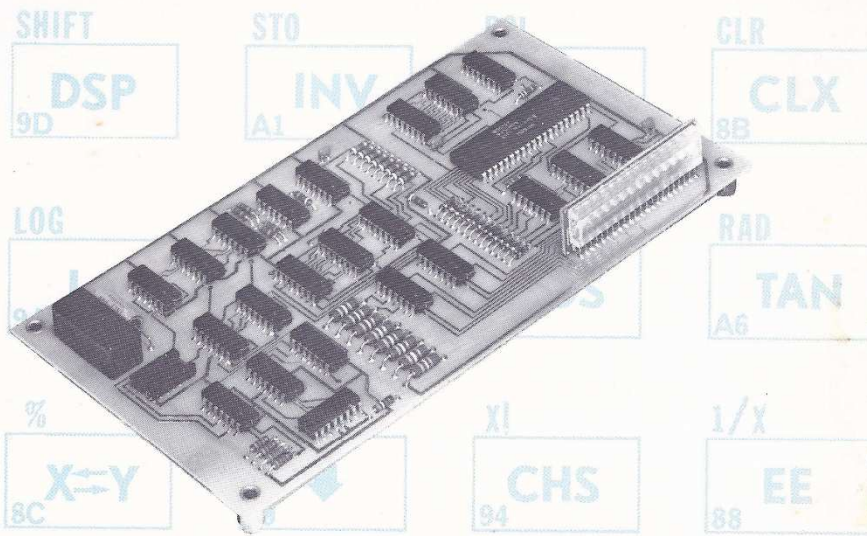




MICROCALCULATOR

MODEL 85

$\bar{X}, S$
 $\Sigma +$
95

$\sqrt{X}$
 Y^X
84

C $\rightarrow$ F
 $\div$
91

LTR $\rightarrow$ GAL
X
8D

CM $\rightarrow$ IN
—
89

KG $\rightarrow$ LB
+
85

SHIFT
DSP
9D

LOG
I
9A

%
X $\leftrightarrow$ Y
8C

7
93

4
97

1
8F

LST X
0
87

STO
INV
A1

DSI
S
9E

XI
CHS
94

8
98

5
9C

2
9F

π
•
9B

CLR
CLX
8B

RAD
TAN
A6

1/X
EE
88

9
A4

6
A8

3
A3

SCI
ENT
A7

Microcalculator Model 85

The Microcalculator Model 85 is an advanced scientific calculator for operation with a microprocessor. The keyboard of the scientific calculator has been replaced by control and interface circuitry which permit a microprocessor to enter instructions and read back answers. The answer, as with a standard scientific calculator, is displayed on a fourteen (14) digit LED display, and at the same time may be read back into the microprocessor for terminal display. The Microcalculator Model 85 is a complete scientific calculating system requiring only 5V for operation. Connection to the microprocessor is via the microprocessor's 8 bit I/O port. Cable and connector to interface the Microcalculator with the microprocessor is supplied. Most scientific calculators, which are programmable, permit only 100 steps per program. With the Microcalculator, and a microprocessor with cassette interface capabilities, programs are limited only by the RAM memory of the microprocessor system.

The Microcalculator operates by RPN (Reverse Polish Notation) utilizing a four (4) level stack and ten (10) operational registers. The following functions are possible with the Microcalculator Model 85.

