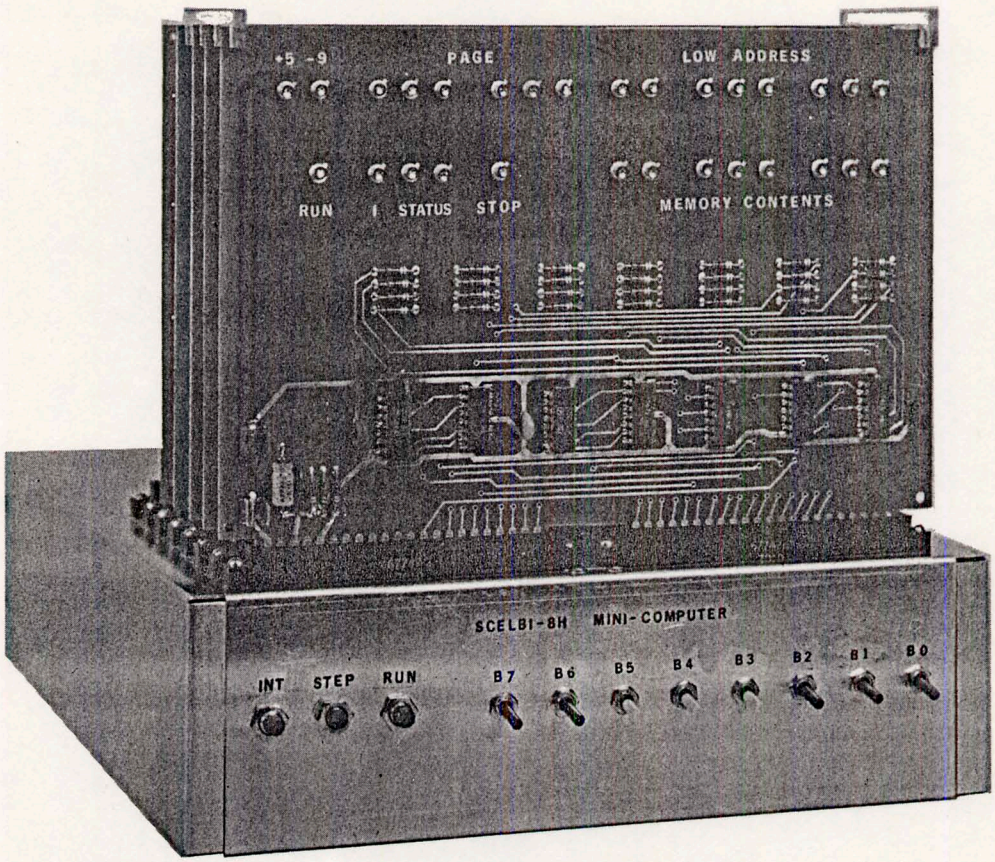
SCELBI - 8H
MINI - COMPUTER



SCELBI COMPUTER CONSULTING, INC.

1322 REAR - BOSTON POST ROAD - MILFORD, CONN. 06460

TELEPHONE (203) 874-1573

SCELBI COMPUTER CONSULTING, INC.
1322 REAR - BOSTON POST ROAD
MILFORD, CT. 06460
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DEAR FELLOW COMPUTER ENTHUSIAST:

WE ARE ENCLOSING LITERATURE YOU REQUESTED ON THE EXCITING NEW SCELBI-8H MINI-COMPUTER. THE SCELBI-8H IS BUILT AROUND THE EXTREMELY POPULAR INTEL 8008 "CPU-ON-A-CHIP" - THE INVENTION THAT IS REVOLUTIONIZING THE ELECTRONICS WORLD. THE SCELBI-8H IS A COMPACT AND EXTREMELY VERSATILE ELECTRONIC MACHINE THAT IS BEING APPLIED IN A WIDE VARIETY OF APPLICATIONS BY PEOPLE OF DIFFERING INTERESTS. DUE TO THE IMMENSE VERSATILITY OF THIS ELECTRONIC MACHINE IT IS IMPOSSIBLE TO ECONOMICALLY PROVIDE ALL THE KINDS OF INFORMATION VARIOUS PERSONS MIGHT DESIRE ABOUT THE SCELBI-8H IN A "FREE" BROCHURE. WE DO TRY TO MAKE A GOOD GENERALIZED PRESENTATION OF THE SCELBI-8H IN THE ENCLOSED LITERATURE SO THAT YOU MAY DETERMINE WHETHER OR NOT OUR MACHINE IS OF SERIOUS INTEREST TO YOU PERSONALLY. FOR THOSE THAT WISH TO PURSUE THE MATTER FURTHER, WE OFFER A COMPREHENSIVE MANUAL - THE SCELBI-8H USER'S MANUAL - THAT PROVIDES WELL OVER 100 PAGES OF INFORMATION ON THE SCELBI-8H MINI-COMPUTER.

THE SCELBI-8H USER'S MANUAL STARTS BY ASSUMING THAT THE READER HAS NEVER USED A COMPUTER AND GOES ON TO EXPLAIN HOW A MINI-COMPUTER IS FUNDAMENTALLY ORGANIZED AND ITS BASIC PRINCIPLES OF OPERATION. IT THEN PROVIDES A COMPREHENSIVE EXPLANATION OF THE ENTIRE INSTRUCTION SET USED IN THE SCELBI-8H MINI-COMPUTER. NEXT THERE IS A HIGHLY DETAILED CHAPTER THAT EXPLAINS HOW TO OPERATE THE SCELBI-8H AND PROVIDES SAMPLE MACHINE LANGUAGE PROGRAMS THAT CAN BE USED AS GUIDES FOR USER'S TO USE WHEN DEVELOPING THEIR OWN PROGRAMS. ANOTHER SECTION OF THE MANUAL ILLUSTRATES HOW EASY IT IS TO CONNECT EXTERNAL DEVICES TO THE COMPUTER SO THAT THEY CAN PROVIDE DATA TO THE COMPUTER, OR BE PLACED UNDER CONTROL OF THE SCELBI-8H. FINALLY, FOR THOSE INTERESTED IN THE TECHNICAL DETAILS, THERE IS A CHAPTER DEVOTED TO TECHNICAL ASPECTS OF THE SCELBI-8H. THIS SECTION CONTAINS DETAILED SCHEMATICS, ASSEMBLY DRAWINGS, AND PARTS LISTS FOR THE INDIVIDUAL CARDS THAT TOGETHER FORM A BASIC SCELBI-8H MINI-COMPUTER, A FUNCTIONAL BLOCK DIAGRAM OF THE CARD SYSTEM, AND INFORMATION ON THE STANDARD SCELBI-8H CHASSIS.

ALL THE INFORMATION IN THE SCELBI-8H USER'S MANUAL IS PRESENTED IN A CLEAR AND SIMPLE MANNER AND IT IS OUR BELIEF THAT ANYONE INTERESTED IN MINI-COMPUTERS WOULD FIND THIS PUBLICATION HIGHLY BENEFICIAL EVEN IF THEY DID NOT PLAN ON PURCHASING ONE IN THE NEAR FUTURE! BECAUSE OF THE HIGH COST OF PREPARING AND PRINTING SUCH A PUBLICATION, WE DO CHARGE A MODEST FEE FOR THE MANUAL - $10.00 - BUT, THE ENTIRE $10.00 MAY BE CREDITED TOWARDS THE PURCHASE OF ANY SCELBI-8H MINI-COMPUTER THAT IS MADE BY THE BUYER WITHIN SIX MONTHS! WE THINK YOU WILL AGREE THAT FOR THE INFORMATION THE SCELBI-8H USER'S MANUAL CONTAINS THE PRICE IS A BARGAIN - PARTICULARLY WHEN YOU DECIDE TO PURCHASE A SCELBI-8H WITHIN SIX MONTHS!

(OVER PLEASE)

THE MANUAL IS NORMALLY SENT POSTAGE PAID AT THE POSTAL SERVICES BOOK RATE - DELIVERY IN THIS MANNER REQUIRES TWO TO THREE WEEKS. WE KNOW SOME OF YOU WON'T WANT TO WAIT THAT LONG SO IF YOUR IN A HURRY PLEASE INCLUDE $2.50 ADDITIONAL FOR FIRST CLASS MAILING OR $5.00 FOR AIR MAIL SERVICE IN THE U.S.. PLEASE USE THE FORM BELOW TO ORDER YOUR SCELBI-8H USER'S MANUAL.

