

**SHARP****SERVICE MANUAL**

CODE: 00ZMZ1F11R//E

**MZ-1F11****(Supplement)**

As beginning from the MZ-1F11 serial number 5U000012, a circuit change is met in the MZ-1F11 SIO PWB to adopt an LSI in the (QDC) circuitry. In addition, the head padding is replaced by an assembled component.

As this manual deals with points that differ from the preceding version of the MZ-1F11 Service Manual, reference should be made to the preceding version for those not changed.

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# I. Troubleshooting

## 1) Troubleshooting procedure

In the first place, there is a need of determining on which side the trouble is on, 1E14 or 1F11. Get ready the properly operating 1E14 and 1F11 and put them into connection with the computer to check if which unit is in trouble.

2) As there are possible occurrence of the following troubles when the 1E14 or 1F11 is connected, proceed to check what trouble is on.

### I-1. Trouble on account of the 1E14

(1) Program (ROM) does not start, though the prompt "MAKE READY QD\*\* MONITOR 9Z-503M \*\*\*" appears on the display screen when power is turned on without the disk in the drive unit.

(2) Program does not start at all (including program wild run).

### I-2. Trouble on account of the 1F11

(1) The motor does not start.

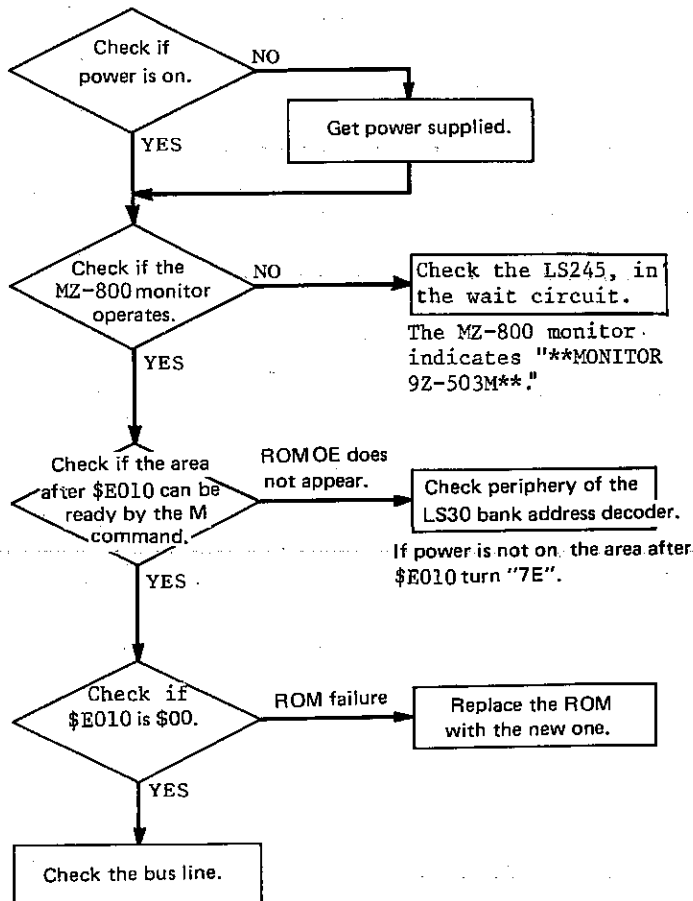
(2) Write is not enabled.

- o Write protect error occurs at all times.
- o Not ready error occurs.
- o The data written can not be read.

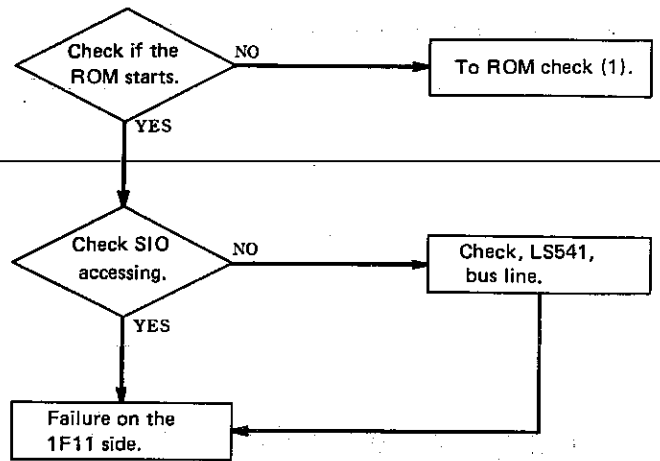
(3) Read is not enabled.

