

SHARP SERVICE MANUAL



CE-153

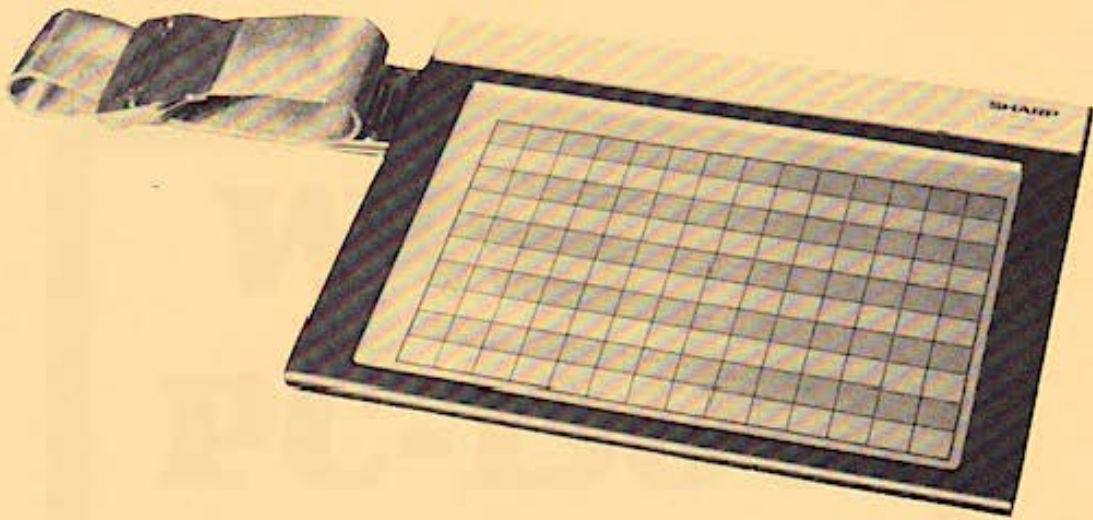
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MODEL CE-153

Soft Key Board (PC1500 Option)



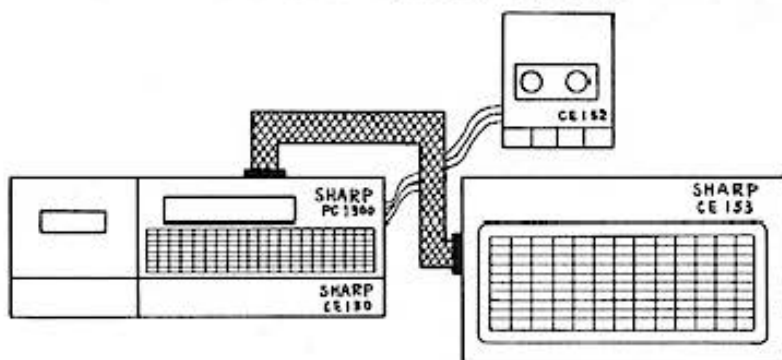
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1. INTRODUCTION

The CE-153 Software Board has been developed to enhance easy accumulation of crossfooting and down totals in the PC-1500 Pocket Computer. Data entered on the keyboard of the CE-153 is transferred to the PC-1500 together with the address signal to perform BASIC program execution in the PC-1500 on the basis of the address supplied.

2. SYSTEM CONFIGURATION



Required devices:

- PC-1500 . . Personal Computer
- CE150 . . Printer/Cassette Interface Unit
- CE-151 . . 4K RAM Unit
- CE-155 . . 8K RAM Unit
- CE-152 . . Cassette Recorder
- CE-153 . . Software Board

When the machine language program stored in the CE-153 is loaded to the PC-1500 using the CE-152 Cassette Recorder and the CE-150 Cassette Interface Unit, it becomes ready to accept data entry on the key board of the CE-153.

- (1) Enter "NEW & 44F0 **ENTER**" to go into the PROGRAM (PRO) mode.
With this the memory area is reserved for the system program. (1066 bytes)
NOTE: Save the program existing in the memory to the tape before entering the command, because an entire program contents will be erased after the command entry.
- (2) Perform preparation to load the program from the cassette tape. (Tape on the cassette recorder and cueing, etc.)
Observe the same procedure as you normally do to load program.
See Instruction Manual of PC-1500 for reference.
- (3) Enter "CLOAD **ENTER**" to start loading the system program.
The program starts loading after putting the message "CE-153 VER. 1" on the display.
When a prompt sign ">" appears on the display, it shows that the program has been loaded.
It will take about one minute to finish loading the program.

