



Rockwell
International

Service And Parts Manual

MODEL 44RD



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Functional Test

Keyboard Entry

Display

*88888888

88888888.

+/-

-88888888.

EE

-88888 00

88

-88888 88

+/-

-88888-88

Sw. to RAD Position

C/CE

0.

π

3.1415926

COS

-1.

Sw. to DEG Position

ARC

-1.

SIN

-90.

+/-

90.

-

90.

60

60.

X

30.

.5

0.5

$\div$

15.

[(

15.

.94

0.94

EE

0.94 00

3

0.94 03

+

940.

7

7.

C/CE

0.

8

8.

Keyboard Entry

)]

÷

15

=

TAN

Ln

ex

LOG

STO

1/X

 x^2 y^x

2

 10^x $\sqrt{\quad}$

RCL

=

Turn Calculator Off

Display

948.

1.5822-02

15.

1.0548-03

1.8410-05

-10.9026

1.8410-05

-4.73494

-4.73494

-2.1119-01

4.4603-02

4.4603-02

2.

100.

10.

-4.73494

2483970.

*Decimal should travel across
display as eights are entered.

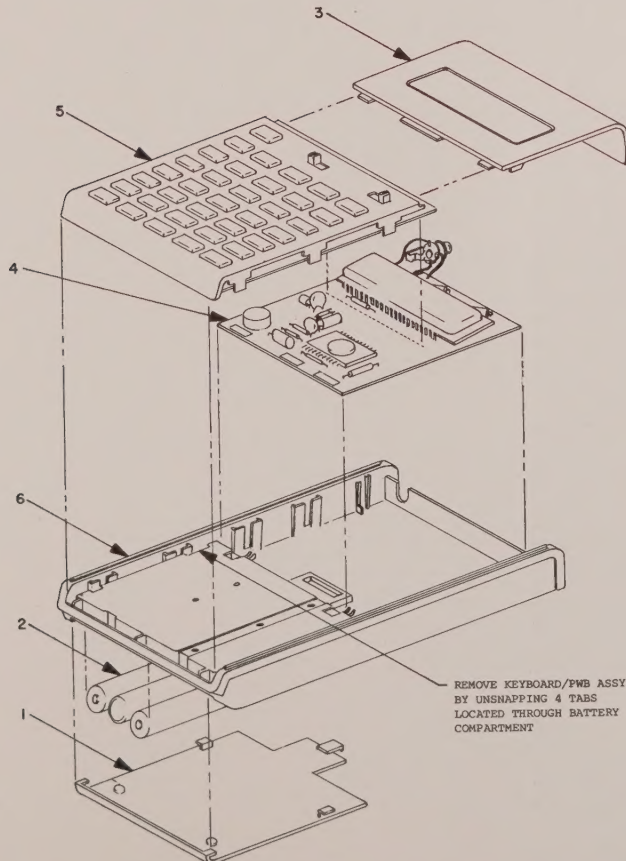
44RD ACCESSORIES

Part Number	Description
8102-4749	Gift Carton
8102-4741	Insert Gift Carton
1226R12-001	Instruction Manual
20167H39-021	Carrying Case
105R	Adapter
109R	Rechargeable Kit Available (includes charger & batteries)

44RD TOP ASSEMBLY

Ref. No.	Part Number	Description
1	8102-4585	Battery Cover (includes 2 rubber feet)
2	8102-4598	Batteries (AA Nonrechargeable) 3 required
3	8102-4751	Lens
4	8102-4742	Printed Circuit Board Assy. (Less Display)
5	8102-4743	Keyboard Assembly (includes Bezel)
6	8102-4752	Bottom Case (includes battery clips and 2 rubber feet)
	8102-4738	Battery Clip Single, 2 Required
	8102-4597	Battery Clip Double, 3 Required
	8102-4748	Identification Label
	8102-4730	Rubber Feet, 4 Required

NOTE: Ref. No. sequence in order of disassembly. Items 4 and 5 come out as an assembly.