(In the case of connected to the MZ800)

(1) Program (ROM) does not start.



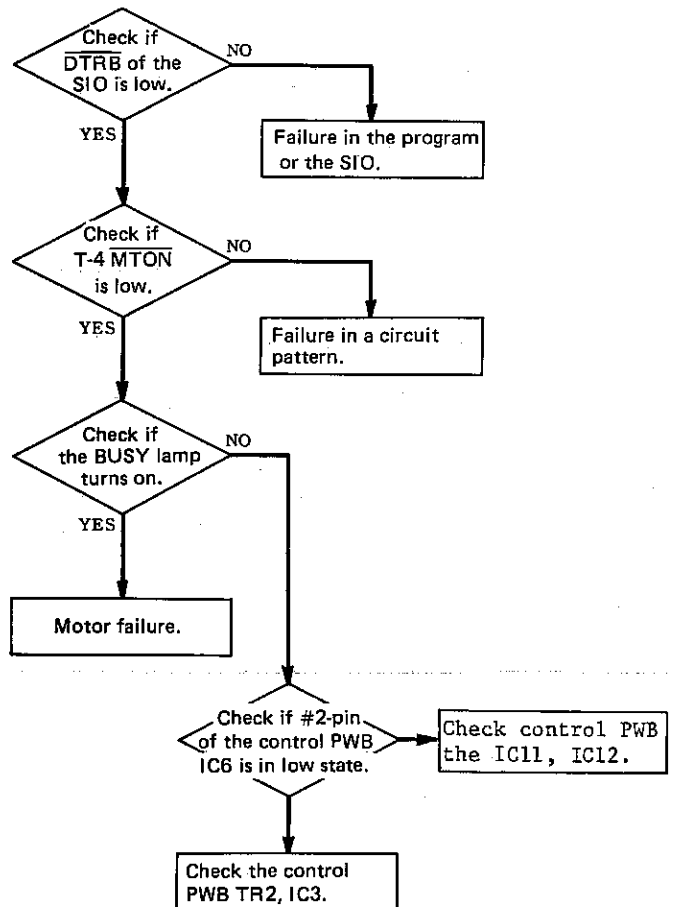
(2) Program does not start at all.



