete interface for up to 4 drives on a single card supplies the following:

- Data formatting & serializing
- Control signals
- All power for 4 drives
- Status conditions
- Jam sensing
- Manual stop switch (sw. not supp.)

Port Requirements (up to 4 drives):

Either of two options (both supplied):

- Option 1: 1 8-bit parallel Input port plus 2 parallel Output ports

- Option 2: Bi-directional I/O data bus plus four strobe lines

Ports are TTL-level signals.

Miscellaneous:

- Card size = 5" high by 12" wide
- Connectors are dual 22-pin and dual 36-pin along 12" edge on .156" centers. Connectors are supplied in kit with w/w posts (.025).

Order Code = PHI-F

CASSETTE DRIVE SPECIFICATIONS:

Digital Group Phi-Deck - Included
Enhancements:

- High speed - 5 ips
- Digital Head - Enhanced cassette interchangeability
- Cast Head Bar - better tape alignment
- Stronger Capstan shaft
- 4 foot cables with Molex connectors for easy connecting
- Motor power lines have been reoriented for best control

Order Code = PHI-1

NOTE: A complete storage system includes 1 interface kit and 1 to 4 drives.

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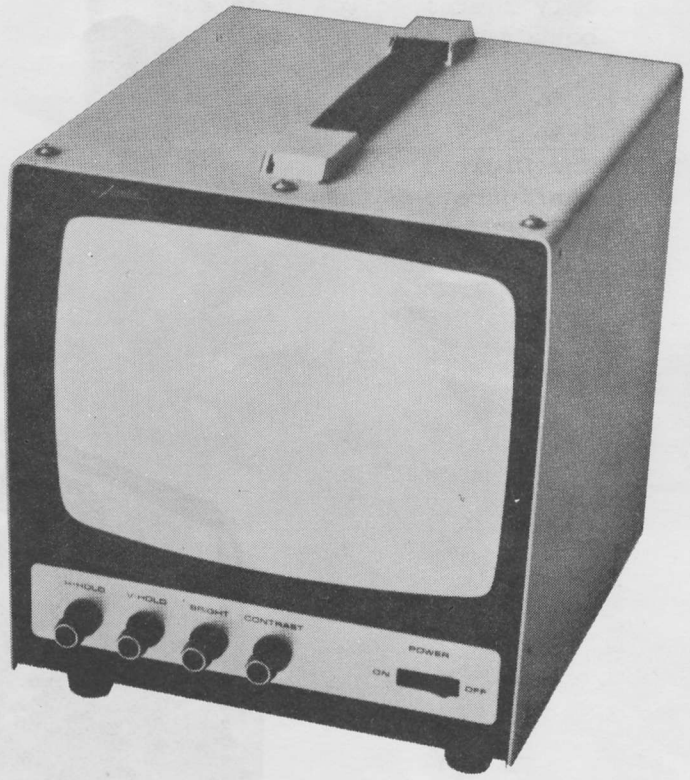
JAVELIN B&W 9" MONITOR

The Digital Group has tested a significant number of monitors of many different sizes (5" through 19") from Sony, Sanyo, Panasonic, Javelin, Conrac, and JVC. We feel that this monitor represents by far and away the best value. The display is very crisp with no "hot spots" in the letters. The DC Restoration is excellent. Viewing size is large enough to be easily seen while the monitor itself is of a size and weight that is truly portable. It was obviously designed as a high-resolution professional monitor - not an adapted TV set from the manufacturer's consumer line. We are obviously pretty fond of the little beasts. We think you'll like them too.

Order Code = MON-9J



FC-S2-10

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SYSTEMS WITHOUT CABINETS

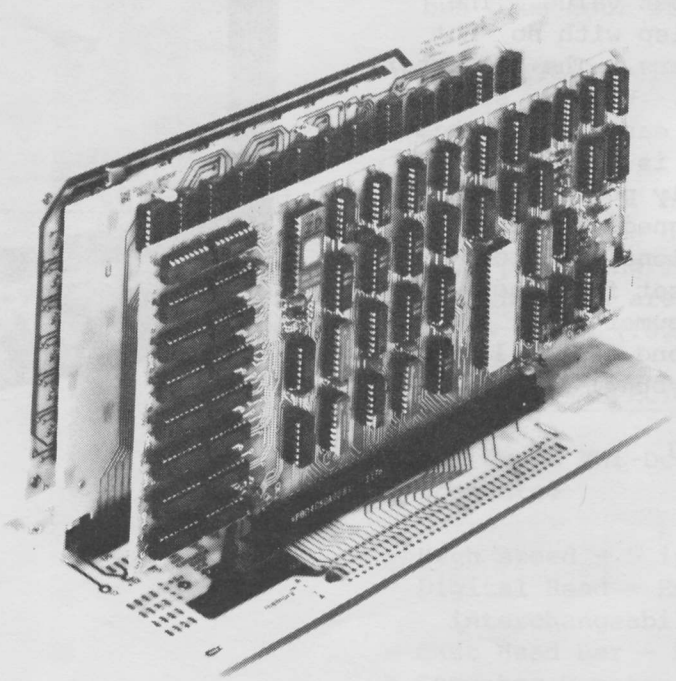
The Digital Group has always believed in offering a wide range of purchase options for its products. In order to provide a low-cost entry, we offer our systems without requiring the purchaser to buy our cabinets or power supply. This approach increases flexibility for custom mounting as well as keeping your total investment to a minimum. As can be seen in the pictures, each system is free-standing and requires only four long bolts or feet for bottom clearance.

3-Board System (with Mini-Mother)

The Digital Group System's basic configuration for any CPU consists of:

1 CPU card with 2K RAM
1 Input/Output card with 4 ports in and 4 ports out
1 TV Readout and Cassette Interface
1 Mini Mother card

which is referred to as the 3-Board System. The Mini-Mother has one additional space which can hold an additional 8K Memory card or a Front Panel. NOTE: The TV Readout requires an output port, a keyboard will require an input port, and the Cassette Interface requires the Least Significant Bit on an input and an output port. This leaves 2 7/8 input and output ports uncommitted. No interconnecting wiring is required for the TV Readout or Cassette Interface.



Mini-Mother with Z-80 CPU

The front card in this photo is an Z-80 CPU card. Behind it is an I/O board and behind the I/O board is a TVC card. This particular configuration is a 3-board system.

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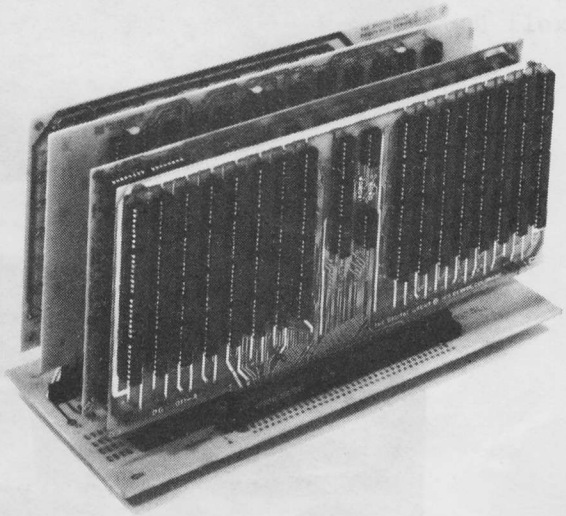
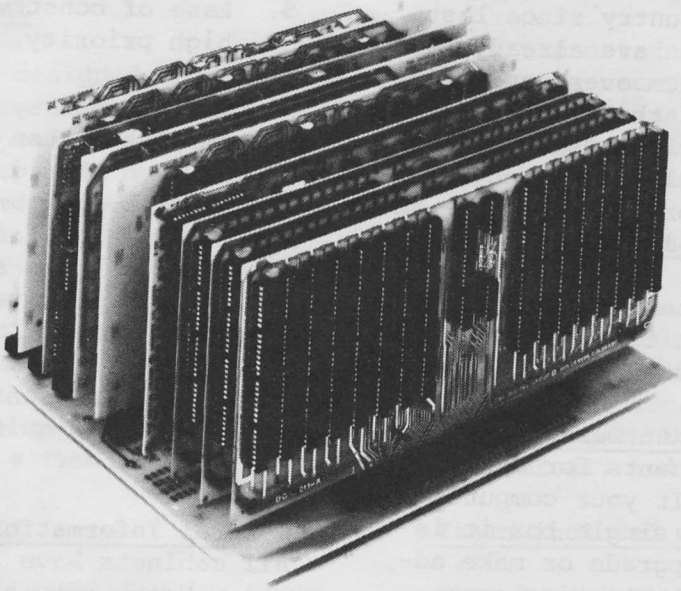
4-Board System (with Mini Mother)
The 3-Board configuration may also be supplied with the additional 8K Memory (for a total of 10K of RAM) which is referred to as the 4-Board System.



Additional Requirements
To make a Digital Group System fully operational, you need only add the following items:

1. Power supply (+5V, -5V, +12V, -12V recommended)
2. ASCII Keyboard (full 128 character ASCII recommended)
3. Audio Cassette Recorder
4. Video Monitor or modified TV set
5. Miscellaneous hardware and cables



The picture above is of a fully populated Standard Mother. Note: For a $15 charge the Standard Mother may be substituted in any system package.