SINCERELY,

NAT WADSWORTH
PRESIDENT

- -

... YES! I WOULD LIKE TO RECEIVE THE "SCELBI-8H USER'S MANUAL."

... I AM ENCLOSING $10.00 FOR EACH COPY BY POSTAL BOOK RATE.

... I AM ENCLOSING $12.50 FOR EACH COPY BY FIRST CLASS MAIL.

... I AM ENCLOSING $15.00 FOR EACH COPY BY AIR MAIL.

NAME:

STREET ADDRESS:

CITY & STATE: ZIP:

MAIL THIS FORM DIRECTLY TO:

SCELBI COMPUTER CONSULTING, INC.
1322 REAR - BOSTON POST ROAD
MILFORD, CT. 06460

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SCELBI COMPUTER CONSULTING, INC.
SCIENTIFIC - ELECTRONIC - BIOLOGICAL PRODUCTS AND SERVICES
1322 REAR - BOSTON POST ROAD
MILFORD, CONNECTICUT 06460
PHONE (203) 874-1573

THE SCELBI-8H MINI-COMPUTER

The SCELBI-8H is a very compact, light weight, versatile, low cost medium speed, digital mini-computer constructed from a basic set of printed circuit cards. The technique of using a series of low cost printed circuit cards which can be connected together in modular fashion to form complete computer/processing/control systems provides dramatic cost savings when assembling systems; provides immense flexibility in tailoring systems to individual customer requirements; yields significant increases in over-all system reliability and mean-time-to-repair and allows systems to be easily and economically expanded or altered as customer requirements change. In addition, the building block concept utilized offers educational and training advantages. Each P.C. card's function can be learned in a short time. The subsequent connection of individual cards into a computer system can be readily followed and understood. This technique greatly increases the ability of users to fully utilize the capabilities of the computer as well as aiding them in being able to service their own systems. Much design effort was expended during development of the SCELBI-8H computer to provide a low cost, yet fully functional and powerful mini-computer, that would serve the needs of electronic and computer enthusiast, serve as a valuable educational instrument, and also be capable of fulfilling a variety of important services in business and industrial enviroments.

The SCELBI-8H mini-computer has been system designed to integrate with a line of low cost SCELBI peripheral interfaces and devices to form complete computer systems with low cost input/output capability. SCELBI peripheral interfaces currently available include: An oscilloscope display driver that turns an ordinary oscilloscope with a bandwidth of five megahertz or more into a complete Alpha-Numeric display device for a SCELBI-8H computer. There is a low cost ASCII keyboard and Interface available to serve as an input device to the SCELBI-8H. And, there is an economical interface that turns a low cost audio tape recorder (cassette unit) into a computer "Mag-Tape" unit that will store and retrieve endless amounts of programs and/or data for the SCELBI-8H computer. The combined cost of the Oscilloscope Alpha-Numeric Driver, the Keyboard with Interface, and the interface for the audio cassette tape system cost about one third of what a Model 33 Teletype (RTM) machine sells for - but, if you desire to utilize a Teletype, SCELBI does have a very low cost interface for popular models (ASCII and Baudot) of those machines.

Naturally, SCELBI peripheral interfaces are also based on the modular P.C. card concept. These interfaces are placed "on line" by simply connecting cables from selected I/O port connectors on the computer to similar connectors on the peripheral interfacing units. (Customers can also connect their own custom designed peripherals just as easily!)

The SCELBI-8H computer and peripheral interfaces are sold in modular form. A customer may start with a small system and add on units as desired. Systems may be purchased in a variety of forms with savings available to those who have the necessary skills to do certain construction arts on their own. For instance, customers may purchase just the computer card set (assembled and completely tested) and then provide their own chassis, card sockets and I/O connectors, console switches, and power supply. Or, they may purchase card sets (assembled and tested) with a chassis "kit" that comes complete with pre-punched chassis, a "back plane" printed circuit harness card that inter - connects the computer card sockets, card sockets, I/O connectors, and a set of console switches. SCELBI-8H chassis kits come complete with highly detailed assembly instructions and drawings and a person can typically complete the chassis kit for a 4K mini-computer in about five hours! If desired, the SCELBI-8H chassis may be purchased completely assembled and checked out.

All SCELBI-8H mini-computers are supplied with a comprehensive "User's Manual" which covers the detailed operation of the computer, the instruction set, programming operations and methods, I/O operations and basic information for designing custom input/output interfaces.

The SCELBI-8H mini-computer is a fully programmable machine having a basic instruction set of 48 instructions with the variations of these fundamental operations allowing approximately 170 different instructions. The instruction set includes a strong complement of mathematical and boolean operations, register indexing operations, accumulator rotating capability, jumps, calls with subroutine nesting, and a large group of "True" and "False" conditional branching operations.

The machine has one full accumulator and six additional temporary registers capable of indexing operations as well as passing data between registers or registers and memory locations. Two of the six registers are special memory pointer registers. The CPU program counter is on a seven level push - down stack allowing subroutine nesting to seven levels.

The computer has an I/O instruction set which directs the flow of information from Input Ports to the Accumulator or from the Accumulator to Output Ports. The basic SCELBI-8H is standardly equipped to communicate with 8 Output Ports and 6 Input Ports. (Special systems can be tailored to greatly increase I/O capability.) All Input and Output Ports are fully TTL (transistor-transistor-logic) compatible making interfacing to peripherals a simple matter.

The basic SCELBI-8H mini-computer is supplied with provisions for operating with from 256 to 4,096 words of memory. Memory word size is eight bits. RAM MOS memory is supplied as standard but other memory elements (such as ROM) can be supplied on special request. For customers desiring large memory capability, special memory expansion accessories will allow memory expansion to 16K words.

The computer has an operating speed that is dependent on the number of "states" an instruction requires to complete execution. One computer "state" requires 4 micro-seconds. Instructions require 3 to 11 "states" with a typical instruction requiring about 5 "states" or 20 millionths of a second for execution. Thus, in typical programmed operation the SCELBI-8H mini-computer performs 40,000 to 50,000 operations per second, each operation being the complete parallel manipulation of an eight bit word. This speed is sufficient for a vast variety of computing applications. This moderate operating speed greatly reduces the cost of the machine while simultaneously increasing the reliability of the machine. In addition the lack of extremely fast and critical timing pulses, makes it much easier for customers to design and successfully implement their own special interfaces, using standard TTL integrated circuits, and thus place various devices under the control of, or feed information to, a SCELBI-8H mini-computer.

SCELBI COMPUTER CONSULTING, INC., has a wide range of programs and software support for the SCELBI-8H mini-computer and SCELBI developed peripheral interfaces. Programs currently available include Editor and Assembler programs and sophisticated calculator packages as well as program loaders, memory dumps, and CRT display programs for the SCELBI Keyboard and Oscilloscope Alpha - Numeric display interfaces. Similar programs are available for use with both ASCII and Baudot Teletypes (RTM.) There are also read and write control programs available for the SCELBI Audio Cassette Magnetic Tape Interface. In addition a SCELBI developed program that assembles programs for the SCELBI-8H on a Digital Equipment Corporation's PDP-8 (RTM) series computer is available.

A BASIC SCELBI-8H MINI-COMPUTER SYSTEM

A basic SCELBI-8H mini-computer consists of a set of 5 basic P.C. cards (described in detail below) which plug into P.C. card sockets. The sockets may be inter-connected by hand wiring if desired. However, customers who purchase a SCELBI-8H chassis are provided with a double-sided "back plane harness board" that eliminates about 15 hours of hand wiring by inter-connecting the P.C. sockets for the system and greatly enhances the reliability of the SCELBI-8H mini-computer. The SCELBI-8H chassis with the back plane harness card has P.C. card sockets for expanding the memory capacity of the basic system up to 4,096 words by simply plugging in additional memory cards. In addition the SCELBI-8H chassis has 11 switches along the front which serve as the computer console switches. The rear apron of the chassis holds 14 I/O connectors and one power connector.