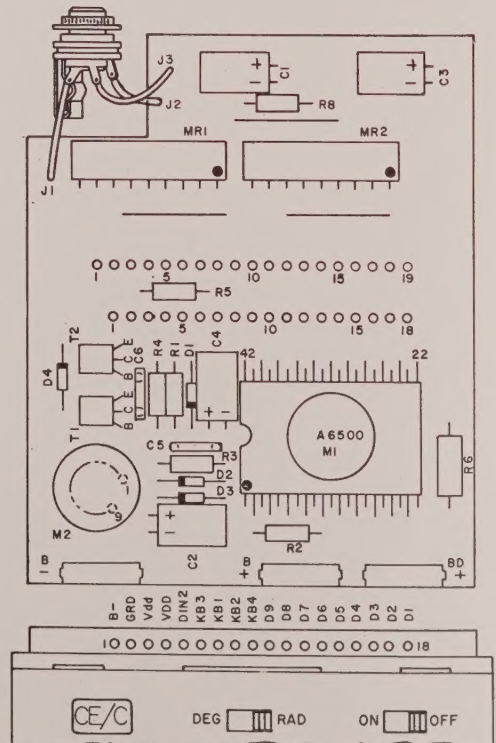


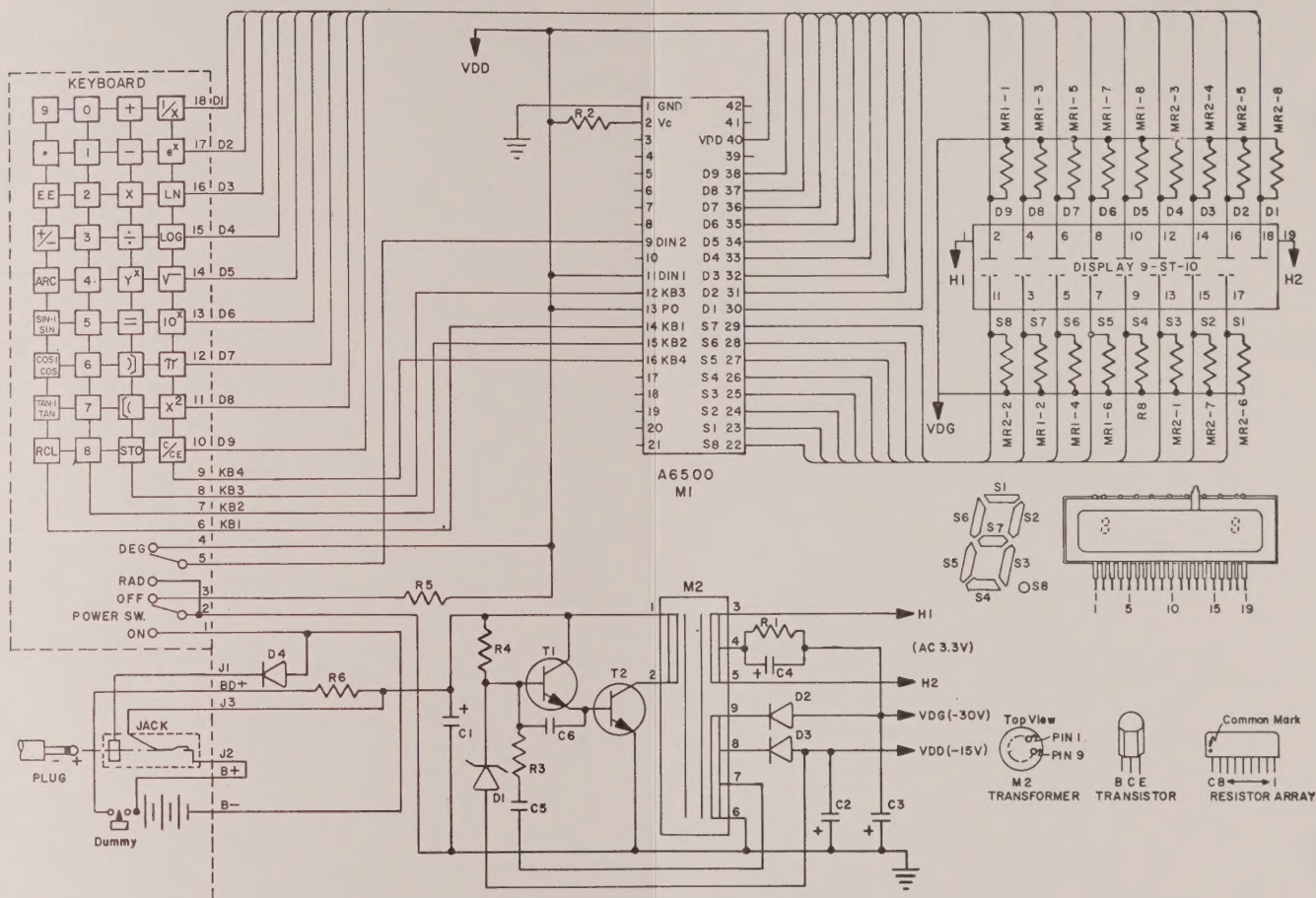
44RD LOGIC ASSY.