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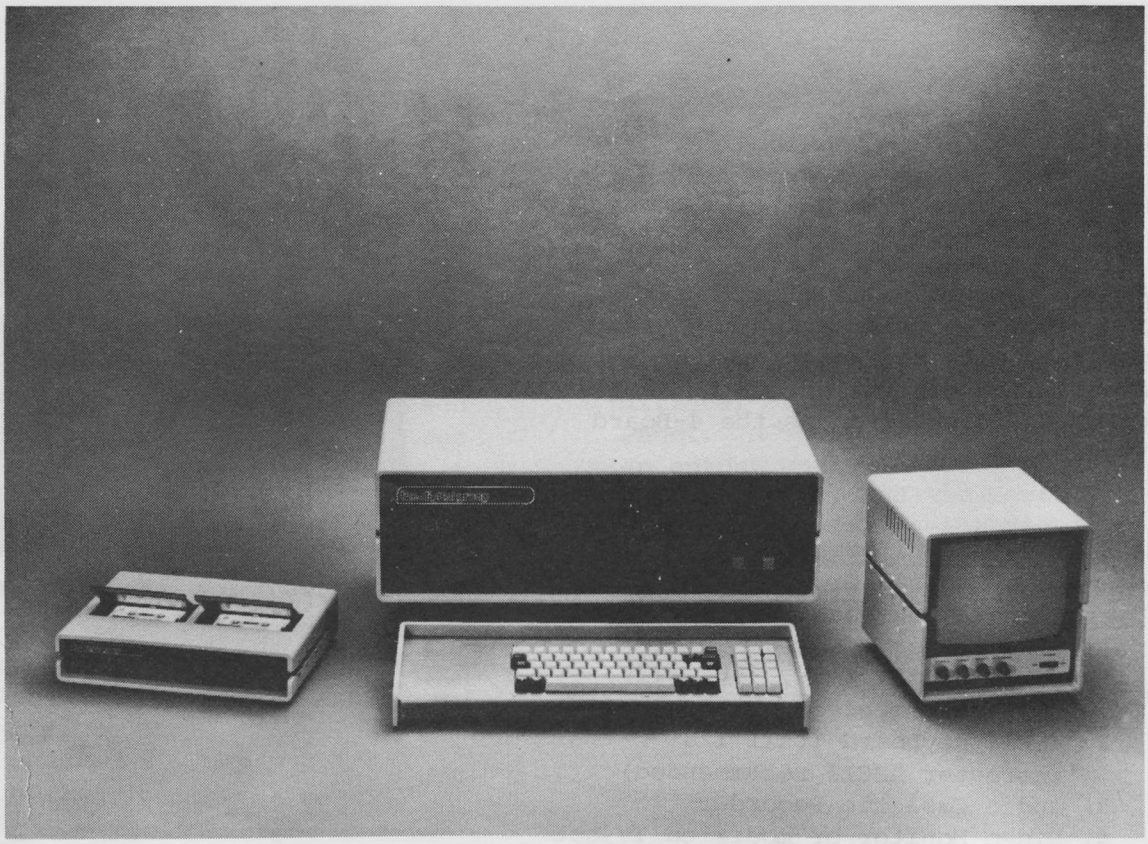

The Digital Group has been displaying prototype cabinets at various conventions around the country since last April. Many of you have already had a chance to look them over, and we're delighted to report that your reactions have been very enthusiastic to our approach. We also listened to all your suggestions for improvements--most of which have been incorporated.

As is our policy when we enter an area, we like to give you the reasoning behind what we're doing. And so -

Digital Group Cabinet Design Philosophy:

1. Separate components for maximum flexibility. If your computer system is in a single box it is difficult to upgrade or make additions without starting over.
2. Unified system appearance. Ideally, all components in your system should look like they belong together rather than cabled together at random.
3. Highest quality.
4. Custom design at pre-built prices.
5. Ease of construction and use have high priority.

We believe your system should look like a system rather than an assortment of products. You should be proud to display the results of your investments in labor and money. And, as always, that investment should be as adaptable as possible against the inevitable onslaught of technological change.

We feel our current system line embodies our philosophy quite well. We hope that you will agree.

General Information:

All cabinets have the following characteristics:

1. Heavy-duty aluminum is used throughout
2. Front panels and side rails are dark brown anodized aluminum
3. Heavy-duty commercial quality textured paint is used on all covers-color

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is tan
4. Logo is in white
5. Non-marring feet are supplied with each cabinet
6. All assembly hardware is included
7. Cabinets are prepunched for standard Digital Group products unless otherwise specified

Standard CPU Cabinet - Design model shown.

Standard CPU Cabinet

The CPU cabinet is designed to contain a standard motherboard based Digital Group System plus power supply. It is pre-punched to accept all necessary hardware as detailed below.

Power Supply

The power supply mounting plate is set up for the 6-Amp PWR-6 or 12-Amp PWR-12 with PWR-Ø supplies. The 18-Amp PWR-18 & PWR-Ø can also be supported internally, if desired (option # PWR-18SUB).

Expansion Capability

There is expansion capability for about 5 additional cards (beyond the standard motherboard) depending on the size and placement of the power supply. If the power supply is mounted externally, there is space for an additional 10 cards or 24 total. The card rack runs the entire length of the cabinet.

In addition, various mixes of power supplies, I/O, and memory may be used by varying positions of supplies, motherboards, and expansion cards. We have tried to maintain as much flexibility as possible. A few possible configurations are listed starting in the next column.

MB Position	Maximum Memory	Maximum I/O in and out
with 12A P/S in Cabinet:		
1	26K	36 ports
2	42K	32 ports
3	66K	16 ports
with 18A P/S in cabinet:		
1	26K	24 ports
2	42K	20 ports
3	not available w/18A	
with Power Supplies out of cabinet:		
1	26K	68 ports
2	82K	44 ports
3	130K	16 ports

Note: to obtain maximum numbers shown, it may be necessary for customer to drill a few small holes and trim excess materials off MB-2 and expansion cards.

Back Panel Connectors

Back panel connection is provided via optional industry standard 22-pin dual readout edge connectors (.156" spacing) and mating paddle cards. We believe this approach to be very reliable, economical, and readily available.

Items included with CPU Cabinet (CB-CPU):

Qty	Description
1	Standard 5" box fan (quiet type)
1	Lighted power switch - red w/legend
1	Lighted reset switch - blue w/legend
1	Card rack for standard motherboard (rails extend entire length of cab.)

Back-panel hardware:

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1 SO-239 Video connector
1 Fan on-off switch
1 Grounded HD 3-wire power cord
1 Fan finger guard
1 Power cord strain relief
2 Miniature audio jacks
1 Fuseholder
1 Slo-blo fuse
1 Set assembly hardware - misc. screws, bolts, grommets, etc.
4 Rubber feet
1 Wiring harness for hardware & power
1 22-pin dual readout w/w conn. (44 lines)
1 22-pin dual-sided paddle card (44 lines)
1 Digital Group 3-ring Systems binder

Specifications:

Height = 7.5"
Width = 24"
Depth = 16.75"
Weight = approx 15 lbs with hardware, w/o power supply or system

Order code	Description
CB-CPU	Standard CPU cabinet
CB-CPU-OP1	Subst. 18A P/S mounting plate

Keyboard Cabinet with KEY1 - design model shown.

Keyboard Cabinet

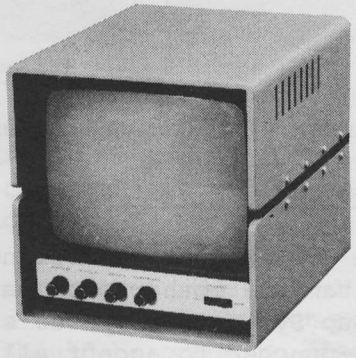
Keyboard cabinets are supplied in a similar design theme as the rest of the system. There are 2 options:

Option 1 - Insert punched for KEY1
Option 2 - Blank insert for custom keyboard mounting

Specifications

Insert:
Height (front) = 1.85"
Height (rear) = 3.25"
Width = 20.8"
Depth = 7.25"
Overall:
Height = 4.275"
Width = 21"
Depth = 7.843"

Order Code	Description
CB-KEY1	Cabinet for KEY1
CB-KEYØ	Cabinet w/ blank insert



9" Monitor Cabinet - Design model shown.

9" Monitor Cabinet

The monitor cabinet is designed to contain our 9" Javelin or Sanyo monitor. It replaces the original cabinet and is strictly a very nice dress option.

9" Monitor Cabinet Specifications:

Height = 10"
Width = 9"
Depth = 10.25"

Order Code = CB-MON9

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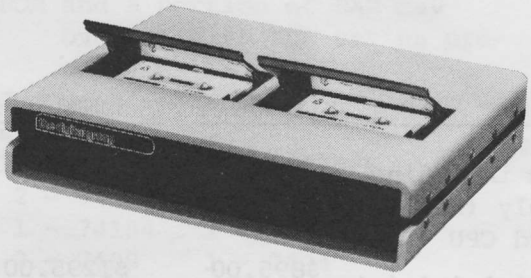


Cassette Storage System Cabinet - Design model shown - production model will be deeper.

