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TO:

OSI

11679 HAYDEN STREET
HIRAM, OHIO 44234

OSI

FOR EDUCATION AND THE HOBBYIST

MICROCOMPUTERS
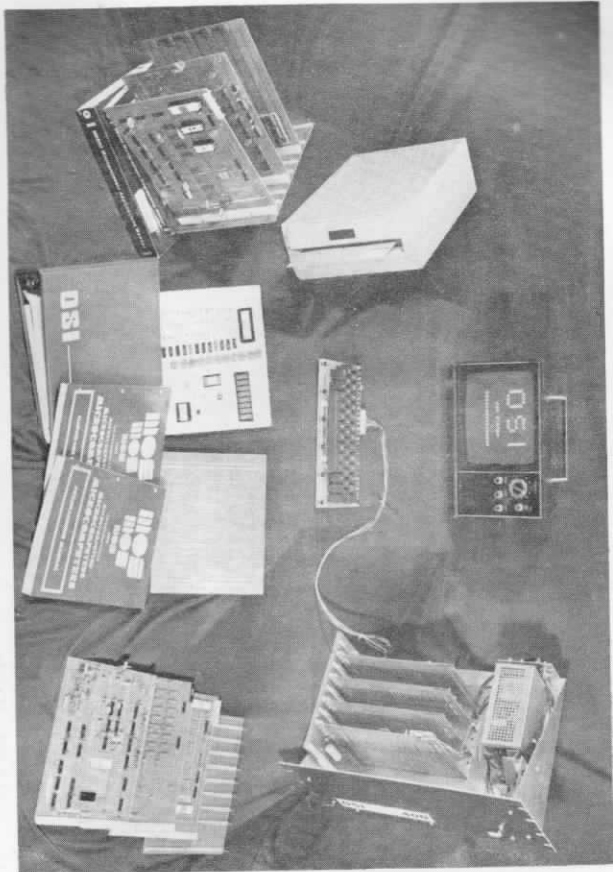
HIGH PERFORMANCE
AT VERY AFFORDABLE PRICES

- COMES FULLY ASSEMBLED AND TESTED
- COMES WITH 20 EXPERIMENT LABORATORY MANUAL
- FEATURES MOS TECHNOLOGY 6502 MPU WITH 128 WORDS OF RAM MEMORY
- FULL MINICOMPUTER INSTRUCTION SET INCLUDING INTERRUPTS AND STACK PROCESSING
- INPUT PORT AND OUTPUT LATCH FOR I/O PROGRAMMING
- ONLY $109.00 COMPLETE WITH MANUAL (DELIVERY 30 to 60 DAYS)
- OPTIONAL BATTERY ELIMINATOR $16.00 ADDITIONAL
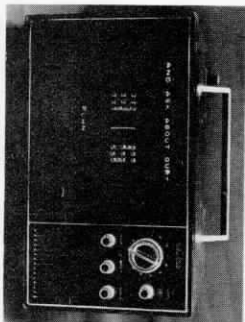
THE WORLD'S LOWEST COST
COMPLETELY ASSEMBLED COMPUTER

FIRST, LEARN WITH MODEL 315, THEN BUILD YOUR OWN POWERFUL SYSTEM WITH:

- 6502 or 6800 MICROPROCESSOR
- D/A CONVERSION
- A/D CONVERSION
- AUDIO CASSETTE
- TV TYPEWRITER OUTPUT

You order a Model 315 for $129.00 plus shipping. You receive a Model 315 (identical to Model 300) Computer Trainer completely assembled and tested (new or used unit), 20 experiment lab manual (new), manufacturer's spec. sheets on the 6502 and Motorola's booklet Introduction to Microprocessors.

You then return the Model 315 in good working condition within 60 days of date of receipt (keep the documentation). You will then receive the following items at no additional cost:

| Item	
A. Model 400 Superboard and Documentation	29.00
B. Model 430 Super I/O Board and Documentation	29.00
C. Model 440 Super Video Board and Documentation	29.00
D. TV Typewriter and Audio Cassette Monitor Software	19.00
E. Shipping and Insurance on A,B,C, and D	4.00
TOTAL VALUE	$110.00

These items plus the Computer Trainer manual (which you keep) brings the value of the items you have to $120 -- you have paid $9.00 for two months rent of a Computer Trainer!