The entire SCELBI-8H mini-computer measures approximately 10 inches in width, by 9.5 inches in height by 12 inches in depth. (Note: Customers may choose to provide their own chassis, P.C. card sockets, I/O connectors, and console switches.)

A separate power supply capable of delivering plus five volts (+5V) and minus nine volts (-9V) is required by the computer. Current requirements of the power supply depend on the amount of memory in a system and the number of peripheral units attached to the computer. SCELBI can provide power supplies covering a wide range of current capabilities.

Power requirements for two typical SCELBI-8H systems are shown below:

Example #1: A SCELBI-8H with 1K of RAM Memory, Oscilloscope Display Driver, Keyboard and Keyboard Interface, and Audio Cassette Tape Interface: Requires 3 Amps + 5 Volts and 1 Amp of - 9 Volts.

Example #2: Same system as Example #1 except computer has 4K RAM Memory: Requires 6 Amps + 5 Volts and 3 Amps of - 9 Volts.

A SCELBI-8H system is completed by the addition of peripheral units as desired which are simply plugged into appropriate I/O connectors on the mini-computer. Of course programs are then developed or purchased and "loaded" into the computer's memory to have the system perform the desired functions and/or operations.

THE BASIC SCELBI-8H CARD SET

#1100 - CPU Card. This card is the primary module in a SCELBI-8H mini-computer. This card contains a micro-processor "CPU-on-a-chip," a network of control and timing logic, and a master clock system. All computer operations emanate from and terminate at this card. This card provides signals that control and synchronize the over-all operations of all other cards in a SCELBI-8H system.

#1101 - DBB and Output Card. This card contains memory address and state control latches and logic for selecting banks of memory words. In addition the card contains multiplexing logic that selects Output Ports. While the card is capable of selecting 16 different Output Ports, in a standard SCELBI-8H system only 8 Output Ports are made available to I/O connectors on the chassis.

#1102 - Input Card. This card contains multiplexing logic which selects the input to the Central Processor Unit. The card allows the input to the CPU to arrive from the memory bank(s); the console switches (which are used to allow control of the computer by an operator) or any one of six different Input Ports.

#1103 - RAM Memory Card. This card can be populated with RAM memory integrated circuits in groups of 256 words to a maximum of 1,024 eight bit words. These cards serve as the main memory bank(s) for a SCELBI-8H mini-computer. The standard SCELBI-8H chassis has P.C. card sockets to accept up to four of these cards allowing up to 4,096 words of main memory to reside on the basic chassis.

#1104 - Front Panel Card. This card has been specially designed to allow a SCELBI-8H user to monitor the operation of a SCELBI-8H mini-computer. The card contains an array of logic circuitry and long-lasting solid state light emitting diodes which allow the operator to display the contents of memory locations, internal CPU register contents, critical cycle states, and the general status of the CPU and I/O operations. The card also contains power supply voltage monitor indicators.

SCELBI QUALITY

Components used in SCELBI products are selected and screened to meet exacting SCELBI standards. Integrated circuits are tested (utilizing SCELBI-8H mini-computers.)

In the case of assembled products, as standard policy all units are operated continuously for at least 72 hours to ensure proper operation of all circuits.

Printed circuit cards used by SCELBI COMPUTER CONSULTING, INC. are made of high quality industrial grade glass epoxy (G10) material. Cards have two ounce copper lands on both sides and plated - through holes are used to connect foil patterns through the card. The standard card size is 9 inches wide by 6.4 inches in height (including the connector fingers.) The standard card plugs into a pair of 44 pin P.C. card sockets. Connector foil spacing is 0.156 inches center-to-center.

A few SCELBI peripheral products use cards 4.50 inches wide by 6.4 inches in height. These cards mount in a single 44 pin P.C. socket.

SCELBI CUSTOMER SERVICE

SCELBI personnel are always available to assist customers during the hours of 9:00 A.M. to 5:00 P.M. Customers may drop us a line or call our service number 203 874-1573. (Sorry - no collect calls will be accepted!) Brief questions about equipment operation, assembly information, or minor service problems are handled as a free service. However, customers requiring in-depth consulting services, programming or design assistance etc., will be billed a modest fee based on staff time consumed. Realistic estimates of such charges can be made at the time of initial inquiry.

SCELBI COMPUTER CONSULTING, INC. is well equipped to handle special hardware & software development projects. Programming and special interface circuit design services are available at reasonable fees. SCELBI has special facilities that allow very rapid development, assembly and testing of programs for SCELBI-8H systems.

In addition SCELBI maintains a staff of consultants with specialties in several scientific fields including the biological and chemical fields who are able to work with customers to develop special applications for SCELBI-8H systems in those fields.

SCELBI WARRANTEE

SCELBI products are warranted for a period of 90 days from date of purchase. In the case of assembled units this warrantee applies to all parts, materials and workmanship.

In the case of kits, the warrantee applies only to components and materials when such parts and materials are assembled in the proper manner as detailed in SCELBI Assembly Manuals.

The warrantee is voided in its entirety if the purchaser fails to follow SCELBI provided assembly, operating or maintenance instructions; physically abuses the equipment through neglect or mishandling; makes unauthorized modifications to any part of the equipment; or uses parts that have not been supplied by SCELBI COMPUTER CONSULTING, INC. In the event judgement is necessary as to the validity of a warrantee because of evidence of improper operation, neglect or abuse, parts substitution etc., the judgement of SCELBI personnel will be final.

Units covered by warrantee will be repaired or replaced at the option of SCELBI COMPUTER CONSULTING, INC. free of charge when the customer returns defective units.

Units not covered by warrantee (including kits that have been improperly assembled) will be repaired by SCELBI with charges for parts and labor when defective or non-operative units are returned by the customer.

SCELBI COMPUTER CONSULTING, INC.
1322 REAR - BOSTON POST ROAD
MILFORD, CT. 06460

PRICING INFORMATION - PRICES EFFECTIVE MAY 1, 1974

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

THE SCELBI-8H STARTER COMPUTER CARD SET

THIS IS A FIVE CARD SET CONSISTING OF THE THREE FUNDAMENTAL COMPUTER CARDS (CPU CARD, DBB & OUTPUT CARD, AND AN INPUT CARD,) PLUS A FRONT PANEL (CONSOLE LIGHTS) CARD, AND A RAM MEMORY CARD EQUIPPED WITH 256 WORDS OF "READ AND WRITE" SEMICONDUCTOR MEMORY. A WIRING LIST FOR INTERCONNECTING THE CARDS AND CONNECTING TO CONTROL SWITCHES AND I/O CONNECTORS IS PROVIDED. CUSTOMER MUST SUPPLY CHASSIS, SWITCHES, P.C. AND I/O CONNECTORS ETC..

SCELBI-8H STARTER COMPUTER CARD SET - ASSEMBLED & TESTED .... $ 440.00

THE SCELBI-8H STANDARD COMPUTER CARD SET

THIS IS THE SAME FIVE CARD SET AS LISTED DIRECTLY ABOVE EXCEPT THAT THE MEMORY CARD IS SUPPLIED WITH 1,024 WORDS OF "RAM" MEMORY.

SCELBI-8H STANDARD COMPUTER CARD SET - ASSEMBLED & TESTED ... $ 565.00

THE SCELBI-8H STANDARD COMPUTER

THIS UNIT CONSIST OF THE SCELBI-8H STANDARD COMPUTER CARD SET AS LISTED ABOVE WITH THE ADDITION OF AN ALUMINUM CARD CHASSIS COMPLETELY EQUIPPED WITH 16 (44 PIN) CARD SOCKETS, A PRINTED CIRCUIT "HARNESS CARD" THAT INTERCONNECTS THE CARD SOCKETS, 14 (11 PIN) INPUT/OUTPUT SOCKETS, A POWER CONNECTION PLUG, AND 11 CONSOLE SWITCHES WITH OCTAL GROUPING COLOR CODED LEVERS.