4. CAUTIONS

4 - 1 The following error may be met when the CE-153 is used.

- 1) ERROR 24 or ERROR 25
Above error may be met when the value in "<expression>" was not adequate in stating "NEW <expression>" – system program area not secured – or, a part of the system program might have been destroyed. In such a case, turn the power off and turn it again, then enter NEW0, NEW&44F0 (or 3CF0)" to load the system program again. The BASIC program will surely be erased.
- 2) ERROR 45
This error is encountered when "ZS(0)" was defined by DIM in the BASIC program used for the Software Board, except for "DIM Z\$*80".

4 - 2 It is suggested to make duplication of the cassette tape for the service use in the following manner:

1. NEW 0
 2. NEW & 44F0
 3. CLOADM
 4. "000"; 740C6, & 44E6
- NOTE: "000" represents the file name.

5. CHECKER SPECIFICATIONS

The check program in the cassette tape is recommended for your use to check operation of the unit. Operating condition of the CE-153 may easily known by this checker.

- 1) Outline of check method
 - Load in the PC-1500 the CE-153 machine language program and the check BASIC program using the CE-150 and CE-152.
 - Execute the program for the PC-1500 and make entry of the given procedure on the keyboard of CE-153.
 - The message "OK!" is put on the display when the check is finished.
- 2) Check program entry
 1. Turn the power off to PC-1500, then connect the PC-1500 with the CE-150 and CE-152.
 2.
 3.
 4. Set to the PRO mode.
 5. Push .
 6. Set the machine language program tape on the CE-152 and turn it into the PLAY mode.
 7. Push ^A
 8. Enter the check program after pushing .

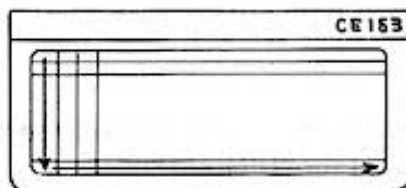
With the above procedure, it terminates the program loading. If the program is not needed, you can disconnect the CE-150 after turning off the PC-1500.

- 3) Check procedure
 1. Turn the power off to PC-1500.
 2. Connect the CE-153 with the PC-1500.
 3. Turn the power on to the PC-1500.
 4. Set to the RUN mode.
 5. Push .

Push the key on the "0 0 0 0" position (upper left corner).
 Push the key on the "0 1 0 0" position
 position
 ⋮

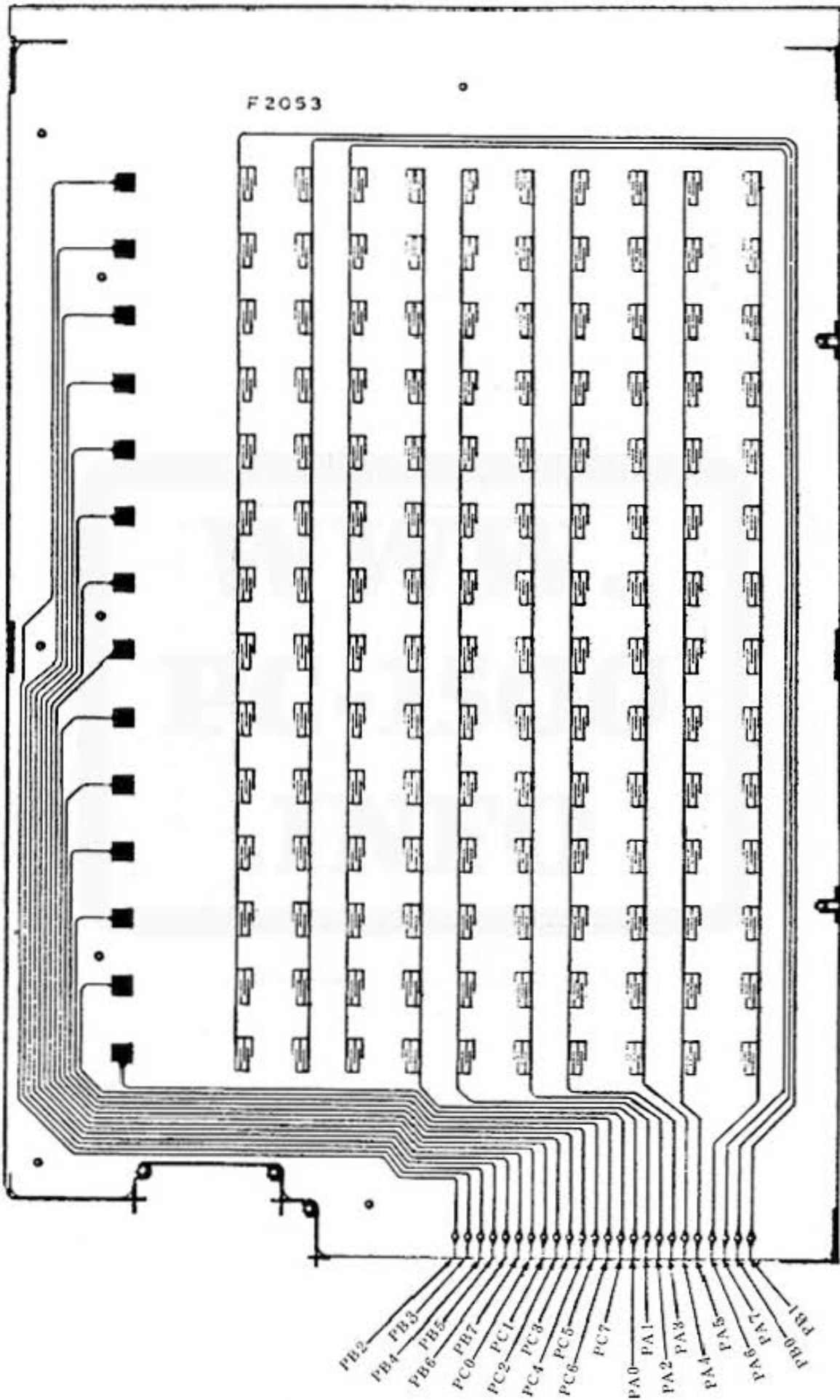
| |
|--------------------------|
| CE-153 CHECK START |
| 0 0 0 0 |
| 0 1 0 0 |
| 0 2 0 0 |
| ⋮ |