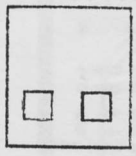
Specifications:

Height = 2.5"
Width = 13.5"
Depth = 16"

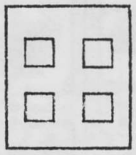
Order Code	Description
CB-CAS2	Cab. for 2 drives
CB-CAS4	Cab. for 4 drives
CB-CAB-T2	2-drive spare top
CB-CAB-T4	4-drive spare top

Cassette Storage System Cabinets

The CB-CAS2 cabinet for the cassette drives is designed to contain 2 drives and, optionally, the PHI-F interface card. The CB-CAS4 cabinet for the cassette drives is designed to contain 4 drives only. The two configurations are depicted below in top view:



CB-CAS2



CB-CAS4

As you can see, the difference is between the cabinet tops. Cabinet tops will also be available separately should your requirements change.

Digital Group Recommendations:

CB-CAS2 cabinet is suitable for:

- o Any 2-drive system with or without interface card mounted inside.
- o "Non-DG" systems (4-drive "non-DG" configurations will require 2 cabinets or external interfacing.)

CB-CAS4 cabinet (4-drive) is suitable primarily for Digital Group systems which can accomodate the PHI-F card on the motherboard.

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SYSTEM COMBINATIONS

We couldn't resist packaging up various combinations of our equipment in standard configurations and giving you a price break as an incentive to buy the whole system at once.

CPU Combinations:

Order Code	Description	Kit Price	Assembled Price
Z80-SYS1	Complete 4-board Z80 system CPU including 10K memory, 12 Amp power supply (PWR-12), Standard Motherboard, Standard CPU cabinet (CB-CPU)	$895.00	$1295.00
Z80-SYS2	As above, with 18K	$1095.00	$1545.00
Z80-SYS3	Complete 5-board Z80 system CPU (Z80-SYS2) plus KEY&CB, MON9&CB, PHI-F, CAS&CB4	$2045.00	$2545.00

Options to above:

8080-SUB	Substitute 8080 CPU - deduct	(50.00)	(50.00)
6800-SUB	Substitute 6800 CPU - deduct	(50.00)	(50.00)
6500-SUB	Substitute 6502 CPU - deduct	(100.00)	(100.00)
SYS-MEM8	Additional 8K memory boards when purchased with Systems or 3-board or 4-boards . .	$200.00	$270.00
SYS-MEM8C	Additional 8K 300ns low-power Memory boards when purchased with Systems, 3-boards, or 4-boards	$250.00	$320.00
91L02C-10S	Substitute 300ns low-power memory in SYS1	$62.50	$62.50
91L02C-18S	Substitute 300ns low-power memory in SYS1 or SYS 3	$112.50	$112.50
PWR-18SUB	Substitute 18 Amp power supply and mounting plate	$40.00	$40.00

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1702A EPROM MEMORY BOARD

Features:

Holds 4K of 1702A's

ROM and a portion of RAM may overlap with ROM taking precedence.

Jumperable to any 4K boundary

Parts List:

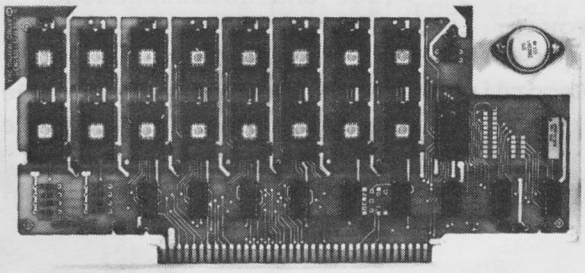
16 - 1702A	1 - LM320/5
2 - 74125	3 - 7430
1 - 74154	1 - 7402
2 - 7408	1 - 7404

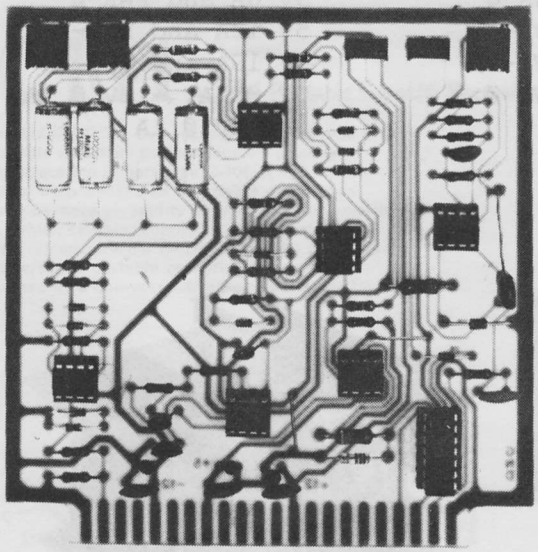
Misc. bypass caps, IC sockets, 36-pin dual connector

Order Code = 1702-F Full kit with 4K 1702A's (unprog.)

1702-Ø Full kit without 1702A's

1702-PCC PC Board & Connector





STANDALONE AUDIO CASSETTE INTERFACE

We are not offering a slightly improved standalone version of the audio cassette interface that we include on our TV Readout (TVC). This is Dr. Suding's latest audio cassette interface as described in the July '76 issue of BYTE. It is designed to interface to operate with any audio cassette recorder of some quality ($50 & up).

The kit consists of all parts, a small single-sided PC Board (4.75" by r.825") which plugs into a 22-pin connector. The connector supplies is single readout with solder eyelets. This interface is not plug-in compatible with any bus structure we know of (including ours). Therefore, you will be required to hook up 3 power lines and 4 data lines - 2 to ports. Driving software is included with the kit and in the BYTE article.

In addition to its primary function as an audio cassette interface at 1100 baud, this cassette interface will also support the proposed BYTE "Kansas City" 300 baud standard, amateur radio radioteletype, standalone radioteletype terminal, and audio frequency shift keying unit in general. Various component value changes to support these applications are covered in the BYTE article but are not supplied with the kit.

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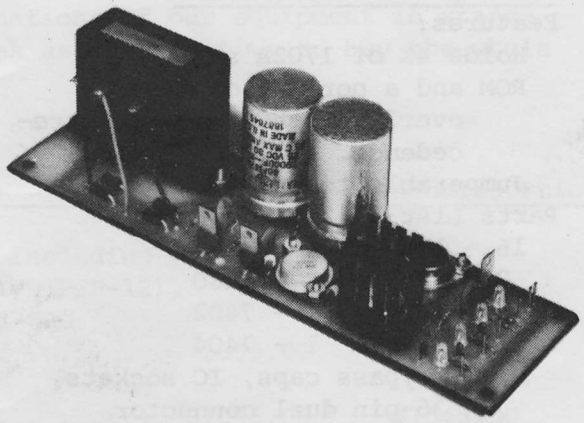
Basic Specifications:
Data Rate: 1100 baud
(100 characters/second)
Power: +5V, ±12V all with nominal current regs.
Recording method: FSK with full-wave active filters, standard wide-shift RTTY freqs.
Order Code = CAS-STD



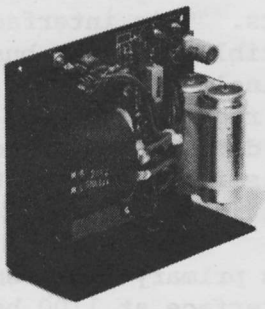
POWER SUPPLIES

Digital Group System Power Supplies are modular 4-voltage supplies contained in two units. You may select either 6, 12, or 18 amps on the +5V line and the 3-voltage supply. Should your system outgrow its power supply, increasing its capability is usually a matter of upgrading the +5V supply only, not purchasing a whole new 4-voltage supply. The +5V supplies are available as assembled units only.

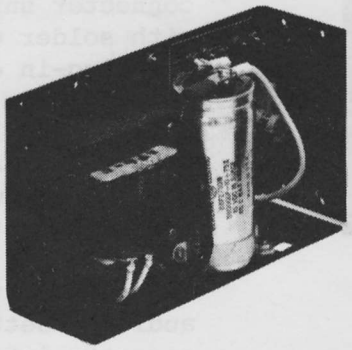
3-Voltage Power Supply (PWR-Ø)
Provides: +12V at 1 Amp
-12V at 1 Amp
- 5V at 1 Amp
All over-voltage, over-current and over-temperature protected.