THE SCELBI-8H STANDARD COMPUTER - KIT ..... $ 695.00
THE SCELBI-8H STANDARD COMPUTER - ASSEMBLED AND TESTED ..... $ 750.00

THE SCELBI-8H DELUXE COMPUTER

THIS UNIT IS A SCELBI-8H STANDARD COMPUTER LISTED DIRECTLY ABOVE WITH THE ADDITION OF THREE MORE 1,024 WORD MEMORY CARDS TO GIVE A TOTAL MEMORY SIZE OF 4,096 WORDS.

SCELBI-8H DELUXE COMPUTER - KIT $1249.00
SCELBI-8H DELUXE COMPUTER - ASSEMBLED & TESTED $1295.00

POWER SUPPLIES

TWO POWER SUPPLIES ARE AVAILABLE AS STANDARD ITEMS. THE SMALLER UNIT IS RATED AT 3 AMPS AT +5 VOLTS AND 2 AMPS AT -9 VOLTS. THIS UNIT WILL POWER A SCELBI-8H EQUIPPED WITH UP TO 2,048 WORDS OF "RAM" MEMORY AND SEVERAL PERIPHERAL INTERFACES. THE LARGER UNIT IS RATED AT 6 AMPS AT +5 VOLTS AND 3 AMPS AT - 9 VOLTS. THIS UNIT WILL POWER A SCELBI-8H EQUIPPED WITH 4,096 WORDS OF "RAM" MEMORY AND SEVERAL PERIPHERAL INTERFACES. THESE POWER SUPPLIES ARE OFFERED AS A SERVICE TO OUR CUSTOMERS AND WILL ONLY BE SOLD TO THOSE PURCHASING SCELBI-8H SYSTEMS.

POWER SUPPLY MODEL 1A - 3 A. +5V, 2 A. -9V: ASSEMBLED & TESTED $100.00
POWER SUPPLY MODEL 2A - 6 A. +5V, 3 A. -9V: ASSEMBLED & TESTED $150.00

SCELBI COMPUTER CONSULTING, INC
1322 REAR - BOSTON POST ROAD
MILFORD, CT. 06460

PRICING INFORMATION - PRICES EFFECTIVE MAY 1, 1974

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CPU CARD (#1100) - ASSEMBLED & TESTED	$235.00
DBB & OUTPUT CARD (#1101) - ASSEMBLED & TESTED	$ 75.00
INPUT CARD (#1102) - ASSEMBLED & TESTED	$ 55.00
1 K RAM MEMORY CARD - ASSEMBLED & TESTED	$205.00
RAM MEMORY CARD WITH 256 WORDS OF MEMORY - CARD MAY BE EXPANDED TO UP TO 1,024 WORDS USING RAM KIT LISTED BELOW	$ 75.00
256 WORD RAM KIT FOR ABOVE MEMORY CARD	$ 45.00
FRONT PANEL (CONSOLE LIGHTS) CARD (#1104) - ASSEMBLED & TESTED	$ 55.00
ALUMINUM CARD CHASSIS WITH 16 (44 PIN) CARD SOCKETS, A PRINTED CIRCUIT "HARNESS CARD" THAT INTERCONNECTS THE CARD SOCKETS, 14 (11 PIN) INPUT/OUTPUT SOCKETS, A POWER PLUG, AND 11 CONSOLE SWITCHES WITH OCTAL GROUPING COLOR CODED LEVERS - KIT	$140.00
ABOVE ALUMINUM CHASSIS - WIRED AND TESTED	$200.00
POWER SUPPLIES: +5 VOLTS AT 3 AMPS & -9 VOLTS AT 2 AMPS	$100.00
+5 VOLTS AT 6 AMPS & -9 VOLTS AT 3 AMPS	$150.00
OSCILLOSCOPE ALPHA-NUMERIC INTERFACE - ASSEMBLED & TESTED	$225.00
AUDIO CASSETTE TAPE UNIT INTERFACE - ASSEMBLED & TESTED	$125.00
ASCII KEYBOARD (RECONDITIONED - LESS CASE) WITH INTERFACE - ASSEMBLED & TESTED	$125.00
TELETYPE (RTM) BIT-SERIAL INTERFACE - ASSEMBLED & TESTED:	
WITH RELAY FOR PAPER TAPE READER CONTROL	$ 75.00
WITHOUT RELAY FOR PAPER TAPE READER CONTROL	$ 50.00

HARDWARE ACCESSORIES

I/O CABLES - 30 INCHES IN LENGTH - WIRED TO AN 11 PIN FEMALE I/O CONNECTOR AT ONE END AND AN 11 PIN MALE I/O CONNECTOR AT THE OTHER. FOR CONNECTING PERIPHERAL DEVICES TO THE SCELBI-8H	$ 5.00

ORDERING INFORMATION

ORDER BY DESCRIPTION AND/OR CARD NUMBER. PRICES ARE F.O.B. OUR FACILITY IN MILFORD, CONNECTICUT. CONNECTICUT RESIDENTS ADD 6.0% STATE SALES TAX OR GIVE TAX EXEMPTION NUMBER. PAYMENT MUST ACCOMPANY ORDER. DELIVERY TIMES: STOCK TO 60 DAYS.

NEW! NEW! NEW! NEW! NEW! NEW!

SCELBI COMPUTER CONSULTING, INC., IN RESPONSE TO POPULAR REQUEST, ANNOUNCES "UNPOPULATED" P.C. CARD SETS FOR THE EXCITING SCELBI-8H MINI-COMPUTER!

MANY PEOPLE IN INDUSTRY, EDUCATIONAL INSTITUTIONS, AND EVEN PRIVATE INDIVIDUALS HAVE INFORMED US OVER THE PAST YEAR THAT THEY HAVE THEIR OWN SUPPLY OF COMMON TTL (TRANSISTOR-TRANSISTOR-LOGIC) COMPONENTS AS WELL AS OTHER COMMON ELECTRONIC PARTS SUCH AS RESISTORS, DIODES, ETC., AND THAT THEY WOULD JUST LIKE TO BE ABLE TO PURCHASE THE PRINTED CIRCUIT CARDS FOR THE SCELBI-8H. IN THIS WAY THEY WOULD GET THE BENEFITS OF THE OUTSTANDING DESIGN OF THE SCELBI-8H MINI-COMPUTER YET BE ABLE TO SAVE A LITTLE MONEY IN THESE TIMES OF INFLATION BY SUPPLYING THEIR OWN COMPONENTS AND LABOR.

WE HEARD YOU. IN ANSWER TO YOUR REQUESTS WE ARE NOW SUPPLYING P.C. CARD SETS - AND IN SEVERAL CONFIGURATIONS. YOU CAN PURCHASE JUST A PLAIN CARD SET, WITH NO COMPONENTS, OR YOU CAN PURCHASE SEVERAL CONFIGURATIONS WHERE WE SUPPLY (PRE-ADJUSTED) THE CRITICAL MASTER CLOCK CIRCUIT, THE CPU CHIP, AND RAM MEMORY ELEMENTS.

WE MUST ADVISE YOU THAT IF YOU DESIRE TO BUILD A SCELBI-8H IN THIS MANNER YOU SHOULD BE CAPABLE OF "TROUBLE-SHOOTING" COMPLEX LOGIC CIRCUITS BY FOLLOWING LOGIC SCHEMATICS - AND YOU WILL BE PRETTY MUCH ON YOUR OWN UNLESS YOU WANT TO PAY US FOR ASSISTANCE - SINCE YOU WILL BE SUPPLYING THE COMPONENTS FOR THE SYSTEM, WE CANNOT OFFER ANY WARRANTEE ON THESE CARD SETS. HOWEVER, WE WILL PROVIDE YOU WITH PLENTY OF INFORMATION WITH YOUR CARD SET TO HELP YOU ASSEMBLE YOUR SET PROPERLY. WELL OVER 150 PAGES OF DOCUMENTATION IN FACT - INCLUDING REFERENCED ASSEMBLY DRAWINGS, ASSEMBLY INSTRUCTIONS, WIRE LISTS FOR INTER-CONNECTING CARDS, SCHEMATICS, AND THE POPULAR SCELBI-8H USER'S MANUAL.