The 315 plan is designed specifically for the electronics hobbyist with little or no "hands on" experience with computers. You get the opportunity to get a good understanding of programming and hardware before building your own 400 based system, allowing you to tailor the 400 system to your own requirements.

The three boards provided in the 315 Plan provide a complete hobby computer including video alphanumeric display on a conventional television set and an audio cassette interface for program storage. Many extras can be added to the boards such as a parallel and serial interface, D/A converters and so on. The system can be based on either the 6502 or the 6800 microprocessor.

Delivery of the Model 315 Computer Trainer is 30 to 60 days ARO. The boards will be shipped within 30 days of the return of the trainer. OSI has final authority on what constitutes "good working condition." The trainer must be postmarked no later than 60 calendar days after receipt of the unit (date determined by Post Office Delivery Receipt). This offer is good only in the continental United States. No substitutes allowed. However, parts may be purchased from OSI to populate the boards. Model 300s cannot be converted to this plan. This offer applies to individuals and to PREPAID orders only!

$129.00
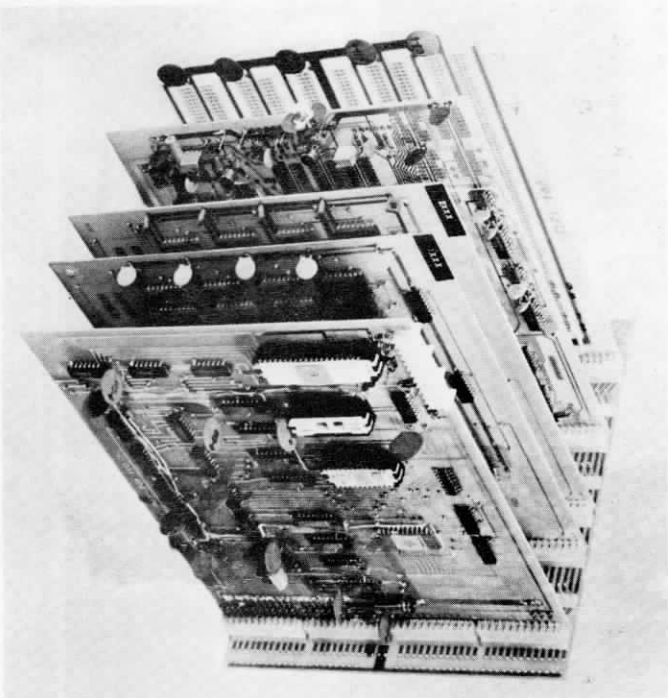
- NOW FEATURING PLATED-THROUGH HOLE SOLDER PLATED G-10 EPOXY BOARDS!
- UNPRECEDENTED PERFORMANCE AT UNBELIEVABLY LOW COST
- MODULAR APPROACH FOR MAXIMUM VERSATILITY
- COMPATIBLE WITH MORE MICROPROCESSORS THAN ANY OTHER SYSTEM
- 500 NS. CYCLE TIME AND MULTIPROCESSOR CONFIGURATIONS WITH DISTRIBUTED MEMORY AND I/O ARE AVAILABLE
- SIMPLE TO UNDERSTAND AND REMARKABLY FLEXIBLE 48 LINE BUS STRUCTURE
- FULLY BUFFERED DESIGN WITH EACH BOARD CAPABLE OF DRIVING 250 SYSTEM BOARDS
- MOST SYSTEM BOARDS ARE $29.00 EACH INCLUDING MANUAL

The Model 400 Superboard accepts the following components:

System Clock
6502, or 6800
2 - 1702 Type PROMs
8 - 2102 Memories
1 - 6820 PIA or 6530 PIA/ROM
1 - 6850 ACIA
ACIA Clock, Current Loop, and RS-232 Interfaces

The Model 400 Superboard and system expansion cards are designed to provide high performance via the latest technologies at the lowest possible price.