Power Supply Ordering Information

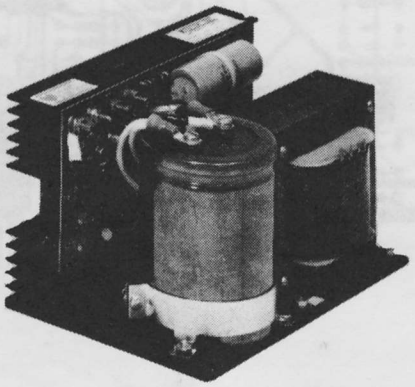
Order Code	Consists of:
PWR-6	5V 6A and PWR-Ø
PWR-12	5V 12A and PWR-Ø
PWR-18	5V 18A and PWR-Ø
PWR-Ø	-5V @ 1A, -12V @ 1A, +12V @ 1A



+5V - 18 Amp



+5V - 12 Amp



+5V - 6 Amp

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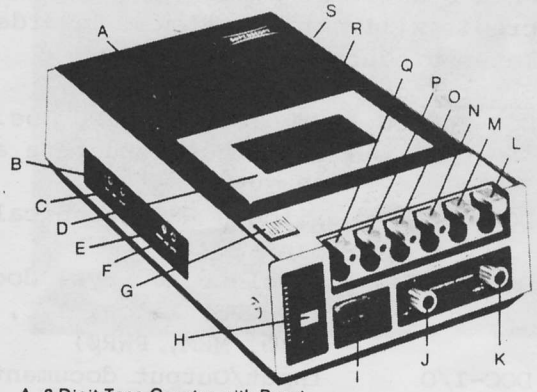
ACCESSORIES:

A number of our customers may have been interested in an appropriately featured cassette recorder. The following device represents what The Digital Group feels is the best value in today's market.

Superscope C-104 Cassette Recorder

C-104 AC/DC Portable Cassette Recorder with Vari-Speed

For the musician, businessperson, or anyone who expects maximum performance we proudly introduce the Superscope C-104. It has features never before found on a portable recorder to provide more versatility for your recording needs ... which set this recorder apart from all others. And remember—the C-104, and all the other great Superscope portable cassette recorders are backed by a one-year warranty on parts and labor.



A. 3-Digit Tape Counter with Reset
B. External Speaker Jack
C. Auxiliary Input Jack
D. Cassette Compartment
E. Remote Stop/Start Jack
F. External Microphone Jack
G. Built-in Electret Condenser Microphone
H. Straight-Line Playback Volume Control
I. Record Level Battery Strength Indicator
J. Playback Tone Control
K. Vari-Speed Pitch Control
L. Locking Pause Control
M. Stop/Eject Button
N. Cue/Fast Forward Button
O. Play Button
P. Review/Rewind Button
Q. Record Button
R. AC Input Jack
S. 6V DC Input Jack

ADDITIONAL FEATURES
1. Automatic Record Level
2. Dual Flywheel Machanism
3. Automatic Total Mechanism Shut-off (TMS).
4. Built-in Recharging Circuitry
5. Optional Ni-Cad Battery Pack
6. Unique Lever Action Controls
7. Vari-Speed Pitch Control (for adjusting speed plus or minus 20%)

SPECIFICATIONS:

POWER REQUIREMENTS:
AC 120 Volts AC, 6 Watts 50/60 Hz
DC 6 Volts
Battery size & quantity: 4
Size "C" batteries.
Battery life: 6 hrs. continuous

TAPE SPEED:
1⅞

REEL SIZE:
Cassette

RECORDING SYSTEM:
Half-track Mono

REWIND AND FAST FORWARD TIME:
100 seconds/C-60

FREQUENCY RESPONSE:
Standard Tape:
60 Hz to 10 kHz @ 1⅞ ips

SIGNAL-TO-NOISE RATIO:
LOW NOISE TAPE: 48 dB

INPUTS:
1 Auxiliary: (one)
Plug type: Mini
Impedance: 100 K Ohms.
Input Sensitivity: 100 mV.
1 Microphone: (one)
Plug type: Mini
Impedance: Low
Input sensitivity: —72 mV.

SPEAKER COMPLEMENT:
Built-in speaker, 3¾"

BIAS FREQUENCY:
65 kHz.

TYPE OF LEVEL INDICATION:
Record Level Battery Strength Meter

POWER OUTPUT:
1.4 Watts Max. @ 1 kHz

HEAD CONFIGURATION:
1 half track erase
1 half track record/playback

WOW & FLUTTER:
NAB 0.25% RMS @ 1⅞ ips

NUMBER AND TYPE OF MOTOR:
1 DC Servo—Vari-Speed ±20%

NUMBER OF SEMI-CONDUCTORS:
10 TRANSISTORS
1 FIELD EFFECT TRANSISTORS (FET)
6 DIODES

OUTPUTS:
1 Extension speakers: (one)
Plug type: Mini
Impedance: 8 Ohms.
Unit Dimensions: 6" W x 2½" H x 11" D.
Unit Weight: 3 lbs., 9 ozs.

FC-S3-1

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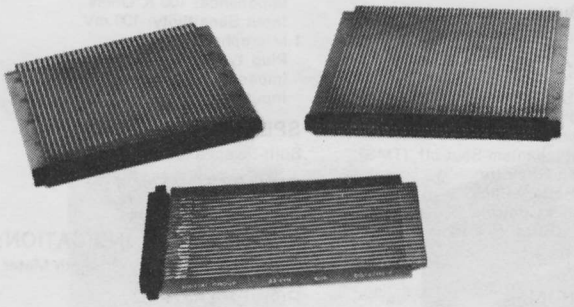
Features that we consider significant regarding the cassette recorder:

- Variable speed (Vari-Speed) for matching cassettes which may have been recorded off-speed. Varies ±20%
- Index Counter
- Cue/Fast Forward control and Rewind control: Aid in audibly searching tape for selecting program.

In addition, it's a pretty nifty general purpose cassette recorder.

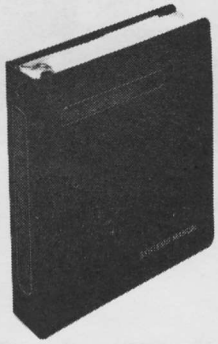
Each C-104 we provide will have been checked by The Digital Group for speed accuracy. In addition, we will modify the recorder by partially defeating the monitor jack cutoff switch so that you can hear the data (at reduced volume) while cable-connected to your computer. This modification consists of a single resistor and does not invalidate the warranty in any way.
Order Code = CAS-1



Extender Card Set:
Each 3-Card Extender Card set provides the following:

1 - 22 pin extender card and connector on .156" centers
1 - 36 pin extender card and connector on .156" centers
1 - 50 pin extender card and connector on .125" centers

All cards are double sided dual position extenders. Each card is also available separately. Overall card height with connector mounted is 7 - 1/8". Fingers are gold-plated.



Digital Group System Manual Binder
For those of you who wish to keep your system documentation together in a 3-ring binder, we now offer an attractive 1 1/2" binder in dark brown with gold lettering. This binder is complete with 2-page lifters and is identical to the one provided with each of our cabineted systems.
Order Code = Sys-Bind

Manuals
Digital Group now provides separate availability for most of our system manuals. These manuals are available on a standalone basis only. A credit will not be allowed towards later product purchase.

Order Code	Description
DOC-Z80CPU	Complete Z80 CPU Doc. incl. bus structure and OP Sys.
DOC-ZILOG	Zilog's Z80 technical manual.
DOC-Z80SYS	Complete Z80 Sys. doc. (Z80CPU, Zilog, TVC, I/O, MEM, PWRØ)
DOC-I/O	Input/Output documentation
DOC-MEM	8K Memory documentation
DOC-TVC	TV Readout & Audio Cassette documentation
DOC-PWRØ	3 Voltage Power Supply documentation
DOC-CASSTD	Standalone Cassette Doc.
DOC-PHI	Cassette Storage Sys. Doc.

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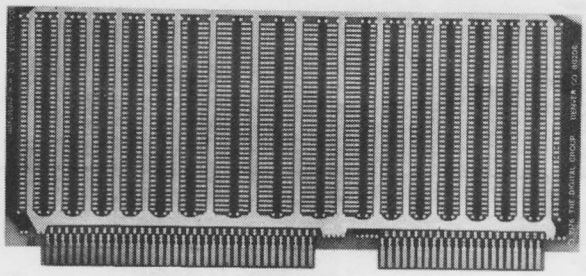
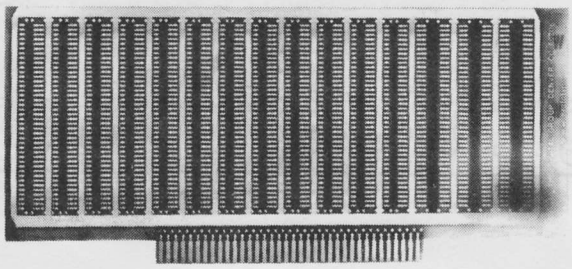
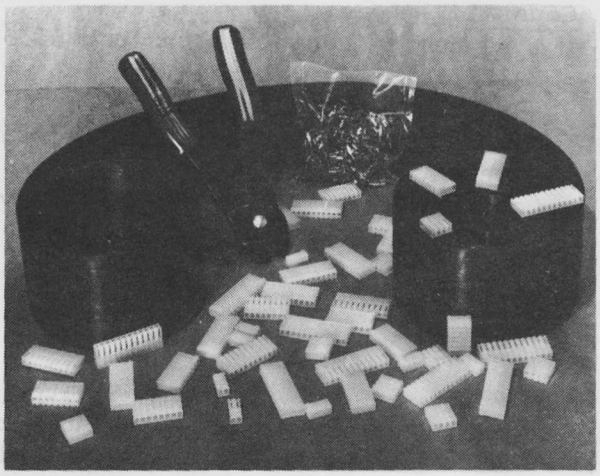
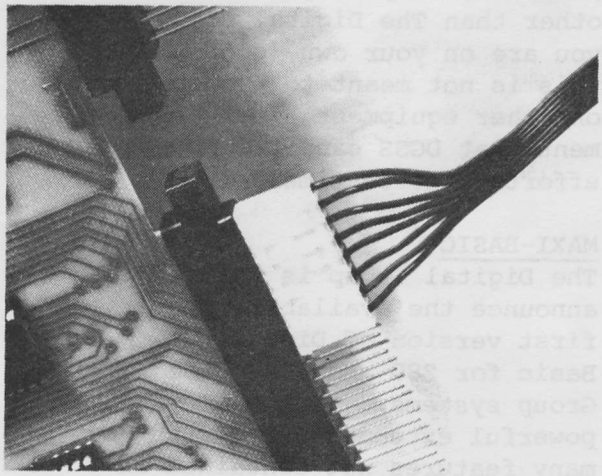