SHOULD YOU FIND YOU NEED OUR ASSISTANCE SOME WHERE ALONG THE LINE, WE WON'T LET YOU DOWN - SEND US ANY PROBLEM BOARDS AND OUR EXPERTS WILL SET THEM STRAIGHT - BUT WE WILL CHARGE YOU A MODEST FEE, CURRENTLY $10.00 PER HOUR PLUS PARTS.

AND, WHEN YOU PURCHASE ANY CARD SET YOU AUTOMATICALLY GET THE BENEFITS OF BEING A SCELBI-8H CUSTOMER. YOU WILL HAVE A MINI-COMPUTER THAT IS SUPPORTED BY A LINE OF PERIPHERALS THAT YOU CAN ADD ON AS YOUR BUDGET ALLOWS - INCLUDING OUR POPULAR INTERFACES FOR KEYBOARDS AND TTY MACHINES, THE SCELBI ALPHA-NUMERIC OSCILLOSCOPE INTERFACE, AND THE SCELBI AUDIO TAPE CASSETTE INTERFACE THAT ENABLES ONE TO UTILIZE A LOW COST AUDIO CASSETTE RECORDER FOR STORING AND LOADING PROGRAMS AND DATA. YOU WILL HAVE A MINI-COMPUTER FOR WHICH THERE IS A LARGE, AND CONSTANTLY EXPANDING SELECTION OF SOFTWARE - INCLUDING EDITORS, ASSEMBLERS, CALCULATOR PROGRAMS, I/O DRIVERS, DATA MANIPULATING SOFTWARE, AND MUCH MORE! YOU WILL ALSO BE ELIGIBLE FOR MEMBERSHIP IN THE SCELBI-8H USER'S GROUP WHOSE MEMBERS HELP ONE ANOTHER DEVELOP PROGRAMS OF MUTUAL INTEREST.

(SEE OTHER SIDE OF THIS ANNOUNCEMENT FOR PRICING)

NATURALLY, IF YOU DON'T WANT TO TAKE THIS ROUTE, WE ARE STILL SELLING (AND PLAN TO FOR A LONG TIME) OUR STANDARD SCELBI-8H SYSTEMS WITH ASSEMBLED AND TESTED CARDS AND THE STANDARD SCELBI WARRANTEE.

SCELBI COMPUTER CONSULTING, INC.
1322 REAR - BOSTON POST ROAD
MILFORD, CT. 06460

PRICING INFORMATION - UNPOPULATED P.C. CARD SETS

PRICES EFFECTIVE SEPTEMBER 1, 1974

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

#4101:	5 CARD UNPOPULATED P.C. SET (NO COMPONENTS SUPPLIED) INCLUDES ONE EACH OF SCELBI #1100 CPU CARD, #1101 DBB & OUTPUT CARD, #1102 INPUT CARD, #1103 RAM MEMORY CARD, AND #1104 FRONT PANEL CARD.....	$135.00
#4102:	5 CARD SET AS IN #4101 ABOVE EXCEPT THE #1100 CPU CARD IS SUPPLIED WITH COMPONENTS FOR THE MASTER CLOCK CIRCUIT INSTALLED AND PRETUNED.....	$149.00
#4103:	5 CARD SET AS IN #4102 WITH THE ADDITION OF THE CPU-ON-A-CHIP I.C. (8008).....	$249.00
#4104:	5 CARD SET AS IN #4103 WITH THE ADDITION OF EIGHT TYPE 1101 RAM MEMORY I.C.S (256 - 8 BIT WORDS).....	$289.00
#4105:	5 CARD SET AS IN #4104 PLUS THE SCELBI #3100 CHASSIS KIT WHICH INCLUDES 16 (44 PIN) CARD SOCKETS, A PRINTED CIRCUIT "HARNESS CARD" THAT INTERCONNECTS THE CARD SOCKETS, 14 (11 PIN) INPUT/OUTPUT SOCKETS, A POWER PLUG, AND 11 CONSOLE SWITCHES WITH OCTAL GROUPING COLOR CODED LEVERS.....	$429.00

WE WILL NOT SUPPLY COMPONENTS OTHER THAN THOSE SPECIFICALLY SHOWN ABOVE FOR THESE UNPOPULATED CARD SETS - AND OFFER NO WARRANTEE ON UNITS SUCH AS THESE WHERE THE MAJORITY OF THE PARTS ARE NOT SUPPLIED BY SCELBI. IN REGARDS TO SETS SUPPLIED WITH THE CPU CHIP AND RAM I.C.S, THESE DEVICES WILL BE TESTED PRIOR TO SHIPMENT BUT DUE TO THE FACT THAT WE WILL HAVE NO CONTROL OVER HANDLING OR ASSEMBLY OF THESE DEVICES WE WILL NOT PROVIDE WARRANTEE ON THESE ITEMS WHEN SUPPLIED AS A PART OF THE ABOVE "UNPOPULATED" CARD SETS.

COMPLETELY ASSEMBLED AND TESTED (AND WARRANTEED) CARD SETS AND COMPUTERS ARE AVAILABLE AS PART OF OUR STANDARD PRODUCT LINE.

ORDERING INFORMATION

ORDER BY SET NUMBER. PRICES ARE F.O.B. OUR FACILITY IN MILFORD, CONNECTICUT AND APPLY TO DOMESTIC SHIPMENTS. CONNECTICUT RESIDENTS ADD 6.0% SALES TAX OR GIVE TAX EXEMPTION NUMBER. PAYMENT MUST ACCOMPANY ORDER. DELIVERY TIME ON "UNPOPULATED" CARD SETS IS STOCK TO 30 DAYS.

SCELBI COMPUTER CONSULTING, INC.
PROGRAM PRICE LIST - EFFECTIVE SEPTEMBER 30, 1974

ORDERING NUMBER	TITLE	OBJECT CODE PRICES	PROGRAM WITH LISTINGS
61XX-0001	ASCII KEYBOARD TO CRT DISPLAY	$5.00	$7.00
61XX-0002	8H MAGNETIC TAPE WRITE PROGRAM	$5.00	$7.00
61XX-0003	8H MAGNETIC TAPE READ PROGRAM	$5.00	$7.00
61XX-0004	8H MAGNETIC TAPE BOOTSTRAP LOADER	$3.00	$5.00
61XX-0005	8H MAGNETIC TAPE BOOTSTRAP GENERATOR	$3.00	$5.00
61XX-0006	8H KEYBD/CRT MEMORY DUMP PROGRAM	$5.00	$7.00
61XX-0007	8H MODEL 33 TTY READ/WRITE PGM	$5.00	$7.00
61XX-0008	8H MODEL 33 TTY MEMORY DUMP PROGRAM	$7.00	$10.00
62XX-0001	8H ASSEMBLER PROGRAM	$20.00	$50.00
62XX-0002	8H CRT EDITOR PROGRAM	$20.00	$50.00
62XX-0003	8H ASCII KEYBOARD LOADER PROGRAM	$5.00	$7.00
62XX-0004	CALCULATOR PROGRAM	$20.00	$50.00
62XX-0005	8H BAUDOT TTY READ/WRITE PROGRAM	$5.00	$7.00
62XX-0006	8H MODEL 33 HEXI PAPER TAPE LOADER	$5.00	$7.00
63XX-0002	ASCII KEYBOARD TO MORSE CODE PGM	$5.00	$10.00
62XX-0007	8H BAUDOT HEXI PAPER TAPE LOADER	$5.00	$7.00
62XX-0008	8H BAUDOT TTY MEMORY DUMP	$7.00	$10.00
62XX-0009	8H MODEL 33 TTY EDITOR PROGRAM	$20.00	$50.00
62XX-0010	8H BAUDOT TTY EDITOR PROGRAM	$20.00	$50.00

OBJECT CODE PRICES ARE FOR PROGRAMS SUPPLIED AS A LISTING OF THE MACHINE CODES AND MEMORY ADDRESSES.

SOURCE MNEMONIC LISTINGS ARE COMMENTED TO ILLUSTRATE PROGRAMMING METHODS AND MACHINE CODES AND ADDRESSES ARE INCLUDED.