The Superboard comes complete with a 50 page theory of operation and construction manual and manufacturer's spec. sheets on all components used on the board. The documentation provided is designed to be adequate for the experimenter who can successfully build TTL circuits from schematics or a magazine article.

The Superboard can be used alone with a terminal for small hobby systems or with an I/O device and a dedicated program as a high speed controller. The Superboard can be expanded via OSI system expansion boards to a medium scale system which will rival today's best minicomputers in performance and versatility.

The Model 400 is designed to be as general purpose as possible without resorting to an excessive number of wire jumpers for any specific application. The board can be configured minimally with a processor, 1,024 bytes of RAM memory, and an external front panel. Maximally, it can have a processor with a clock system which will service different speed memories, 512 bytes of PROM, 1,024 bytes of RAM, an ACIA with RS-232 or 20 ma loop interface, a PIA with 16 I/O lines and full buffering for system expansion.

MODEL 400 SUPERBOARD $29.00

MODEL 402 SUPERBOARD AND 6502 MICROPROCESSOR $54.00

MODEL 403 SUPERBOARD AND 6800 MICROPROCESSOR $69.00

MODEL 412-A: MODEL 400, 6502, 8-2102 MEMORIES, OSI 65A MONITOR PROM, K1 KIT, 6850 ACIA AND ALL MIS-CELLANEOUS PARTS TO TALK TO A TELETYPE. REQUIRES +5 AT 2 AMPS AND -9 VOLTS AT 100 MA. (THE 412A IS SHOWN IN THE PICTURE AT THE LEFT AS THE FRONT BOARD (SOCKETS NOT INCLUDED) $139.00

MODEL 413A SAME AS 412A BUT FOR 6800 $159.00

K1 IS JUST THE RESISTORS, CAPACITORS, AND TTL TO POPULATE THE MODEL 400 BOARD $ 24.00

DELIVERY ON 400, 402, AND 403 IS 15 to 30 DAYS ARO
DELIVERY ON 412A, 413A, and K1 is 30 to 60 DAYS ARO

MODEL 420 MEMORY EXPANSION BOARD

- LOW COST SYSTEM MEMORY BOARD
- CAN BE CONFIGURED FOR 4K BY 8 OR 4K BY 12
- USES 2102 TYPE MEMORIES
- ONLY $29.00 (DELIVERY 15 to 30 DAYS)
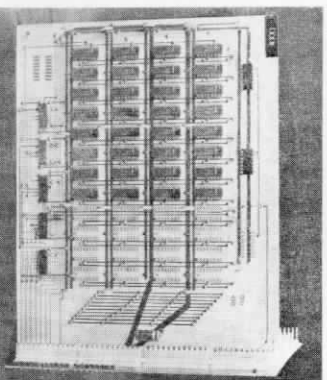
MODEL 425 - A COMPLETE 4K MEMORY EXPANSION KIT WITH 650NS, WORST CASE 2102s (FAST ENOUGH FOR 1MHZ OPERATION OF 6800 AND 6502 SYSTEMS). REQUIRES +5V AT 1 AMP MAXIMUM. $119.00 (DELIVERY 30 to 60 DAYS ARO).
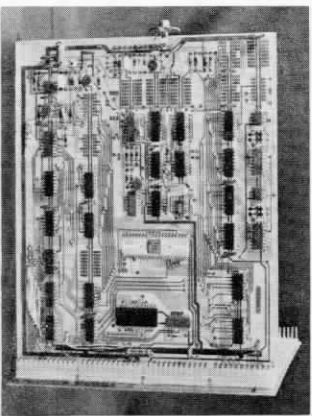
OSI MODEL 430 SUPER I/O BOARD

POSSIBLY THE MOST POWERFUL I/O SUBSYSTEM AVAILABLE TO THE HOBBYIST.