Prototype Cards

Two types of wire-wrap prototyping cards are available. The first is designed for custom input/output/ peripheral devices. It contains space for up to 65 14-or 16-pin dips plus 12 22-24 pin or 8 40-pin IC's plus some discretes. The second is for custom memory/front panel devices and may contain up to 60 14-or 16-pin devices or 36 22-pin (.4" width) devices plus an additional 3 columns for IC's of .4" through .6" width devices - 9 24-pin or 6 40-pin. Power and ground planes are provided and are connected to IC sockets via w/w or stick-on jumpers.





Molex Interconnection Kit:

Each Molex interconnection kit contains the following:

10 each of the following female bodies: 2, 4, 8, 10, 12 position
400 Crimp-on type pins
10 feet flexible heavy-duty flat cable (stranded wire)-62 wires wide
Molex crimp tool

Order Code = Cab-1

FC-S3-3

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digital group software systems inc.

Digital Group Software Systems was created as a separate corporation for the development and distribution of software for Digital Group Systems. They have also been providing support for the software side of the operation. DGSS is headed up by Chuck and Dianne Howerton.

What is DGSS Software? - DGSS Software is specifically tailored to execute on a Digital Group System unless otherwise specified. Most packages are provided on audio cassette (Suding Format - 1100 baud) with directions-for-use documentation. Source listings are not provided. (Tiny Basic programs are self-listing.) If you purchase our packages for any machine other than The Digital Group's, you are on your own (good luck!). This is not meant to prohibit use on other equipment, just a statement that DGSS cannot support your efforts at this time.

MAXI-BASIC

The Digital Group is delighted to announce the availability of the first version of Digital Group Maxi-Basic for Z80 and 8080 based Digital Group systems. This BASIC is a powerful extended BASIC with many features not contained in standard BASICs.

Major Features:

- Fast BCD Floating Point Arithmetic
- Formatted Output
- Multiple Statements per line
- Multiple Line Functions - User Defined with multiple variables
- Available Memory Size Determined Automatically
- Statement Renumbering
- String Manipulation
- N-Dimensioned Arrays
- Most Source Statements are stored as single bytes

Due to the high interest in this product, we've decided to include as much information as possible on the statements and commands. While this approach will probably be a little dryer than normal, it should help provide many of the answers to your questions about Maxi-BASIC's capabilities.

First, some notes on abbreviations:

1. ( ) = optional
2. LN = line number
3. exp = expression

General

- Line number range = 0 through 65,535
- Multiple statement per line separator = colon
- Blanks are ignored anywhere in statements
- Control-C = halts execution whenever entered

Commands

RUN (LN)	
LIST (LN),(LN)	
SCR	= Scratch program
REN (beg LN)(increment)	= Renumber
CLEAR	= Clear all var.
CONT	= Continue

Constant Range

.1E-63 through .99999999 E+63

Operators

+,-,/,*,↑

Relational

=,<,>,<>,>=,=>,<=,=<

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Boolean: AND, OR, NOT

Statements:	Comments
LET (optional)	
IF ... THEN ... ELSE ...	
FOR ... STEP	multiply nested
NEXT	
GOTO	
ON ... GOTO	
EXIT	same as GOTO, but terminates active FOR loops
STOP	
END	
REM	
READ	
DATA	
RESTORE (LN)	LN specifies the line the READ pointer is to be restored to.
INPUT ("literal prompt")	
INPUT1	Same as INPUT but inhibits Carriage Return at end of user input
GOSUB	
RETURN	
PRINT	
FILL	Fill a byte in memory with an expression value
OUT	Executes a Z80/8080 OUT instruction. Ex: OUT 5,3 will perform an OUT 5 instruction with 3 in the Accumulator

Arrays:

Any number of dimensions
Any size, to the limits of memory

Strings:

A string of 8-bit characters may be dimensioned to any size, limited only by available memory. Exs:

```
100 DIM z$(1), Z1$(10000)
```

Substrings A$(N,M) = substring of characters N through M

Concatenation: The string concatenation character is a plus sign

User Defined Functions

Either String or Numeric type
Single line
Multiple line
Any number of numeric arguments

Machine Language Subroutine Interfacing:

CALL (exp1, optional exp2)

exp1 = address of machine language subroutine
exp2 = value passed to machine language subroutine

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Functions:

FREE(0)	Number of bytes remaining in free storage
ABS(exp)	Absolute value of expression
SGN(exp)	Determines the sign of expression
INT(exp)	Interger value of the expression
LEN(str name)	Returns the length of the string
CHR$(expr)	Returns a string with the specific character
VAL(str exp)	Returns the numeric value of the string
STR$(exp)	Returns a string with the specified numeric value
ASC(str name)	Returns ASCII code of first character in string
SIN(exp)	SINE of expression
COS(exp)	COSINE of expression
RND(exp)	Returns a random number between 0 and 1.
LOG(exp)	Returns natural log of expression
EXP(exp)	Returns the value of e raised to the specified power
SQRT(exp)	Returns the positive square root of expression
CALL(exp,opt. exp)	See Machine Language Interfacing
EXAM(exp)	Returns the contents of addressed memory byte

Formatted Output:

```
PRINT %$10F3,J
```

Digital Group Maxi-BASIC uses Format Strings anywhere in the PRINT statement. A Format String consists of optional format characters followed optionally by a format specification.

The Format characters are:

- C = place commas to the left of decimal point as needed
- $ = place a dollar sign to the left of value
- Z = suppress trailing zeroes
- # = make this format string the default specification

Format Specifications (similar to FORTRAN) are:

- nFm = Value printed in n-char field, rt justified, m digits to rt of dec.
- nI = Value printed in n-char field, rt justified.
- nEm = Value printed in scientific notation.

All printed values are rounded if necessary.

TAB (N) = Advances printer to a specified output position

Storage Requirements:

Maxi-BASIC V.1.0 requires 8K and loads from 4K through 12K. The minimum Digital Group recommended configuration is 18K.

Distribution Package Includes:

User Documentation - Knowledge of BASIC in general is presumed
Object code on Suding audio cassette (1100 baud)

You will probably notice that there is an option on the Order Form for a special deal on Z80 Maxi-BASIC. For an additional $5.00 we will send you the Version 2.0 update to Z80 Maxi-BASIC. We are working hard on this also but no information is yet available as to capabilities or availability.

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1. TINY BASIC EXTENDED (TBX-TVCOS) 10K, VERSION 1

Created by Dick Whipple and John Arnold of Tyler, Texas - Based upon design criteria published in September 1975 issue of PEOPLE'S COMPUTER COMPANY - Dr. Robert Suding of The Digital Group, Inc., designed and develpped the software interfaces between TBX (TINY BASIC EXTENDED) and the TV-Cassette Operating System (TVCOS) for The Digital Group, Inc. 8080 microcomputer - a super-set of TINY BASIC language - has 26 possible simple or dimensioned variables - has 4 immediate commands.

(LST,NEW,RUN and SZE) and 12 commands (DIM, DTA, END, FOR, GOTO, GOSUB, IF, IN, LET, NXT, PR and RET) which may be entered either as program statements or immediate execution commands - also included is an RN or Random Number generator - includes 14-page documentation which lets you do everything with TINY BASIC EXTENDED that is presently possible.

2. TINY BASIC GAMES, DGSS SET 1 (TBX Game 1)

Contains five games written in TBX language - 3 games are TBX versions of games listed in either 101 COMPUTER GAMES or WHAT TO DO AFTER YOU HIT RETURN - other 2 games are original products of author Howerton - games on Set 1 tape are:

a. CHOMP: 2 or more players take turns biting into the poisoned cookie - each trying to force one of the others to take the poisoned "byte"!!!
b. CHECKERS: You against the computer in this classic board game - WARNING: The computer is as crafty as a 6-year old playing his first game!!
c. TIC-TAC-TOE: The computer plays a fairly reasonable game with just enough randomness in its selection to make the game interesting - can be beaten.
d. DIGIGUESS: Try to guess a 4-digit number "thunk up" by the computer based upon clues it supplies.
e. BRAINTEASER: A strategy game - you against your own worst enemy... YOU! Try to create a pattern working with a set of rules to drive you nuts!!!

NOTE: TINY BASIC GAMES, DGSS Set 1 and all TINY BASIC GAMES are read in AFTER "bootstrapping" TBX-TVCOS program into microcomputer.... and away (:RUNcr) you go!!