TYPICAL EXECUTION TIMES

Digit Entry	.34 ms
+, −	.87 ms
X, ÷, √	.113 ms
Tan	.1140 ms
Sin	.1181 ms
Ln	.725 ms
Y ^x	.2700 ms

- Clear Display (X Register)
- Clear Stack, 0 Register, Display Register
- Add, Subtract, Multiply, Divide
- Sine, Cosine, Tangent,
- Arc Sine, Arc Cosine, Arc Tangent
- Hyperbolic Sine, Hyperbolic Cosine, Hyperbolic Tangent
- Arc Hyperbolic Sine, Arc Hyperbolic Cosine, Arc Hyperbolic Tangent
- Memory Store, 9 Registers
- Memory Recall, 9 Registers
- Register X and Y Exchange
- Common Log
- Natural Log
- Anti Log, Natural (E^X), for all values from +230 thru −230
- Anti Log, Common (10^X), for all values from +99.9 thru −99.9
- 4 Stack Register
- Rotate Stack
- Recall Last X
- Y to the X Power
- Reciprocal for all values, exponent range from +99 thru −100
- PI Constant
- Change Sign
- Square Root, X Square
- Factorials
- Summation Plus, Summation Minus
- Percentage, Percentage Difference
- Mean
- Standard Deviation
- Centigrade to Fahrenheit, Fahrenheit to Centigrade Conversions
- Liters to Gallon, Gallons to Liters Conversions
- Centimeters to Inches, Inches to Centimeters Conversion
- Degrees to Radians, Radians to Degrees Conversion
- Kilograms to Pounds, Pounds to Kilograms Conversion
- Trigonometric Rectangular to Polar Conversion
- Trigonometric Polar to Rectangular Conversion
- Hyperbolic Rectangular to Polar Conversion
- Hyperbolic Polar to Rectangular Conversion
- Business Display Format, 12 Digits Floating Decimal Point
- Fixed Decimal Point Display, User set from 0-9 in Display
- Scientific Display Format, 10 Digit Mantissa, 2 Digit Exponent

How the Microcalculator Works...

The Microcalculator is a peripheral device to the microprocessor system. It connects to the microprocessor via an 8 bit I/O port. The I/O port must be a device that is capable of having individual bits configured as input or output, such as the Motorola 6820, Mostek 3820, MOS Technology 6530 or equivalent.

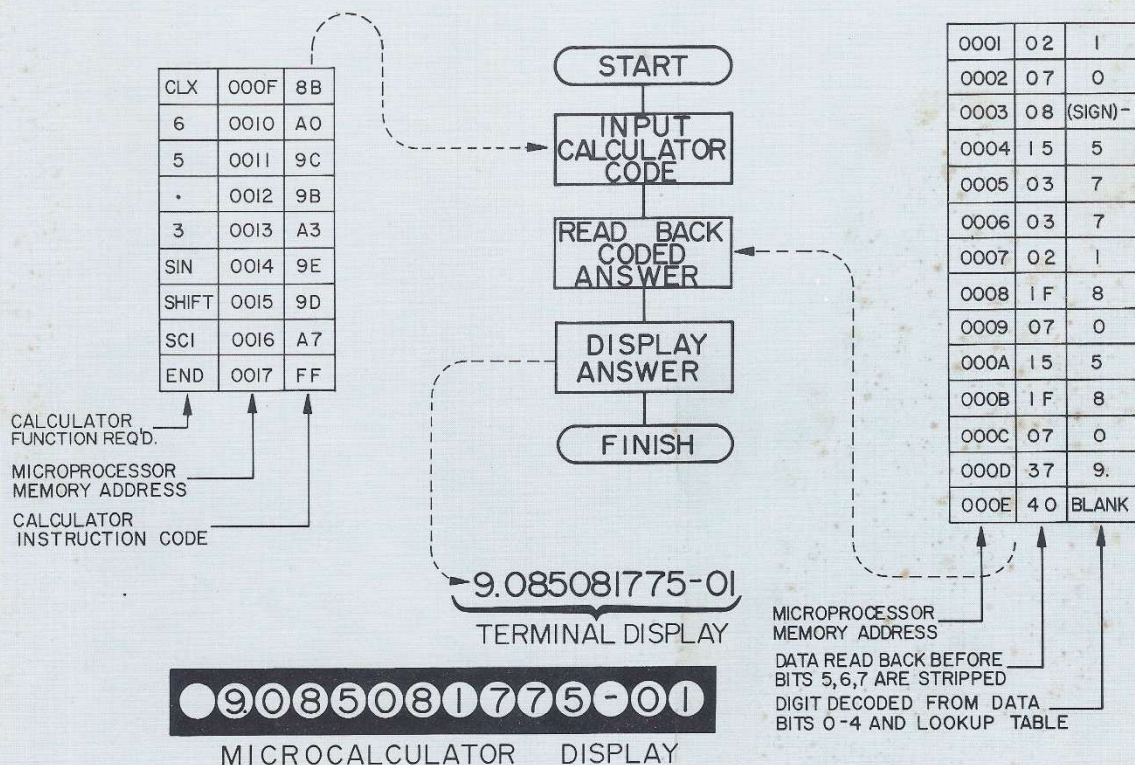
As with any calculator, the data and operations must be entered in via the keyboard one instruction at a time. With