FEATURES:
- HIGH SPEED ANALOG I/O
- GENERAL PURPOSE HIGH SPEED SERIAL COMMUNICATIONS SYSTEM
- PARALLEL INTERFACES

THE ANALOG SYSTEM HAS A FAST 8 BIT SYNCHRONOUS TRACKING A/D CONVERTER AND TWO 8 BIT D/A CONVERTERS. APPLICATIONS INCLUDE AUDIO (20KHZ BANDWIDTH) PROCESSING AND GENERATION INCLUDING MANY REAL TIME APPLICATIONS. DIGITAL OSCILLOSCOPE, X-Y GRAPHICS, AND X-Y PLOTTER FUNCTIONS ARE OTHER EXCELLENT APPLICATIONS. THE SERIAL COMMUNICATION SYSTEM IS DESIGNED TO IMPLEMENT THE KANSAS CITY STANDARD AUDIO CASSETTE INTERFACE. OTHER APPLICATIONS INCLUDE HAM FSK COMMUNICATIONS, ASCII AND BAUDOT INTERFACES AND OTHER TAPE STORAGE INTERFACES. 8 LINES OF PARALLEL INPUT AND OUTPUT ARE PROVIDED TO COMPLEMENT THE OTHER I/O BOARD FUNCTIONS. $29.00 (DELIVERY 30 to 45 DAYS ARO)

MODEL 440 VIDEO GRAPHICS BOARD

- FOR USE WITH MONITOR - TV
- DISPLAYS 32 ROWS OF 32 CHARACTERS.
- OPTIONAL GRAPHICS

A VERY LOW COST HIGH PERFORMANCE VIDEO DISPLAY. ACTS AS A 1,024 WORD MEMORY TO THE SYSTEM WHICH IS AUTOMATICALLY DISPLAYED AT 32 ROWS OF 32 ASCII CHARACTERS PER ROW. FEATURES SYNC, COMPOSITE VIDEO, AND OPTIONAL RF OUTPUTS. ALL VIDEO IMAGES IN THIS FLYER ARE UNRETOUCHED PHOTOGRAPHS OF RF OUTPUT OF THE VIDEO BOARD COMING IN DIRECTLY ON CHANNEL 2 OF AN UNMODIFIED T.V. 128 X 128 DOT GRAPHICS CAN BE OBTAINED BY COUPLING VIDEO BOARD TO A 4K MEMORY EXPANSION BOARD. THREE BOARDS CAN BE PARALLELED FOR TRUE RGB COLOR DISPLAY. THE 440 BOARD TOGETHER WITH AN ASCII V SERIES PROM MONITOR PROVIDES BOTH COMPUTER AND T.V. TYPEWRITER TERMINAL FUNCTIONS. $29.00 (DELIVERY 30 to 45 DAYS)

MODEL 445 - COMPLETE 440 KIT WHICH PRODUCES A CONVENTIONAL 1024 CHARACTER DISPLAY WITH VIDEO OUTPUTS (A BOARD COMPATIBLE FCC APPROVED TRANSMITTER IS AVAILABLE FROM ANOTHER SOURCE FOR $8.50) $99.00 (DELIVERY 30 to 60 DAYS)
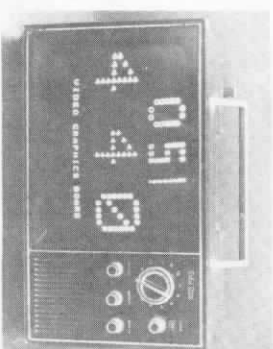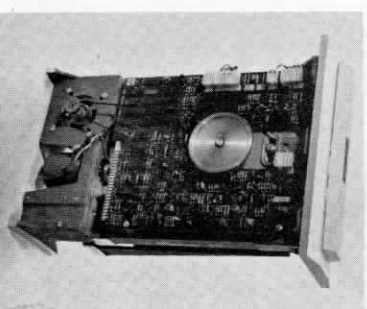
MODEL 470 FLOPPY DISK