PROGRAMS CAN BE SUPPLIED ON ONE INCH WIDE PUNCHED PAPER TAPE IN HEXI-DECIMAL FORMAT FOR LOADING VIA A MODEL 33 TELETYPE MACHINE AT A CHARGE OF $2.00 PER PROGRAM.

PROGRAMS CAN BE SUPPLIED ON A C-30 MAGNETIC CASSETTE TAPE FOR LOADING VIA A SCELBI TAPE SYSTEM AT A CHARGE OF $2.00 PER PROGRAM PLUS $2.00 FOR EACH CASSETTE USED. MULTIPLE PROGRAMS MAY BE PROVIDED ON ONE CASSETTE.

PROGRAM DESCRIPTIONS ARE AVAILABLE AT 35 CENTS HANDLING CHARGE FOR EACH DESCRIPTION REQUESTED OR THE ENTIRE SET OF PROGRAM DESCRIPTIONS LISTED ABOVE MAY BE OBTAINED FOR $5.00 POSTAGE PAID.

THE SCELBI AUDIO MAGNETIC TAPE INTERFACE

THIS IS AN INTERFACE THAT ALLOWS THE USER TO UTILIZE A LOW COST AUDIO TAPE CASSETTE RECORDER AS A PERIPHERAL DEVICE FOR STORING PROGRAMS OR DATA FOR THE SCELBI-8H MINI-COMPUTER. THE DATA OR PROGRAMS CAN THEN BE RELOADED BACK INTO THE MEMORY OF A SCELBI-8H WHENEVER DESIRED. THE SYSTEM IS ABOUT FIVE TIMES FASTER THAN A TYPICAL TELETYPE PAPER TAPE SYSTEM. IT THUS GREATLY INCREASES THE EFFICIENCY WITH WHICH PROGRAMS CAN BE LOADED INTO THE COMPUTER, OR SAVED FOR FUTURE USE. THE LOW COST OF THE UNIT MAKES IT AN EXTREMELY ATTRACTIVE ADDITION TO ANY SCELBI-8H MINI-COMPUTER SYSTEM.

TECHNICAL INFORMATION

THE SCELBI AUDIO MAGNETIC TAPE INTERFACE UTILIZES AN ASYNCHRONOUS RECORDING TECHNIQUE THAT GREATLY SIMPLIFIES THE RECORDING AND PLAYBACK PROCESS WHILE SIGNIFICANTLY INCREASING THE RELIABILITY OF THE SYSTEM.

IN THE RECORDING MODE THE INTERFACE ACCEPTS 4 BITS (HALF OF A SCELBI-8H WORD) IN PARALLEL FROM AN OUTPUT PORT AS DATA BITS FOR TRANSMISSION TO THE TAPE RECORDER. TWO ADDITIONAL BITS ON THE SAME OUTPUT PORT (OF THE REMAINING 4 AVAILABLE) ARE USED TO CONTROL OPERATION OF THE INTERFACE/TAPE RECORDER. ONE OF THESE TWO BITS IS USED TO ACTUATE A SMALL RELAY ON THE INTERFACE CARD. THE CONTACTS OF THE RELAY MAY BE USED TO AUTOMATICALLY START OR STOP THE TAPE RECORDER. THE SECOND BIT INFORMS THE INTERFACE WHEN IT IS TO GO TO THE WRITE MODE.

WHEN THE INTERFACE RECEIVES THE 4 DATA BITS TO BE WRITTEN ON THE TAPE RECORDER, THE INTERFACE ADDS A "START" BIT TO THE DATA AND THUS TRANSMITS A GROUP OF 5 BITS OF INFORMATION (START BIT PLUS 4 DATA BITS) TO THE TAPE RECORDER USING A TWO TONE FSK TECHNIQUE AT A NOMINAL RATE OF 650 BAUD. THE FSK TONES ARE NOMINALLY 1300 HZ FOR A "0" AND 2600 HZ FOR A "1" CONDITION. DURING THE TIME THAT THE DATA IS BEING SERIALLY TRANSMITTED TO THE TAPE UNIT, A CONTROL SIGNAL GOING TO AN INPUT PORT OF THE SCELBI-8H COMPUTER IS USED TO INFORM THE COMPUTER THAT THE INTERFACE IS "BUSY." WHEN THE DATA HAS BEEN TRANSMITTED THE BUSY FLAG IS CLEARED AND THE INTERFACE IS READY TO ACCEPT THE NEXT 4 BITS FROM THE COMPUTER.

THE INTERFACE ALSO CONTAINS A DELAY CIRCUIT THAT ENABLES THE TAPE RECORDER UNIT TO REACH NORMAL OPERATING SPEED BEFORE THE FIRST GROUP OF BITS IN A BLOCK OF DATA ARE TRANSMITTED.

IN THE RECEIVE MODE THE INTERFACE ACCEPTS DATA IN ASYNCHRONOUS SERIAL FASHION. DATA COMING FROM THE TAPE RECORDER IS FED TO A FSK DISCRIMINATOR. THE OUTPUT OF THE DISCRIMINATOR IS FILTERED, SHAPED, AND LEVEL SHIFTED TO PROVIDE A "TTL" SIGNAL TO ONE LINE OF AN INPUT PORT ON A SCELBI-8H. THIS LINE IS NORMALLY ON THE SAME INPUT PORT AS THAT USED TO RECEIVE THE "BUSY" FLAG. IN THE RECEIVE MODE A TYPICAL TAPE READ PROGRAM CHECKS THE INPUT DATA LINE UNTIL IT DETECTS A START BIT. AFTER THE START BIT HAS BEEN DETECTED APPROPRIATE DELAYS ARE USED TO ALLOW PROPER SAMPLING OF THE NEXT 4 DATA BITS. THE 4 DATA BITS ARE ORGANIZED INTO HALF A SCELBI-8H WORD AND THE PROCESS REPEATED UNTIL A BLOCK OR FILE OF DATA HAS BEEN RECEIVED AND PLACED IN MEMORY. STANDARD SCELBI PROGRAMS USE A "CHECK-SUM" TECHNIQUE TO VERIFY THE RECEPTION OF CORRECT DATA. THE USE OF THE VERY SHORT LENGTH BIT GROUPS IN AN ASYNCHRONOUS FASHION COMPENSATES FOR SIGNIFICANT VARIATIONS IN TAPE SPEED WHICH IS OFTEN A PROBLEM WITH LOW COST TAPE RECORDERS AND MAKES

THE SCELBI AUDIO MAGNETIC TAPE SYSTEM A REMARKABLY RELIABLE AND YET LOW COST METHOD FOR STORING AND RETRIEVING PROGRAMS OR DATA.

THE INTERFACE CIRCUITRY IS CONTAINED ON TWO PRINTED CIRCUIT CARDS MEASURING 4 1/2 BY 6 1/2 INCHES THAT PLUG INTO 22 PIN P.C. SOCKETS. THE UNIT IS PACKAGED IN AN ALUMINUM MINI-BOX WITH TWO 11 PIN MALE I/O CONNECTORS AND APPROPRIATE CONNECTORS FOR POWER. POWER REQUIREMENTS ARE APPROXIMATELY 250 MA. AT +5 VOLTS. THE POWER SHOULD BE DERIVED FROM THE SAME SOURCE AS THAT USED BY THE SCELBI-8H MINI-COMPUTER.

THE INTERFACE REQUIRES ONE SPECIAL "SYNC" SIGNAL FROM THE SCELBI-8H MINI-COMPUTER. THIS SIGNAL IS NORMALLY ROUTED FROM THE COMPUTER THROUGH A SPARE PIN ON THE INPUT PORT I/O CONNECTOR THAT IS USED WITH THE INTERFACE.