After this push the key on the indicated position. Twenty three keys must be operated on the Software Board in the following sequence.

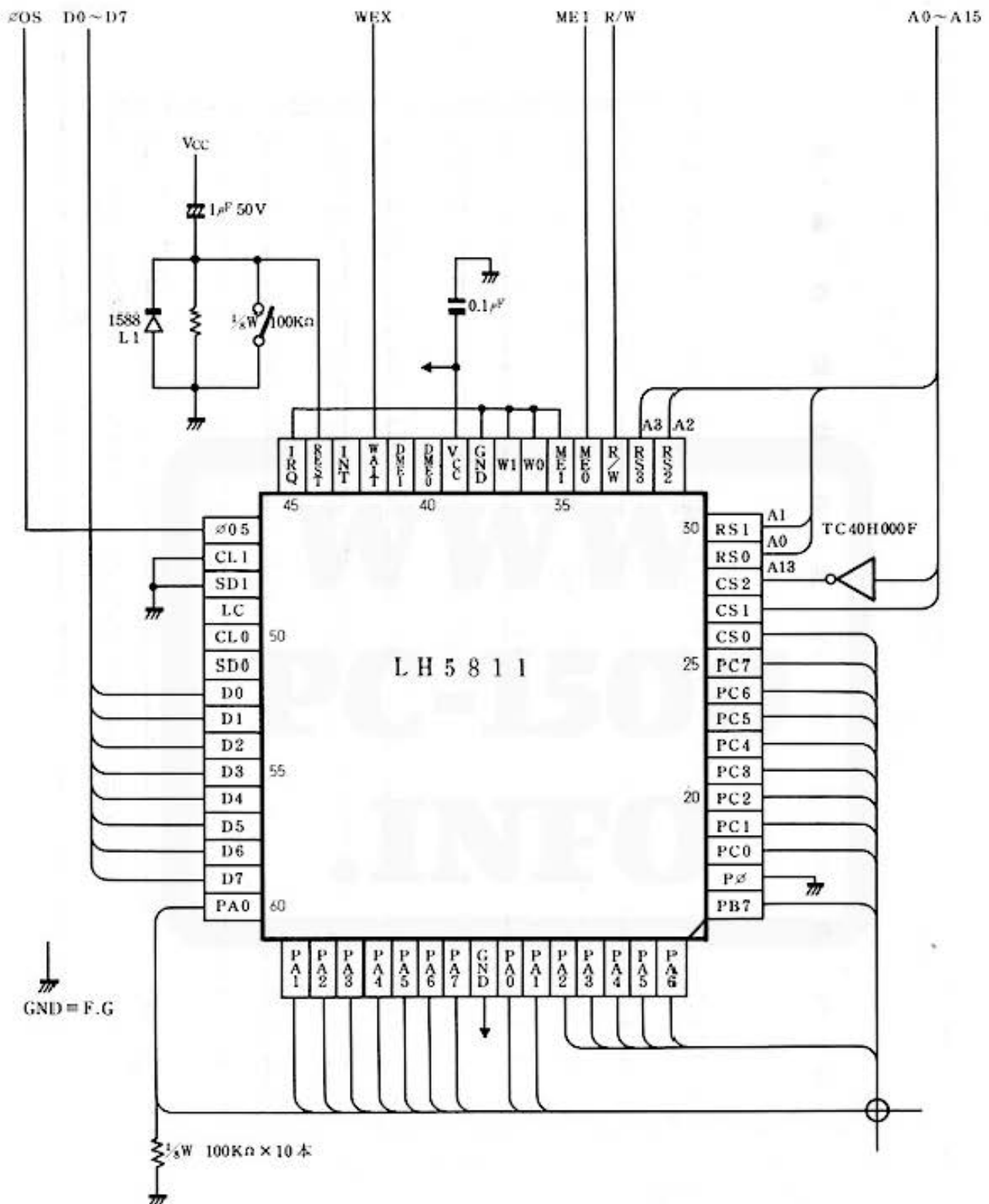


6. Push the key on the "0 9 1 8" position.
7. End of check.

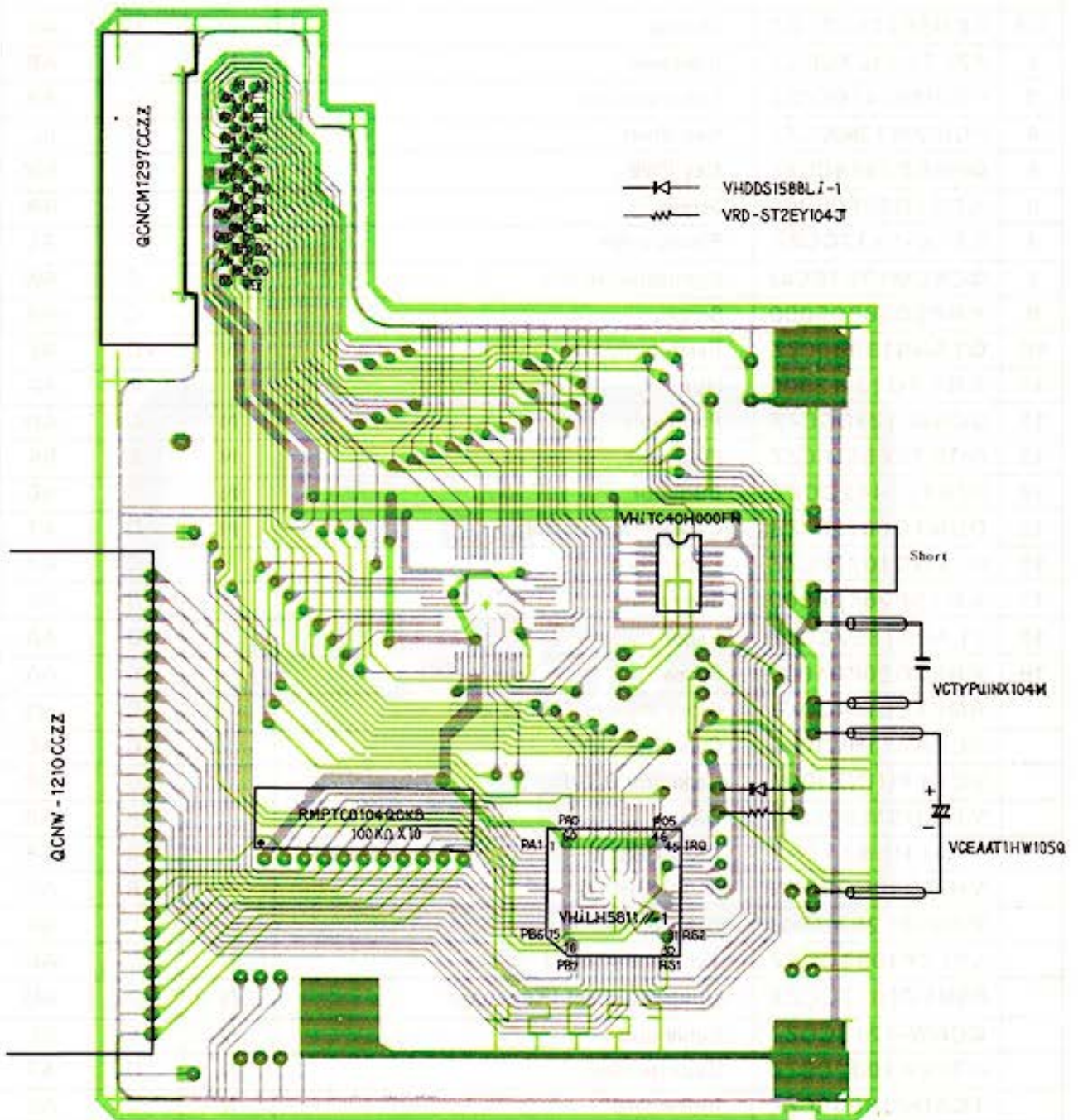
6. KEY PWB SIGNAL POSITION



7. CIRCUIT DIAGRAM



8. PART AND SIGNAL POSITION



9. PART LIST & GUIDE

| NO. | PARTS CODE | DESCRIPTION | NEW MARK | PARTS RANK | PRICE RANK |
|-----|----------------|-----------------------------------|----------|------------|------------|
| 1 | DUNTG6554CCZZ | Cabinet unit TOP | N | D | AY |
| 1-1 | HDECA2040CCZZ | Dec, Panel | N | D | AW |
| 1-2 | HDECA2039CCZZ | Panel TOP | N | D | AT |
| 1-3 | LCHSS1124CCZZ | Chassis | N | C | AL |
| 2 | PZETL1437CCZZ | Insulator | N | C | AB |
| 3 | PGUMS1410CCZZ | Luber cushion | N | C | AB |