THE OSI 470 KIT INCLUDES A GSI MODEL 105 FLOPPY DISK DRIVE COMPLETELY ASSEMBLED INCLUDING READ/WRITE ELECTRONICS. THE OSI MODEL 470 FLOPPY DISK INTERFACE BOARD (BARE), AND SIMPLE SECTOR PER TRACK OPERATING SYSTEM FOR 6502 OR 6800 BASED SYSTEMS. THE MINIMUM STORAGE CAPACITY IS 256,000 BYTES. AVERAGE ACCESS TIME IS 84 MILLISECONDS. MORE INFORMATION WILL BE PROVIDED UPON WRITTEN REQUEST ONLY. $599.00 (DELIVERY 30 to 90 DAYS)
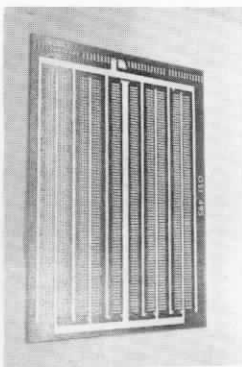
MODEL 495 PROTOTYPING BOARD

THE OSI MODEL 495 PROTOTYPING BOARD PROVIDES A SYSTEM COMPATIBLE METHOD FOR PROTOTYPING CUSTOM CIRCUITS. THE BOARD IS DESIGNED FOR FREE WIRE AND WIRE WRAP CONSTRUCTION TECHNIQUES. THE BOARD CAN ACCEPT 4 40 PIN DEVICES AND 40 STANDARD TTL PACKAGES. THE BOARD HAS STANDARD +5V AND GROUND DISTRIBUTION.
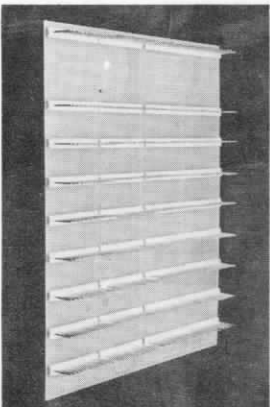
$29.00 (DELIVERY 30 to 60 DAYS)

- 8 SLOTS PLUS EXPAN-SION CAPABILITY.

- PROTOTYPING AREA FOR INTERFACING TO OTHER SYSTEMS.

MODEL 480 BACKPLANE BOARD

OSI MODEL 480 SYSTEM BACKPLANE BOARD HAS 8 SLOTS PLUS PROVISIONS FOR BUFFERING AND EDGE CONNECTORS FOR DAISY CHAINING BACKPLANE BOARDS UP TO THE 250 BOARD LIMIT AND ALSO HAS PROVISION FOR PULL-UP RESISTORS.
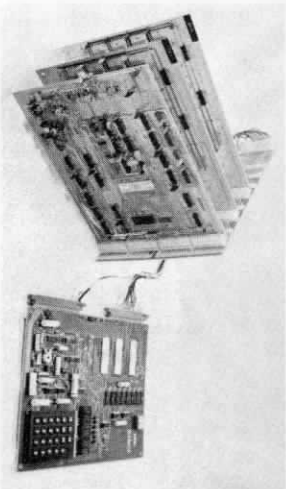
$39.00 INCLUDING ALL MATING CONNECTORS FOR THE BACKPLANE BOARD AND 8 SYSTEM BOARDS.
(DELIVERY 30 to 60 DAYS)

THE 480 BACKPLANE BOARD HAS A PROTOTYPING AREA WHICH CAN BE USED TO INTERFACE OTHER COMPUTERS TO THE OSI 48 LINE BUS. ONCE THIS IS ACCOMPLISHED, THE 400 SYSTEM BOARDS CAN BE USED WITHOUT MODIFICATION.

INTERFACING TO THE KIM-1 AND OTHER SYSTEMS

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UPCOMING SYSTEM BOARDS

OSI MODEL 460 PDP-8 EMULATOR

THIS BOARD UTILIZES THE INTERSIL 6100 MICROPROCESSOR TO RUN PDP-8 SOFTWARE WITHOUT MODIFICATION. THE BOARD MUST BE USED IN CONJUNCTION WITH A 6502 BASED 400 BOARD AND A MINIMUM OF 4K X 12 RAM MEMORY. THE 6502 PROCESSOR PROVIDES ALL FRONT PANEL CONTROL FUNCTIONS FOR THE 6100, LOADS AND EXAMINES 6100 MEMORY SPACE DIRECTLY, AND PERFORMS MICRO-CODE CONTROLLABLE IOT INSTRUCTIONS.