the Microcalculator each key has a corresponding 8 bit instruction which the microprocessor delivers to the Microcalculator. The Microcalculator processes the instruction and updates the display. The answer can be taken from the display or it can be read back into the microprocessor for terminal display.

The answer read back by the microprocessor is a special code and is decoded under software control.

EXAMPLE:

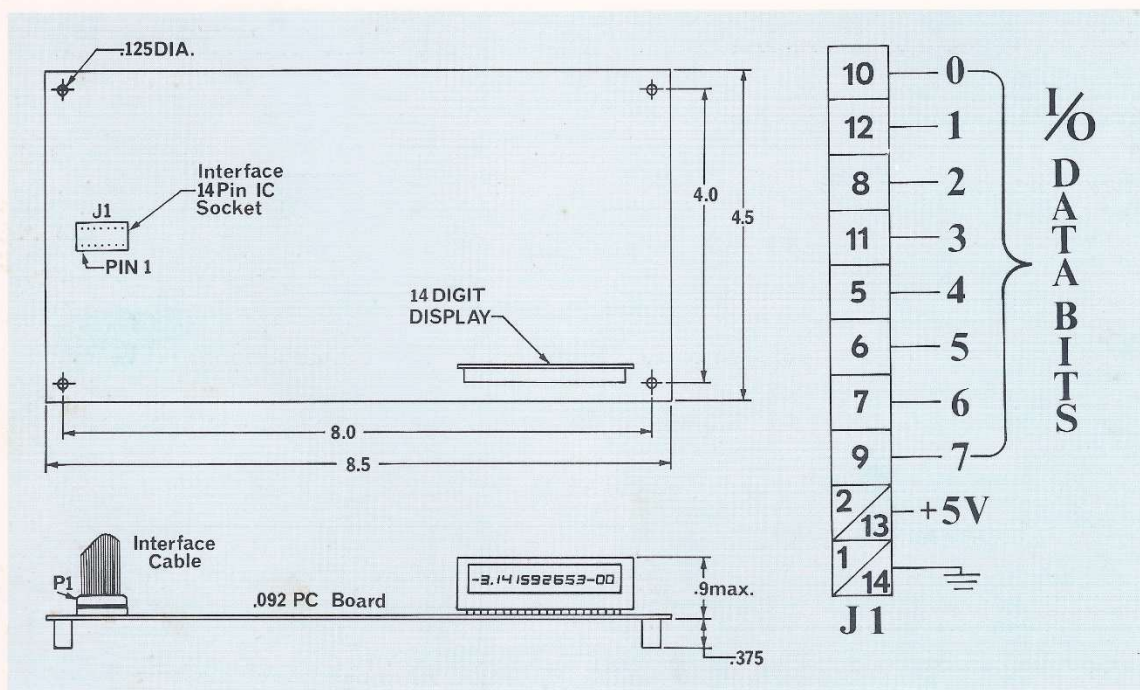
FIND SIN 65.3 AND DISPLAY
ANSWER IN SCIENTIFIC NOTATION



ARTISAN ELECTRONICS CORPORATION
5 EASTMANS RD., PARSIPPANY
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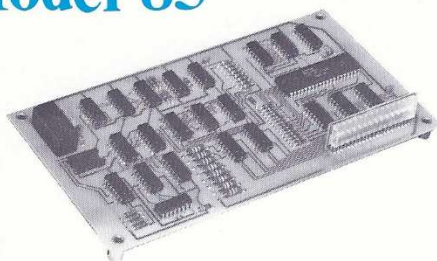
General Specifications