| 4 | PGUMM1399CCZZ | Key sheet | N | B | BC |
| 5 | QPWBF2054CCZZ | Key PWB | N | C | AW |
| 6 | XBSSD20P06000 | Screw | | C | AA |
| 7 | LFIX-1132CCZZ | Fixing angle | N | C | AL |
| 8 | QCNCM1297CC4J | Connector 40 pin | N | C | AW |
| 9 | XBPSD26P05000 | Screw | | C | AA |
| 10 | QTANS1398CCZZ | Earth terminal | N | C | AE |
| 11 | XNESD20-12000 | Nut | | C | AA |
| 12 | QCNW-1210CCZZ | Flat cable | N | C | AD |
| 13 | DUNTK6555CCZZ | PWB unit | N | E | BK |
| 14 | PZETL1442CCZZ | Insulator | N | C | AC |
| 15 | DUNTG6672CCZZ | Cabinet unit bottom | N | D | AT |
| 16 | GLEGG1022CCZZ | Luber foot | | C | AA |
| 17 | XBTSF26P04000 | Screw | | C | AA |
| 18 | TLABB1657CCZZ | Label | | D | AA |
| 19 | XBPSD20P04000 | Screw | | C | AA |
| | RMPTC0104QCKB | Block resistor 100k Ω x 10 | | C | AD |
| | VCEAAT1HW105Q | Capacitor 1 μ F | | C | AC |
| | VCTYPU1NX104M | Capacitor 0.1 μ F | | C | AB |