## Troubleshooting procedure – MZ1F11 –

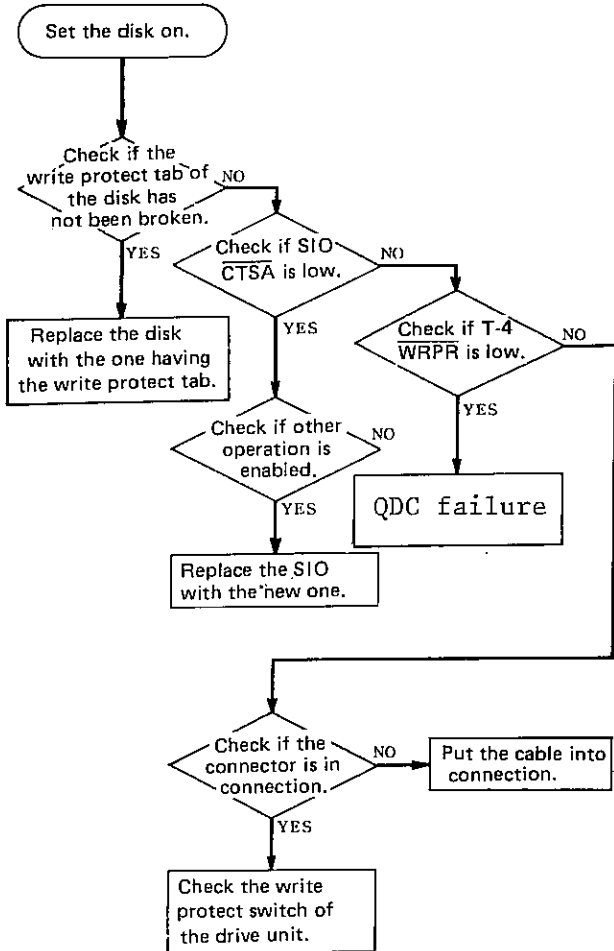
### (a) The motor does not run

Perform the test while the load command is in execution.

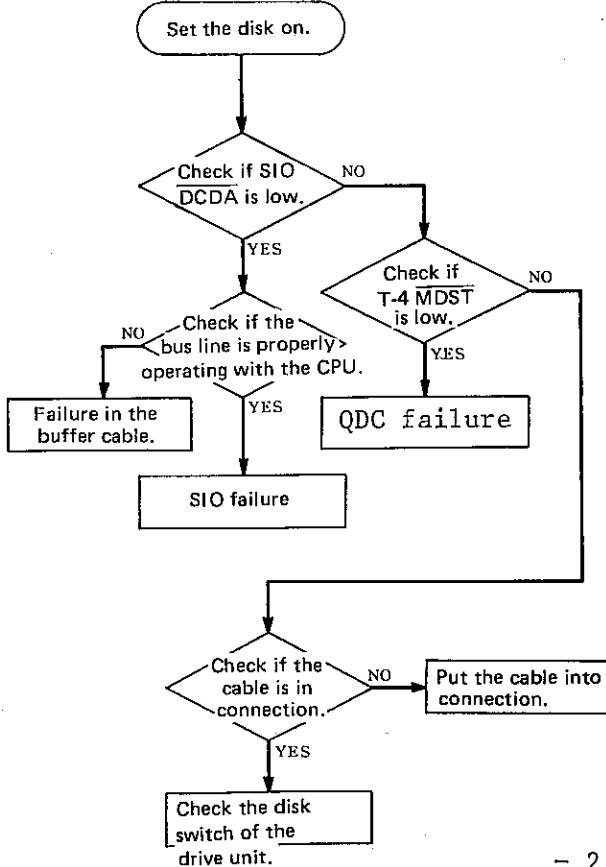


(b) Write is not enabled.