POWER SUPPLY REQUIRED:	+5V DC @ 175 milliamperes maximum.
I/O CAPABILITIES:	Calculator instructions may be entered into the Microcalculator by the Microprocessor and the display read back into the Microprocessor for terminal display.
INTERFACE REQUIREMENTS:	The Microcalculator Model 85 will interface with any 8 bit input/output port capable of having any bit configured as input or output. Recommended interface devices include the Motorola MC6820, Mostek MK6820 or MK3820, AMI S6820, or MOS Technology MCS6530.
INTERFACE CONNECTIONS:	14 PIN IC socket on board for power and I/O.
DISPLAY:	Hewlett-Packard 14 digit display 5082-7447. Display may be removed for remote mounting.
BOARD CONSTRUCTION:	Printed circuit board is fabricated from 3/32" FR4, glass epoxy with 4 mounting
PROGRAM INPUT LENGTH:	The Microcalculator will process input instructions limited only to the RAM memory capacity of the controlling Microprocessor system.
SOFTWARE REQUIREMENTS:	Microcalculator Model 85 may be operated as a scientific calculator with the on board display providing visual indication of the results with a minimum 120 BYTES of memory. A maximum of 220 BYTES of memory will configure the Microcalculator as a complete system including writing the instruction, testing the busy status, reading back the display into the Microprocessor and displaying the results on a TTY or CRT terminal.
MATERIAL FURNISHED:	Microcalculator Model 85, complete with display, 36 inch interface cable with molded 14 PIN connector on one end, and complete operating handbook which includes flowcharts, theory, program example, schematic, parts list and an entire section on the instruction set usage for the Microcalculator.
USER GROUP:	All owners of the Microcalculator will become a member of the Microcalculator user's group at no charge for a period of 1 year. Active programs in most Microprocessor languages will be available.
WARRANTY:	The Microcalculator Model 85 is warranted against material and workmanship defects for a period of 90 days.

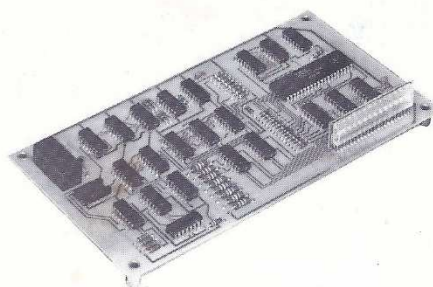


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 NEW JERSEY 07054
 TELEPHONE: (201) 687-7100

How to Order Microcalculator Model 85



Microcalculator



Model 85

Artisan Electronics Corporation
5 Eastmans Road
Parsippany, N.J. 07054

Please rush the new Microcalculator Model 85. I understand that the \$189.00 price includes all shipping and handling charges.

I understand that my order will include a one year membership in the Microcalculator users group at no additional charge.

Rush the new Microcalculator Model 85 to:

Name _____

Address _____

State _____ Zip _____

Please specify:
— or od

— Quantity ordered

☐ Payment enclosed \$189.00
(N.J. residents add 5% sales tax)

☐ Charge to American Express

☐ Charge to MasterCard

CREDIT CARD NO.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

SIGNATURE	MONTH	YEAR
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EXPIRATION DATE

ARTISAN
ELECTRONICS CORPORATION
5 EASTMANS ROAD
PARSIPPANY, N. J. 07054