TYPES OF RECORDERS TO USE WITH THE INTERFACE

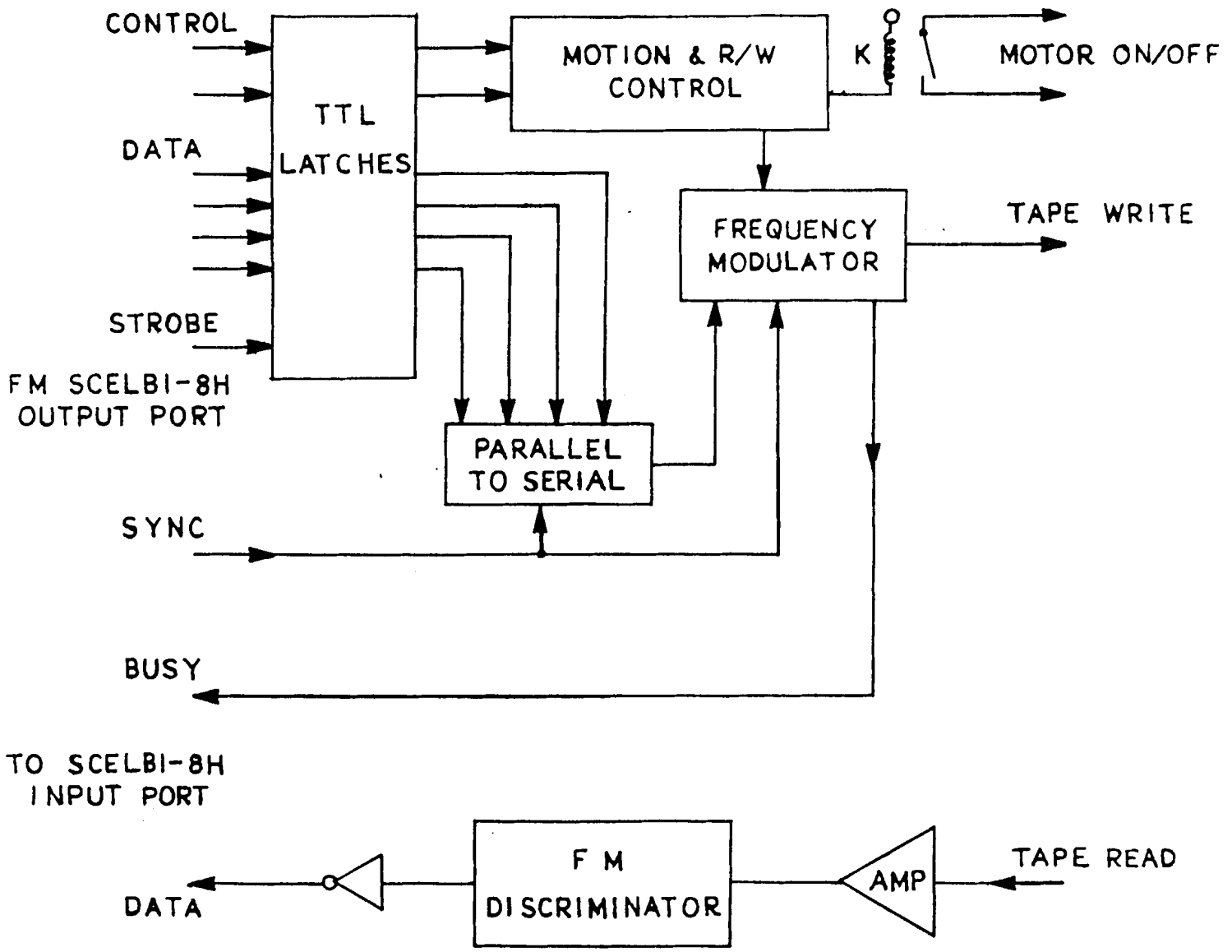
THE SCELBI AUDIO MAGNETIC TAPE INTERFACE HAS BEEN DESIGNED TO OPERATE WITH LOW TO MEDIUM COST CASSETTE TAPE RECORDERS THAT HAVE THE FOLLOWING MINIMUM SPECIFICATIONS: CAPSTAN SPEED CONTROL WITH MAXIMUM VARIATION OF PLUS OR MINUS 5%, FREQUENCY RESPONSE PLUS OR MINUS 3 DB OVER THE RANGE OF 300 TO 6000 HERTZ, AN AUXILLIARY INPUT FOR RECORDING AND AN EARPHONE JACK FOR PLAYBACK. AS AN OPTION, RECORDERS THAT ALLOW A BUTTON ON A MICROPHONE TO BE USED TO START AND STOP TAPE MOTION, AND THAT HAVE A SUBMINIATURE JACK PROVIDED FOR THIS FUNCTION, CAN BE USED WITH THE RELAY PROVIDED ON THE SCELBI INTERFACE TO PLACE THIS FUNCTION UNDER CONTROL OF THE COMPUTER. IN ADDITION, RECORDERS WITH A MANUAL "RECORD VOLUME" CONTROL ARE PREFERRED OVER THOSE WITH AUTOMATIC RECORD GAIN CONTROL AND RECORDERS WITH CONTINUOUSLY ADJUSTABLE TONE CONTROL(S) ARE PREFERRED OVER THOSE THAT HAVE NO TONE CONTROL, OR THAT HAVE SWITCH SELECTED TONE RANGES. THESE TONE AND GAIN CONTROLS CAN OFTEN BE USED TO "PEAK" A RECORDING UNIT SO THAT THE BIT ERROR RATE IS AT A MINIMUM.

IN ADDITION, A GOOD QUALITY CASSETTE TAPE SHOULD BE USED WHENEVER THE RECORDER IS USED FOR STORING DATA OR PROGRAMS.

IT SHOULD BE NOTED THAT THE SCELBI-8H AUDIO MAGNETIC TAPE INTERFACE DOES NOT REQUIRE ANY MODIFICATIONS TO THE TAPE RECORDING UNIT - WHEN THE RECORDER IS NOT BEING USED WITH THE SCELBI-8H MINI-COMPUTER IT CAN BE USED AS A GENERAL PURPOSE TAPE UNIT.

SINCE THE QUALITY OF THE CASSETTE TAPE AS WELL AS THAT OF THE TAPE RECORDER WILL HAVE AN OVER-ALL EFFECT ON THE RELIABILITY OF THE TAPE SYSTEM, IT IS VIRTUALLY IMPOSSIBLE TO SPECIFY A BIT ERROR RATE FOR SUCH A SYSTEM. HOWEVER, EXTENSIVE TESTING AND USAGE OF A VARIETY OF TAPE RECORDERS COMMONLY AVAILABLE IN THE $50.00 TO $75.00 RANGE HAS SHOWN THE SYSTEM TO BE REMARKABLY RELIABLE FOR THE COST AND QUITE ADEQUATE FOR THE PURPOSES FOR WHICH IT WAS DESIGNED. BIT ERROR RATES ARE TYPICALLY IN THE RANGE OF 1 IN 100,000 TO 1 IN 1,000,000. THE USE OF "CHECK-SUM" TECHNIQUES ALLOWS THE OPERATOR TO VERIFY THE CORRECT READING OF BLOCKS OF DATA. THE ADDITION OF SOFTWARE ERROR CORRECTING TECHNIQUES CAN FURTHER INCREASE THE OVER-ALL RELIABILITY OF THE SYSTEM IN SPECIAL APPLICATIONS.

A BLOCK DIAGRAM OF THE SCELBI AUDIO MAGNETIC TAPE INTERFACE IS INCLUDED FOR REFERENCE.



BLOCK DIAGRAM

SCELBI AUDIO TAPE INTERFACE

THE SCELBI ALPHA-NUMERIC OSCILLOSCOPE INTERFACE

THIS IS AN INTERFACE THAT ACCEPTS DATA FROM A SCELBI-8H MINI-COMPUTER AND PRESENTS IT AS ALPHA-NUMERIC SYMBOLS ON AN ORDINARY OSCILLOSCOPE HAVING A BANDWIDTH OF FIVE MEGAHERTZ OR GREATER. NO MODIFICATIONS TO THE OSCILLOSCOPE ARE REQUIRED TO USE THIS INTERFACE.

UP TO EIGHT LINES OF INFORMATION, WITH EACH LINE CONTAINING UP TO 20 CHARACTERS CAN BE DISPLAYED AT ONE TIME USING THIS UNIT. THE DISPLAY CAN PRESENT THE 26 ALPHABETICAL CHARACTERS, THE NUMERALS 0 - 9, AND A GROUP OF COMMON MATHEMATICAL AND TEXT SYMBOLS INCLUDING: +, -, =, :, !, ', ", #, $, *, ., /, <, >, AND THE COMMA SIGN.