3. TINY BASIC GAMES, DGSS Set 2 (TBX Game 2)

All the games in this set were adapted to TBX-TVCOS by Dr. Robert Suding from 101 COMPUTER GAMES, PEOPLE'S COMPUTER COMPANY, and WHAT TO DO AFTER YOU HIT RETURN.

a. WAR-3: An artillery dual between 2 or 3 armies - OBJECT: To blast the opponent(s).
b. THERAPY: Have a relaxing "conversation" with DR. THERAPY and investigate your inner problem(s).
c. GOLF: 9 holes of championship play on the "micro-links" - hooks and slices are rare and 1-putts from 40 feet are fairly common.
d. REVERSE: Test your skills at arranging things in sequential order from a random beginning according to a fixed set of rules.
e. BIORYTHM: Predict your "highs" and "lows" from a computer-produced chart based on your personal statistics.

4. TINY BASIC GAMES, DGSS Set 3 (TBX Game 3)

All the games in this set were adapted to TBX-TVCOS by Ted Holdahl from 101 COMPUTER

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GAMES.

a. TAXMAN: Test your knowledge of factoring by trying to beat the TAXMAN!! It's tough but he can be beaten!!

b. SNARK: Learn symbolic logic and the use of Ven diagrams while trying to find the SNARK.

c. TRAP: Find the computer's number by trapping it between two guesses of your own.

d. NUMBER: Learn binary-searching techniques while trying to pinpoint a randomly-generated number between 1 and 100.

e. SQUARE-ROOTS: Computes the square root of any number from -32K to +32K.

f. CLOCK: This bonus program keeps accurate time using looping techniques and displays on the screen to the nearest second.

5. TINY BASIC GAMES, DGSS Set 4
(TBX Game 4)

All the games in this set were adapted to TBX-TVCOS by Ted Holdahl from 101 COMPUTER GAMES.

a. HAMURABI: Try governing ancient Sumaria successfully. The author says that the object of the game is to discover the rules.

b. STARS: Guess the computer's number based on clues which tell you whether your warm, hot, or cold.

c. 23-MATCHES: Outfox the computer by making it take the last match in the pile - You can beat it if you try hard enough.

d. 20-QUESTIONS: Take-off on an old radio-TV game where the player guesses the computer's number by asking questions.

e. BLACKJACK: From 1-9 players - Play against the house in this Casino game.

f. FACTOR: A bonus program which will compute the factors of any number up to 32,767 or tell you if it is prime.

g. BATUM: A super bonus game which is a variant of 23-MATCHES. Good selections will really make the computer think!!

TINY BASIC GAMES, DGSS Set 5
(TBX Game 5)

The games in this set, with the exception of SPACEBATTLE, were adapted from DEC's 101 COMPUTER GAMES and WHAT TO DO AFTER YOU HIT RETURN, People's Computer Co., by Louis Hutton, K7YZZ, Bellevue, WA. SPACEBATTLE is an original creation by Dr. Mark Yoseloff, E. Brunswick, N.J.

a. BOMBER: You can pilot your own WW II bomber in this game; your mission outcome will be determined ...as usual...by "Lady Luck" herself.

b. LUNAR LANDER: You have manual control for this landing 500 feet above a good spot. How you balance out your fuel, velocity of decent, and engine thrust will determine if you land on your good spot. If not, there will be one more "crater"!!

c. SPACEBATTLE: A mini-"Star-Trek" complete with Enterprise and Klingons. You command the Enterprise. Bearings are in degrees; ranges in kilometers; weapons are phasers, torpedoes, and missiles. Very complete. Man your battle stations!

d. MATADOR: Your chance to fight a bull in the great "computer" arena. How well you do in your decisions will be determined by your "unseen" crowd which will award you---posthumously, if necessary!!

e. DICE: Place your bet and the computer rolls. Unless you get craps on the first roll, it's your point. You can win in a hurry if your first roll is a 7 or 11...but watch out afterwards!

TINY BASIC GAMES, DGSS Set 6
(TBX Game 6)

One of the finest uses for any computer is that of education. Thus, Game Set 6 came about by popular demand to aid the

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student in learning arithmetic. Five games by three authors are included:

CHIEF by Louis Hutton; MR. QUIZZER by Dr. Mark Yoseloff; ADDITION, SUBTRACTION and MULTIPLICATION by Walter White, Personal Computing Company, Frazer, PA.

a. CHIEF: The CHIEF will "remember" the original number utilized after specific operations are performed and will "pow wow" this number if the user is incorrect.

b. MR. QUIZZER: Four levels of problems from simple addition through tougher addition, subtractions, multiplication and division...complete with encouragement.

c. ADDITION and
d. SUBTRACTION: Rigorous math drills on each with up to 100 problems in each section. Keeps score and you'll even get a grade for all your efforts!!

e. MULTIPLICATION: After the student drills on multiplication tables, a series of problems ready for a solution are presented...complete with grade based upon your performance.

"GALAXY" -

An adaptation of the copyrighted game by SCELBI Computer Consulting, Inc., Milford, CONN, by Ted Holdahl, WØPMY, Loveland, CO. A few changes in the display...but the terrific logic of this game is unchanged from the original. This program is self-bootstrapping and utilizes the randomizer. Seven commands are available including scans, phasers, torpedoes and shield transfers. Complete course/trajectory vectors for moving the Enterprise are included in the operating instructions.

KINGDOM; LIFE 1 & LIFE 2
(all on one tape)

a. KINGDOM: Lets you be the "KING" of land/bushels/population of YOUR "KINGDOM" - Object of game is to accumulate 1 million acres and/or bushels which can only be accomplished by buying and selling land. Tests your ability to buy and sell these items and outwit the complications all KINGS have!!
b. LIFE 1: Standard LIFE which will take a pattern and, with simple rules of LIFE, iterate until a stable situation is reached.
c. LIFE 2: Bi-Symetrical pattern generator based upon modified rules of LIFE but a stable situation is NEVER achieved - Will continue to run and never repeat pattern for approximately 10^{31} years!!

EDUCATOR 8080

Designed to assist the micro-computer user in understanding the effect that the execution of various instructions has on status and operation of micro-processor unit - Provides continuous real-time display of status flags, Accumulator, B and C registers which reflect their contents as changed and/or modified by instructions issued by user - Complete with EDUCATOR instruction set.

AMATEUR RADIO HAM CASSETTE FOR 8080 (HAM-1)

Amateur Radio (CW) Send and Receive
RTTY (Baudot) Send and Receive

CW Receive is automatically self-adjusting to any CW speed sent
CW Send has 8 100-character memories that may be individually called up
CW Send also features a 256-character software FIFO buffer

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RTTY Receive can select 60, 66 and 100 Words per Minute (WPM); upper or lower case output to TV.
RTTY Send program can send at 60, 66, or 100 WPM.

All 4 programs are designed to reside simultaneously in a 10K Digital Group 8080 system.

Z-80 EDUCATOR

A completely new EDUCATOR for the Z-80 micro-computer system which implements over 400 of the Z-80 commands and variants. Displays the seven working registers and the flags. A great way to learn about... and to see...what is happening inside your Z-80 computer.

ASSEMBLER[1]

A two-pass memory-resident symbolic assembler with the capacity for over 128 symbolic tags which stores all source code in a space-compressed form thus facilitating maximum utilization of available memory. Requires 12K plus working storage---Minimum recommended system = 18K.

DISASSEMBLER[1]

The disassembler will take any program and alternately display it in nmemonic/OP code form or dump form in either hex or octal or in ASCII character form. This tool is extremely useful for documenting your hand-coded machine language programs.

TEXT/EDITOR[1]

The Text/Editor is a DGSS implementation of the "Classy Text/Editor" by Fred Grebe, Denver, CO, as published in DR. DOBB's JOURNAL...et al, August, 1976. A very versatile piece of software for manipulation of textual material.

[1] The Assembler, DisAssembler and Text/Editor all come with three front-end processors: 1) 60/WPM Baudot TTY; 2) 110 Baud ASCII TTY; and 3) IBM Selectric.

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DIGITAL GROUP SOFTWARE SYSTEMS, INC. ORDER FORM

IMPORTANT!! PLEASE FILL IN FOLLOWING INFORMATION BEFORE SENDING IN ORDER FORM.