OSI MODEL 410Z

THE 410Z IS A VARIATION ON THE MODEL 400 BOARD WHICH WILL ACCEPT THE POWERFUL NEW 8080 EQUIVALENT Z-80 MICROPROCESSOR. ALL I/O PORTS CAN BE LOCATED IN A USER SELECTABLE 256 WORD MEMORY BLOCK TO MAINTAIN FULL 400 SYSTEM COMPATIBILITY.

OSI MODEL 450 PROM CALCULATOR CHIP BOARD

THE 450 PROM CALCULATOR CHIP BOARD FEATURES AN INTERFACE TO AN MOS TECHNOLOGY CALCULATOR CHIP. THE BOARD ALSO HAS PROVISION FOR UP TO EIGHT AMI 6834 512 X 8 PROMS AND HAS AN ON-BOARD PROM PROGRAMMER. OSI WILL BE OFFERING A BASIC FOR THE 6502 WHICH FITS IN THESE PROMS & UTILIZES THE SCIENTIFIC CALCULATOR CHIP FOR HIGH ACCURACY CALCULATIONS.
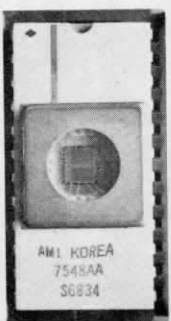
MODEL 490 DISTRIBUTED PROCESSING NETWORK BACKPLANE BOARD

THIS 12" X 22" BOARD WILL SUPPORT FOUR PROCESSOR SYSTEMS WITH FOUR SLOTS EACH AND AN EIGHT SLOT DISTRIBUTED RESOURCES AREA. THE BOARD FEATURES TWO MULTIPROCESSOR COMMUNICATIONS CHANNELS. THIS BACKPLANE BOARD, WHEN PROPERLY UTILIZED, WILL PROVIDE COMPUTER SYSTEM PERFORMANCE APPROACHING MEDIUM SCALE COMPUTER SYSTEMS.

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SOFTWARE************************************

PROM MONITORS

THE FOLLOWING 256 WORD PROMS ARE AVAILABLE TO ALLOW YOU TO USE YOUR SYSTEM ON POWER UP AND TO COMPLETELY ELIMINATE THE NEED FOR ANY TYPE OF FRONT PANEL.

65A -	FOR USE WITH ASCII TERMINAL AND 6502 BASED SYSTEM	$29.00
68A -	FOR USE WITH ASCII TERMINAL AND 6800 BASED SYSTEM	
65V -	FOR USE WITH ASCII KEYBOARD AND 6502 SYSTEM AND MODEL 440 VIDEO GRAPHICS BOARD	$29.00
68V -	FOR USE WITH ASCII KEYBOARD AND 6800 SYSTEM AND MODEL 440 VIDEO GRAPHICS BOARD	$29.00

SOFTWARE CATALOGUE

OSI HAS, OR HAS UNDER DEVELOPMENT, USEFUL SUBROUTINES, GAMES, AND UPPER LEVEL LANGUAGES FOR THE 6502 AND 6800. THESE PROGRAMS ARE BEING DEVELOPED BOTH IN HOUSE AND UNDER SOFTWARE AGREEMENTS WITH OTHER COMPANIES. 400 SYSTEM PURCHASERS WILL PERIODICALLY RECEIVE UPDATED LISTS OF SOFTWARE OFFERINGS, OSI IS ALSO INTERESTED IN SOFTWARE LICENSES FOR USEFUL PROGRAMS FOR THE 6502 AND THE 6800.