TECHNICAL INFORMATION

THIS INTERFACE ACCEPTS 16 BIT DIGITAL CODES FROM TWO SCELBI-8H OUTPUT PORTS. THE 16 BIT CODES ARE CONVERTED TO "STARBURST" PATTERNS WITH APPOPRIATE "BLANKING" INFORMATION. A DIGITAL-TO-ANALOG INTEGRATING NETWORK IS USED TO DRIVE THE "X" AND "Y" INPUTS OF THE OSCILLOSCOPE. THE INTERFACE ALSO CONTAINS CIRCUITRY TO CONTROL THE POSITIONS OF THE CHARACTERS ON A LINE AND TO ALLOW THE DISPLAY OF MULTIPLE LINES OF INFORMATION.

THE POWER REQUIREMENT FOR THE UNIT IS APPROXIMATELY 400 MA. AT +5 VOLTS. THIS SHOULD BE SUPPLIED FROM THE SAME SOURCE AS THAT USED BY THE COMPUTER. A SEPARATE POWER SUPPLY FOR THE ANALOG CIRCUITRY IS SUPPLIED WITH THE UNIT.

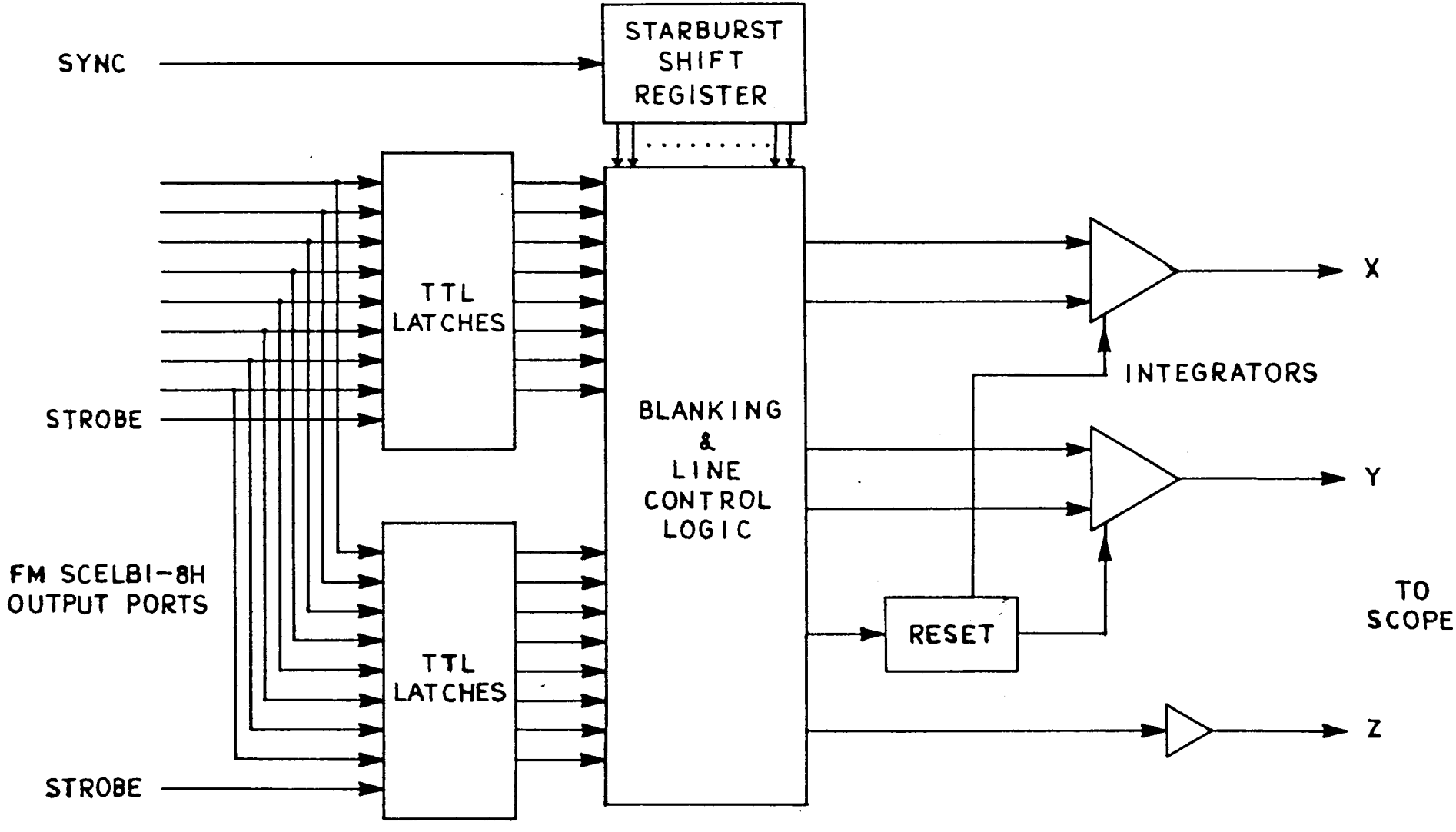
A 250 KHZ "SYNC" SIGNAL IS REQUIRED BY THE INTERFACE. THIS SIGNAL MAY BE OBTAINED FROM THE SCELBI-8H MINI-COMPUTER AND IS NORMALLY ROUTED TO THE INTERFACE V.I.A. A SPARE PIN ON ONE OF THE OUTPUT PORT CONNECTORS.

THE MAJORITY OF THE CIRCUITRY FOR THE INTERFACE IS CONTAINED ON TWO PRINTED CIRCUIT CARDS. THE DIGITAL CARD IS A STANDARD SCELBI 6 1/2 BY 9 INCH CARD THAT MOUNTS IN A PAIR OF 22 PIN P.C. CARD SOCKETS. THE ANALOG CIRCUITRY IS ON A 6 1/2 BY 4 1/2 INCH CARD THAT MOUNTS IN A SINGLE 22 PIN P.C. CARD SOCKET. THESE CARDS ALONG WITH A SMALL POWER SUPPLY FOR THE ANALOG CIRCUITRY ARE MOUNTED IN AN ALUMINUM BOX THAT IS EQUIPPED WITH A PAIR OF 11 PIN MALE I/O CONNECTORS AND CONNECTORS FOR THE +5 VOLT POWER SUPPLY.

SOFTWARE FOR DRIVING THE INTERFACE IS AVAILABLE. SOFTWARE IS TYPICALLY USED TO CONVERT ASCII, BAUDOT, OR OTHER CONVENTIONAL CODES TO THE 16 BIT CRT CODES USED BY THE INTERFACE UTILIZING A LOOK-UP TABLE. A PORTION OF MEMORY IS THEN USED AS A REFRESH BUFFER TO ALLOW THE DATA TO BE CONTINUOUSLY DISPLAYED UNDER PROGRAM CONTROL.

THIS INTERFACE WILL DRIVE OSCILLOSCOPES HAVING A BANDWIDTH OF 5 MEGAHERTZ OR GREATER AND THAT HAVE A "Z" AXIS BLANKING INPUT AVAILABLE. (USUALLY FOUND AT THE BACK OF THE OSCILLOSCOPE.) THE DISPLAY SIZE IS ADJUSTED USING THE NORMAL X AND Y OSCILLOSCOPE CONTROLS. THE INTERFACE DOES NOT UTILIZE ANY "TIMING" OR "SWEEP" MODES OF THE OSCILLOSCOPE SO VERY LOW COST OSCILLOSCOPES (AND EVEN OLD OUTDATED ONES) CAN OFTEN BE PUT TO GOOD USE WITH THIS DISPLAY SYSTEM.

THE SCELBI-8H ALPHA-NUMERIC OSCILLOSCOPE INTERFACE IS AN EXCELLENT LOW COST WAY FOR USER'S TO DISPLAY INFORMATION FROM THE SCELBI-8H MINI-COMPUTER!



BLOCK DIAGRAM
SCELBI ALPHA-NUMERIC OSCILLOSCOPE INTERFACE