| | VHDDS1588L2-1 | Diode | | B | AB |
| | VHILH5811// -1 | LSi LH5811 | | B | AZ |
| | VHiTC40H000FN | iC TC40H000 | | B | AG |
| | VRD-ST2EY104J | Resistor 100k Ω | | C | AA |
| | LPLTP1091CCZZ | Ten plate (Blank) | N | D | AK |
| | PSHEZ1077CCZZ | Guidance sheet (Key map) | N | D | AD |
| | QCNW-1218CCZZ | Cable unit | N | E | BL |
| | RTPEK1002CCZZ | Cassette tape | N | D | AT |
| | TCADZ1603CCZZ | Index card | N | D | AC |
| | TLABZ1645CCZZ | Cassette label LB-A | N | D | AB |
| | TLABZ1646CCZZ | Cassette label LB-B | N | D | AB |
| | SPAKA7062CCZZ | Packing cushion (Accessory) | N | D | AF |
| | SPAKA7063CCZZ | Packing cushion (CE153 body) | N | D | AD |
| | SPAKC7061CCZZ | Packing case | N | D | AG |
| | TINSE3487CCZZ | Inst., book | N | D | AY |
| | TLABN1152CC02 | No, label | N | D | AA |
| | UBAGC1298CCZZ | Soft case | N | D | AM |