PARTS**

8T26 QUAD BUS TRANSCEIVERS (USED ON ALL SYSTEM BOARDS)	$ 4.00
6850 ACIA (SERIAL INTERFACE-USED ON 400 BOARD)	$15.00
6820 PIA (16 LINE PARALLEL INTERFACE-USED ON 400 BOARD)	$15.00
1408L8 D/A CONVERTER (3 MAXIMUM USED ON 430 BOARD)	$ 9.00
S1883 UART (USED ON 430 BOARD)	$10.00
2513 CHARACTER GENERATOR ROM-USED ON 440 BOARD	$10.00
CONNECTOR KIT - ONE SET OF MATING CONNECTORS FOR ONE BOARD AND BACKPLANE (NOTE THAT ALL CONNECTORS ARE SUPPLIED WITH THE BACKPLANE BOARD).	$ 3.00

ENCLOSURES AND POWER SUPPLIES

OSI WILL BE OFFERING TWO DIFFERENT ENCLOSURES AND POWER SUPPLY KITS. THE SMALL ENCLOSURE WILL HOUSE 8 OSI 400 SYSTEM BOARDS AND WILL HAVE OPTIONAL SYSTEM POWER SUPPLY SUFFICIENT FOR THESE BOARDS. THE LARGER SYSTEM WILL HOUSE THE MODEL 490 DISTRIBUTED PROCESSOR NETWORK BACKPLANE BOARD OR TWO 480 BOARDS AND A HEAVY DUTY POWER SUPPLY AND AN OPTIONAL PROCESSING NETWORK STATUS PANEL.

OSI MICROCOMPUTERS

OUR HOBBYIST COMMITMENT:

OUR HOBBYIST COMMITMENT IS TO PROVIDE A HIGH PERFORMANCE SYSTEM IN THE FORM BEST SUITED TO THE HOBBYIST AT THE LOWEST POSSIBLE PRICE AND TO OFFER ALL POPULAR MICROCOMPUTER TECHNOLOGIES IN A FORM COMPATIBLE WITH OUR 400 SYSTEMS, I.E. MICROPROCESSORS AND BOARD CONFIGURATIONS SUCH AS A/D CONVERSION, T.V. DISPLAYS, ETC.

DEALER INQUIRIES WELCOME

OSI IS PRESENTLY OFFERING FULLY ASSEMBLED BOARDS AND FULLY ASSEMBLED SYSTEMS EXCLUSIVELY THROUGH DEALERS.

WANT MORE INFORMATION?

ORDER OUR COMPREHENSIVE INFORMATION PACKET WHICH INCLUDES HIGHLIGHTS OF THE MANUALS FOR EACH OF OUR BOARDS INCLUDING SCHEMATICS AND PARTS LIST. $5.00 POSTPAID PREPAID ORDERS ONLY*

* TO EXPEDITE DELIVERY OF PACKET, ORDER PACKET SEPARATELY FROM ALL OTHER ITEMS BEING ORDERED, I.E. SEPARATE ORDER.

ORDERING INFORMATION

REFER TO THE ENCLOSED ORDERING FORM FOR TERMS OF PURCHASE AND ORDERING INFORMATION. IF THE ORDER BLANK HAS ALREADY BEEN USED, ORDER DIRECTLY FROM:

OSI MICROCOMPUTERS
P.O. BOX 269
HIRAM, OHIO 44234

PLEASE ENCLOSE AN ADDITIONAL $4.00 SHIPPING AND HANDLING WITH EACH ORDER.

*BANKAMERICARD AND MASTERCHARGE ACCEPTED

*PLEASE REMIT 20% DEPOSIT ON C.O.D. ORDERS. C.O.D.'S MUST BE PAID WITH CASH (NO CHECKS ACCEPTED) AND ARE SHIPPED UPS ONLY.

*PURCHASE ORDERS ACCEPTED FROM WELL RATED COMPANIES AND SCHOOLS ONLY. NO PARTIAL DELIVERY SHIPMENTS ARE MADE ON PURCHASE ORDERS, SO ISSUE SEPARATE PURCHASE ORDERS FOR SHORT DELIVERY ITEMS WHICH ARE NEEDED ASAP.

OUR TELEPHONE NUMBER IS (216) 569-7945. PLEASE ORGANIZE YOUR QUESTIONS BEFORE PHONING US. UNFORTUNATELY, MANY HOBBYISTS LIKE TO "SHOOT THE BREEZE" ON THE PHONE, INCREASING OUR OVERHEAD COSTS AND DECREASING OUR DEVELOPMENT EFFORT.