TYPE OF MICRO-COMPUTER (BRAND NAME) _____

8080 ? _____ Z-80 ? _____ SIZE (in K) OF MEMORY _____

NEW ? _____ UPGRADED ? _____ SUDING TV and CASSETTE OPER. SYS. I/F ? _____

SUDING ROM ? _____ OTHER TYPE OF SYSTEM ? _____ DEALER ? _____

* * * * * * * * * * * * *

QTY.	PROGRAM	8080	or Z-80	OTHER		PRICE EACH	AMOUNT EXTENDED
	TBX-TVCOS						
____	-10K	____	____	____		$ 5.00	_____
____	-18K	____	____	____		5.00	_____
____	-26K	____	____	____		5.00	_____
	TBX-TVCOS Baudot						
____	-10K	____	____	____		5.00	_____
____	-18K	____	____	____		5.00	_____
____	-26K	____	____	____		5.00	_____
	TBX-TVCOS ASCII						
____	-10K	____	____	____		5.00	_____
____	-18K	____	____	____		5.00	_____
____	-26K	____	____	____		5.00	_____
					EITHER		
____	TBX GAME 1				_____	5.00	_____
____	TBX GAME 2				_____	5.00	_____
____	TBX GAME 3				_____	5.00	_____
____	TBX GAME 4				_____	5.00	_____
____	TBX GAME 5				_____	5.00	_____
____	TBX GAME 6				_____	5.00	_____
____	KINGDOM-LIFE^2	____	____	____		5.00	_____
____	HAM-1	____	____	____		5.00	_____
____	EDUCATOR	____	____	____		10.00	_____
____	"GALAXY"	____	____	____		7.50	_____
____	ASSEMBLER	N/A	____	____		15.00	_____
____	DISASSEMBLER	N/A	____	____		10.00	_____
____	TEXT/EDITOR	____	____	____		7.50	_____
____	MON-8 (for 8008)	N/A	N/A	____		6.00	_____

AMOUNT ENCLOSED: _____

SHIP TO: _____

_____

_____

_____

Bank Americard #/or Master Charge #:

_____

_____

Exp. Date _____

M/C IB # _____

SEND THIS FORM TO:

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po box 1086, arvada, colorado 80001

FC-S4-8

WARRANTY/SERVICE POLICY

The Digital Group has now formalized its limited warranty and service policy. We are trying to accomplish two things -- we want Digital Group kit purchasers to be satisfied and we want to help if you get in trouble.

Debugging a computer and/or its peripherals and components is a time-consuming task - especially if you are unfamiliar with the circuit. The kit supplier should be much more familiar with the circuit and be able to debug it much more effectively.

However, before we detail our limited warranties, a few terms should be defined:

Service Charge: Fix-it fee usually established at announcement. Covers all labor involved tracking down problems and correcting them. Applies to out-of-warranty kits. Also applies to units if the unit goes down and the purchaser wishes us to fix the problem. Service charges (fix-it-fee) should be sent with the kit for repair.

Parts Charges: Any user parts found to be defective and replaced. Also applies to parts out-of-warranty.

Postage: You pay the postage back to us, we pay the postage back to you.

The Digital Group reserves the right to change any warranty policy or term and also the right to send hopeless basket-cases back to the purchaser (returning service charges).

DIGITAL GROUP LIMITED WARRANTY

Digital Group assembled and tested units- all parts and labor are warranted for 90 days after receipt of unit. Warranty not valid for user-caused problems - parts and service charges will apply.

Full parts kits - All Digital Group supplied parts are warranted for 90 days on an exchange basis. Service charge for labor will apply if the entire kit is sent back for repair. User-caused problems are chargeable for both parts and service.

Partial kits or parts - All Digital Group supplied parts are warranted for 90 days on an exchange basis. Full service charge will apply if kit sent back for repair. User caused problems are chargeable for both parts and services.

Modified Kits - Warranty applies only to unmodified portions and those portions unaffected by any modifications.

FLAT FIX-IT FEE SCHEDULE

Board	Fee	Tune	Both
TVC	$20.00	$20.00	$30.00
I/O	10.00		
MEM	20.00		
CPU's(all)	40.00		
PHI-DECK	35.00		
CAS-STD	20.00		
TVR	20.00		
MB-2	10.00		

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DIGITAL GROUP DEALERS

This is a current list of official Digital Group dealers. They are a qualified group of people ready to help you select the components of your Digital Group System. They will be able to offer local support and many of them should be able to offer off-the-shelf delivery shortly.

ALABAMA

The Computer Center
Terry Woodward
303B Poplar Place
Birmingham, AL 35209
(205) 933-3453

ARIZONA

Arizona Micro Systems
Otto P. Weeden
3240 W. Larkspur
Phoenix, AZ 85029
(602) 942-8405

CALIFORNIA

Bits 'n' Bytes Microcomputer Systems
John L. Mock
679D S. State College Blvd.
Fullerton, CA 92631
(714) 879-8386

Byte Shop Computer Store
Don Anderson
509B Francisco Blvd.
San Rafael, CA 94901
(415) 457-9311

Byte Shop of San Jose
Lawrence Grijalva
155 Blossom Hill Road
San Jose, CA 95123
(408) 226-8383

Computer Store of San Francisco
Al Cherin
1093 Mission St.
San Francisco, CA 94103
(415) 431-0640

Microbyte
G. T. Hall
Bob Barthelow
584 Rio Lindo Ave., Suite 4
Chico, CA 95926
(916) 891-1300

People's Computer Shop
W. K. Lin
13452 Ventura Blvd.
Sherman Oaks, CA 91423
(213) 789-7514

Plate Solid State Electronics
Larry Plate
Balboa Building, Suite 301
735 State Street
Santa Barbara, CA 93101
(805) 962-1990

Rainbow Computing, Inc.
Gene Sprouse
10723 White Oak Avenue
Granada Hills, CA 91344
(213) 360-2171

Sunshine Computer Company
Richard E. Travis
20710 S. Leapwood Ave.
Carson, CA 90746
(213) 830-8965

The Computer Center
David Thalimer
8205 Ronson Road
San Diego, CA 92111
(714) 292-5302

Upland Computer Labs
Rupert Penner
Don Phillips
75 East Ninth Street
Upland, CA 91786
(714) 981-1503

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FLORIDA

Byte Shop
John T. Dalton
Gerald Langston
1325 N. Atlantic Ave.
Cocoa Beach, FL 32931
(305) 784-1881

Micro Compute Systems Sales & Service
Lee Hinman
1633 South State Rd. #7
North Lauderdale, FL 33068
(305) 972-6093

HAWAII

Capacity Inc.
Steve Rose
P.O. Box A
Haiku, Maui, HI 96708
(808) 575-2930

Small Computer Systems
Jeremy Jones
3140 Waialae Avenue
Honolulu, HI 96816
(808) 732-1471/946-3859

ILLINOIS

itty bitty machine company
Robert Goelkel
1316 Chicago Avenue
Evanston, IL 60201
(312) 328-6800

INDIANA

Data Domain
Ray Borill
406 South College Avenue
Bloomington, IN 47401
(812) 334-3607

Quantum Computer Works
David A. Kominiak
6637 Kennedy Avenue
Hammond, IN 46323
(219) 989-9828

KANSAS

Larry T. Walker
10 Fifth Artillery Road
Fort Leavenworth, KS 66027
(913) 684-2138

MARYLAND

The Computer Workshop, Inc.
Raymond N. Brown
11308 Hounds Way
Rockville, MD 20852
(301) 468-0455

MASSACHUSETTS

Computer Mart, Inc.
Charles Dunning
1097 Lexington Street
Waltham, MA 02154
(617) 899-4540

MICHIGAN

CompuMart, Inc.
David Rasche
Jor-Chin Ho
254 S. Wagner Road
Ann Arbor, MI 48103
(313) 994-4445/994-4446

Computer Mart
Joseph Inatome
1800 West Fourteen Mile Road
Royal Oak, MI 48073
(313) 576-0900

MISSOURI

Micro Com Inc.
Mark Bunker
6314 Brookside Plaza
Kansas City, MO 66208
(816) 363-5131

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NEW HAMPSHIRE

Computer Mart of New Hampshire
Ron Cordova
10 Whitford Road
Nashua, NH 03060
(603) 889-0691

NEW JERSEY

The Computer Mart of New Jersey, Inc.
Larry Stein
501 Route #27
Iselin, NJ 08830
(201) 283-0600

NEW YORK

Richard S. Brannin
33 Ogden Avenue
East Williston, NY 11596
(516) 746-1079

Computer Mart of New York
Stanley Veit
314 Fifth Avenue
New York, NY 10001
(212) 279-1048

Ithica Audio
Steven Edelman
410 College Avenue #417
Ithica, NY 14850
(607) 273-3271

Micro Computer Workshop
Joel Heckman
234 Tennyson Terrace
Williamsville, NY 14221
(716) 634-6844

The Computer Emporium
Dennis Buckley
Room 512, 487 Broadway
New York, NY 10013
(212) 226-2038

OHIO

Microworks
Gary Shell
3914 Miami Road, Suite 307
Cincinnati, OH 45227
(513) 561-7315

OKLAHOMA

Bits, Bytes, & Micros
Charles R. Gibson
11701 Sandy Circle, R3
Yukon, OK 73099
(405) 354-4408

OREGON

The Real Oregon Computer Company
Jim Bohle
205 West Tenth
Eugene, OR 97401
(503) 484-1040

PENNSYLVANIA

Personal Computer Corporation
Dave Hilton
Frazer Mall Routes 30 &352
Frazer, PA 19355
(215) 647-8460

David Rosensaft
123-125 South 39th Street
University Place A-4
Philadelphia, PA 19104
(617) 856-2457

SOUTH CAROLINA

Byte Shop of Columbia
Nick Johnson
2018 Greene Street
Columbia, SC 29205
(803 771-7824