Ref. No.	Part Number	Description
	8102-4742	Printed Circuit Board Assembly (Less Display)
	8102-4744	Printed Circuit Board (Plain)
T1	4800-0009	Transistor 2SC711
T2	4800-0064	Transistor 2SC1210
D1	4801-0076	Diode, Zener 16.5V $\pm$ 3%
D2	4801-0078	Diode, Switching 1S2471
D3	4801-0079	Diode, Switching 1S2472
D4	4801-0084	Diode SR-10D
R1	421R02-037	Resistor Carbon Comp. 2.7K ohm, 1/4W, 10%
R2	421R02-079	Resistor Carbon Comp. 56K ohm, 1/4W, 5%
R3, R5	421R02-101	Resistor Carbon Comp. 1K ohm, 1/4W, 5%
R4	421R02-048	Resistor Carbon Comp. 22K ohm, 1/4W, 10%
R6	421R05-012	Resistor Carbon Comp. 47 ohm, 1/2W, 10%
R8	1408-0109	Resistor Carbon Comp. 150K ohm, 1/4W, 10%
MR1, MR2	1408-0200	Resistor Array 150K ohm X8
C1	1502-0068	Capacitor Radial Lead 33uf 10V
C2	401R01-001	Capacitor Radial Lead 10 uf 25V
C3	1502-0069	Capacitor Radial Lead 4.7 uf 50V
C4	1502-0071	Capacitor Radial Lead 0.47 uf 50V
C5	1502-0072	Capacitor Ceramic Disc 470PF 50V
C6	1502-0076	Capacitor Ceramic Disc 220PF 50V
M2	8102-4745	DC-DC Converter
M1	A6500	MOS/LSI
	8102-4746	18 Pin Connector (Keyboard to PWB)
	331R09-001	Jack
	5700-0016	Display
	8102-4747	Display Cushion (2 Req'd)

NOTE: The following Ref. Designation is not used on this Assy and is not shown on the schematic:

R7





TROUBLE SHOOTING TABLE

SYMPTOM	PROBABLE CAUSE	CHECK
1. Display does not light.	Discharged batteries. Defective On-Off switch. Defective AC adapter jack. Defective power supply. Defective MOS device. Defective display.	Check battery voltage. Should be greater than 2.4 volts. Check switch for continuity in On position. Check adapter for continuity between J2 and J3. Check power supply circuitry Check MOS strobe signals. Check filament continuity.
2. Dim display.	Discharged batteries. Defective power supply. Defective display.	Check battery voltage. Should be greater than 2.4 volts. Check power supply circuitry. Replace the display.
3. Will not clear when initially turned ON.	On-Off switch. MOS device.	Check for switch bounce. Check VDD voltage.
4. Random segments or decimal points missing from one or more digits.	Display. MOS device.	Check the display solder connections. If good, replace the display. Check segment outputs.
5. Same segment missing from all digits.	Display. MOS device. Resistor arrays.	Check the display solder connections. If good, replace the display. Check segment output. Check MR1 and MR2 for shorts.
6. Digits missing from the display.	Display MOS device.	Check the display solder connections. If good, replace the display. Check for strobe outputs.
7. Display all 8's or random segments.	On-Off switch. MOS device.	Check for intermittent condition. Turn off and check PS at turn on.
8. One or more keys do not enter.	Keyboard MOS device	Check keyboard continuity, to printed wiring board. Check strobes and keyboard returns.
9. Display will not clear.	Keyboard. MOS device.	Check keyboard continuity, to printed wiring board. Check strobe D9 and KB4.
10. Incorrect arithmetic operation (wrong answer).	MOS device. Clock frequency. Power supply circuitry.	Clear calculator and repeat operation observing each entry. R2 Check power supply voltages.