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DIGITAL GROUP PRICE LIST

effective 11/15/76

Description	Order Code	Prices Kit	Assembled
SYSTEMS:			
3-board system with Z80-CPU, IO-F, TVC-F and MB-1 (2K total memory)	Z80-3BD	$475.00	$695.00
4-board system with Z80-CPU, IO-F, TVC-F, MEM-8 and MB-1 (10K total memory)	Z80-4BD	$675.00	$945.00
System Options:			
Substitute 8080 CPU - deduct	8080-SUB	(50.00)	(50.00)
Substitute 6800 CPU - deduct	6800-SUB	(50.00)	(50.00)
Substitute 6502 CPU - deduct	6500-SUB	(100.00)	(100.00)
Substitute Standard Motherboard	MB2-SUB	15.00	45.00
System Packages:			
Complete 4-board Z-80 system including: 10K memory, 12 Amp power supply (PWR-12), Standard Motherboard (MB-2), and Standard CPU Cabinet (CB-CPU)	Z80-SYS1	$895.00	$1295.00
Complete as above, with 18K	Z80-SYS2	$1095.00	$1545.00
Complete Z80-SYS2 plus Key1&CB, Mon9&CB, Phi-F, Cas&CB, ...	Z80-SYS3	$2045.00	$2545.00
System Package Options:			
Additional 8K Memory boards when purchased with either SYS1 or SYS2 - each	SYS-MEM8	$200.00	$270.00
Additional 8K 300ns low-power Memory boards when purchased with either SYS1 or SYS2 . .	SYS-MEM8C	$250.00	$320.00
Substitute 300ns low-power memory in SYS1 . . .	91L02C-10S	$62.50	$62.50
Substitute 300ns low-power memory in SYS2 . . .	91L02C-18S	$112.50	$112.50
Substitute 18 Amp power supply (includes CB-CPU-OP1)	PWR-18SUB	$40.00	$40.00
Note: also any other of our CPU's may be supplied in place of the Z80 by selecting 8080-SUB, 6800-SUB, or 6500-SUB from the System Options and deducting the appropriate amount.			
INDIVIDUAL ITEMS:			
Memories:			
8K 500 nanosecond 2102-1's	MEM-8	$225.00	$295.00
8K 300 nanosecond low-power 91L02C's	MEM-8C	$275.00	$345.00
8K memory board as above without memory IC's .	MEM-Ø	$50.00	na 145.00
1702A 4K EPROM board with 4K 1702A's (unprog'd)	1702-F	$299.00	$345.00
1702A 4K EPROM board without 1702A's	1702-Ø	$75.00	$105.00
1702A PC board & Connector	1702-PCC	$35.00	na
Peripherals & I/O			
Complete I/O card - Four 8-bit Input ports and four 8-bit Output ports	IO-F	$65.00	$95.00

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TV Readout and Audio Cassette Interface	TVC-F	$130.00	$195.00
Digital Cassette Storage Interface for 4 drives	PHI-F	$135.00	$195.00
Digital Cassette Storage Drive	PHI-1	na	$115.00
2 Digital Cassette Storage Drives and cabinet .	CAS&CB2	$270.00	$295.00
4 Digital Cassette Storage Drives and cabinet .	CAS&CB4	$480.00	$505.00
Capacitance Keyboard with numeric pad and cursor control keys and interface cable	KEY1	na	$150.00
Capacitance keyboard as above and cabinet	KEY1&CB	$180.00	$205.00
9" Javelin monitor	MON-9J	na	$175.00
9" Javelin monitor with Digital Group cabinet . .	MON9&CB	$199.50	$215.00
Power Supplies:			
5V at 6 Amps and PWR-Ø	PWR-6	$95.00	$125.00
5V at 12 Amps and PWR-Ø	PWR-12	$135.00	$165.00
5V at 18 Amps and PWR-Ø	PWR-18	$175.00	$205.00
-5V at 1 Amp, -12V at 1 Amp, +12V at 1 Amp . . .	PWR-Ø	$45.00	$60.00
Cabinets:			
Standard CPU cabinet	CB-CPU	$125.00	na
Standard CPU cabinet w/o fan	CB-CPU1	$115.00	na
Substitute 18 Amp power supply mounting plate . .	CB-CPU-OP1	N/C	na
9" monitor cabinet	CB-MON9	$35.00	na
Dual Cassette Storage System cabinet	CB-CAS2	$45.00	na
Quad Cassette Storage System cabinet	CB-CAS4	$45.00	na
Dual drive - spare top	CB-CAB-T2	$20.00	na
Quad drive - spare top	CB-CAB-T4	$20.00	na
Accessories:			
Prototyping w/w card for I/O bus w/connectors . .	PROT-IOC	na	$38.50
Prototyping w/w card for Memory bus w/connector .	PROT-MEMC	na	$35.00
3-card Extender card set	EXT-3	$55.00	$75.00
Superscope C-104 Audio Cassette Recorder	CAS-1	na	$119.50
Manual Binder	SYS BIND	na	$6.00
Cabling kit and crimp tool.	CAB-1	$43.95	na
Documentation:			
Complete Z80 CPU doc. incl. bus structure and Operating System	DOC-Z80CPU	-	$7.50
Zilog's Z80 technical manual	DOC-ZILOG	-	$7.50
Complete Z80 System Documentation (DOC-Z80CPU, DOC-ZILOG, DOC-TVC, DOC-I/O, DOC-MEM, DOC-PWRØ	DOC-Z80SYS	-	$15.00
Input/Output documentation	DOC-I/O	-	$1.00
8K Memory documentation	DOC-MEM	-	$1.00
TV Readout and Audio Cassette Interface	DOC-TVC	-	$1.00
3 Voltage Power Supply	DOC-PWRØ	-	$1.00
Standalone Cassette	DOC-CASSTD	-	$1.00
Cassette Storage System	DOC-PHI	-	$7.50
1702A EPROM Memory	DOC-1702A	-	$1.00

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ORDER FORM

NAME _____ DATE _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

QUANTITY	ORDER CODE	DESCRIPTION	PRICE EACH	AMOUNT EXTENDED

TOTAL	
SALES TAX (COLO. RESIDENTS)	
TOTAL	

AMOUNT ENCLOSED _____

BANKAMERICARD OR MASTERCHARGE NUMBER:

_____

EXPIRATION DATE: _____

INTERBANK NUMBER: _____
(M/C ONLY)

SIGNATURE: _____

FC-S7-3

the digital group INC

po box 6528 denver, colorado 80206 (303) 777-7133

ORDERING INFORMATION

There are a number of ways to order from the Digital Group.

Payment with order:

Either personal check or money order. The Digital Group reserves the right to hold shipment on an order until a personal checks clear although this is not usually necessary.

C.O.D. - minimum COD order is $50.00.

There will be a 5% COD surcharge added to the order (up to a maximum surcharge of $10.00) for the special handling COD's require.

Charge Orders - minimum charge order is $50.00

The Digital Group accepts both Mastercharge and Bankamericard, either by phone or mail. Charge orders are treated exactly the same as prepaid orders. Upon receipt of the order, the charge is authorized with the charge card company. Our sequential delivery delivery number is assigned and the charge is submitted to the charge card company. If the charge is rejected by the charge card company, the sequential order number is not assigned until authorization occurs.

Purchase Orders

Purchase orders will usually be accepted from the following only:

1. Governmental Institutions
2. Educational Institutions
3. Selected large companies

All other purchase orders will require payment with order or be COD.
Purchase Order terms: 5% 10 net 30 (effective 11/15/76)

Software orders

For quickest handling, all software orders should be sent directly to:

Digital Group Software Systems
PO Box 1086
Arvada, CO 80001
(303) 422-4566

Any software orders submitted to the Digital Group will be acknowledged and transmitted to DGSS.

Order Policy

Sequential order delivery will be maintained at all times - including orders from dealers.

Foreign Orders

All foreign orders must be prepaid. The air frieght charges incurred will be shipped collect.

the digital group inc
po box 6528 denver, colorado 80206 (303) 777-7133

the digital group INC

ORDER FORM

NAME _____ DATE _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

QUANTITY	ORDER CODE	DESCRIPTION	PRICE EACH	AMOUNT EXTENDED

TOTAL	
SALES TAX (COLO. RESIDENTS)	
TOTAL	

AMOUNT ENCLOSED _____

BANKAMERICARD OR MASTERCHARGE NUMBER:

_____

EXPIRATION DATE: _____

INTERBANK NUMBER: _____
(M/C ONLY)

SIGNATURE: _____

FC-S7-5

the digital group INC
po box 6528 denver, colorado 80206 (303) 777-7133

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po box 6528 denver, colorado 80206 (303) 777-7133

the digital group INC

ORDER FORM

NAME _____ DATE _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

QUANTITY	ORDER CODE	DESCRIPTION	PRICE EACH	AMOUNT EXTENDED

TOTAL	
SALES TAX (COLO. RESIDENTS)	
TOTAL	

AMOUNT ENCLOSED _____

BANKAMERICARD OR MASTERCHARGE NUMBER:

_____

EXPIRATION DATE: _____

INTERBANK NUMBER: _____
(M/C ONLY)

SIGNATURE: _____

FC-S7-7

the digital group INC

po box 6528 denver, colorado 80206 (303) 777-7133

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