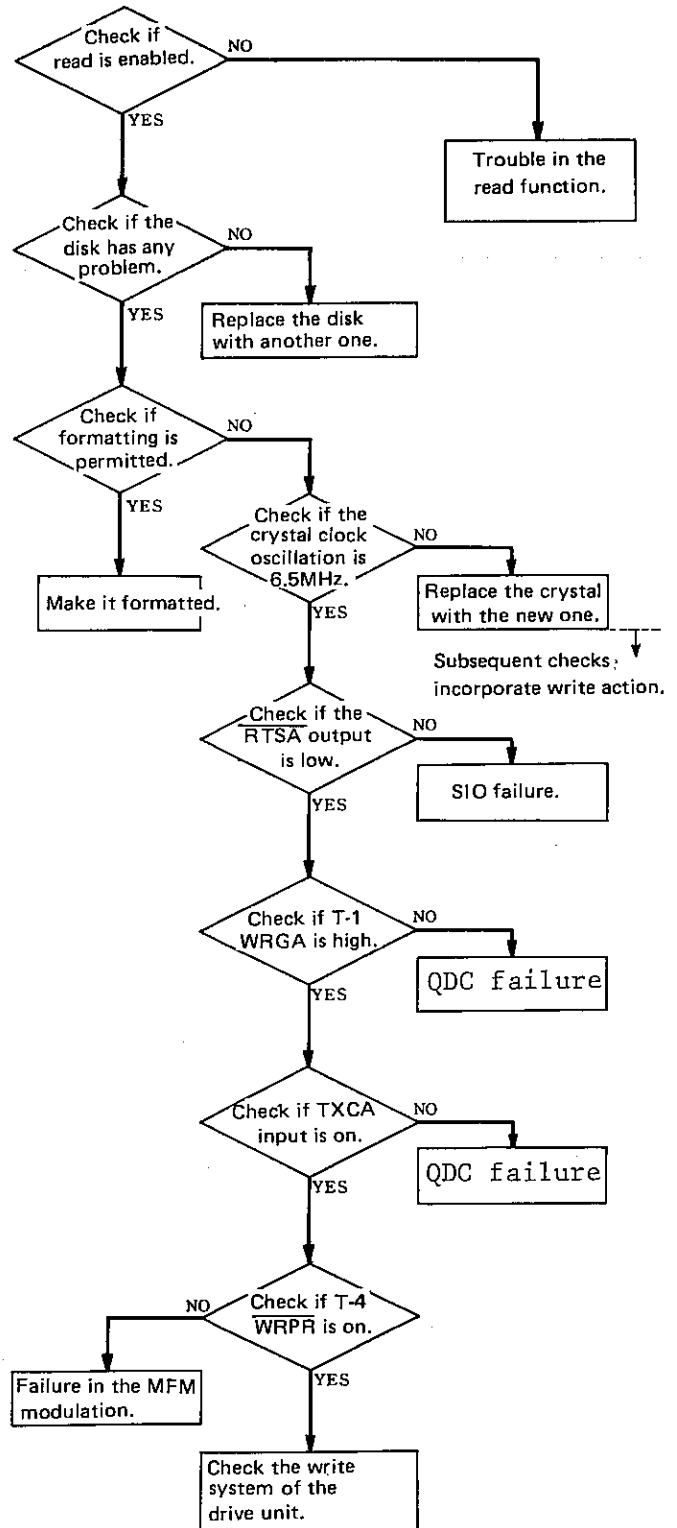
(1) Write protect error occurs at all times.



(2) Not ready error is encountered at all times.

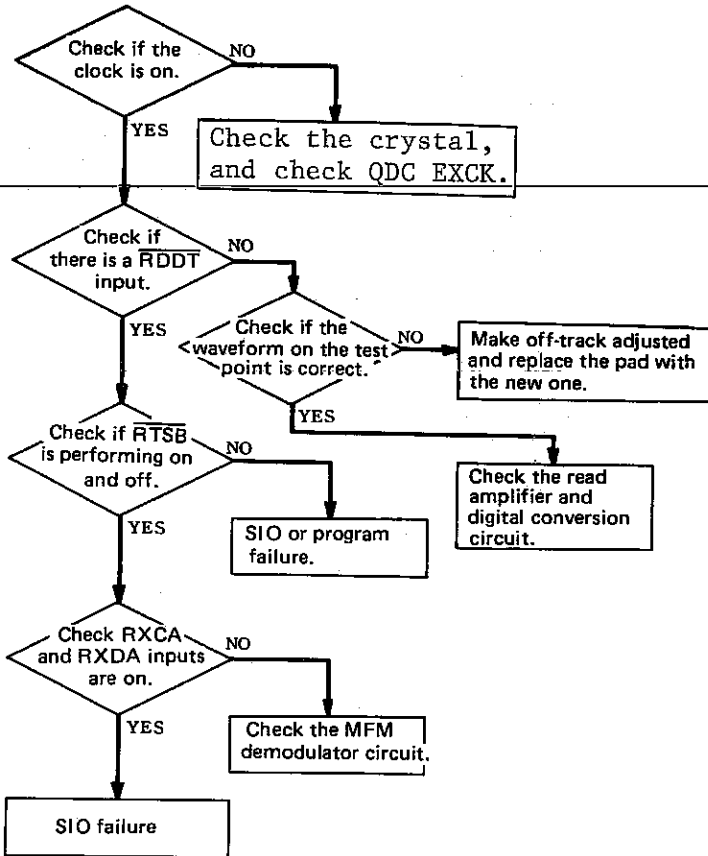


(3) Write is not enabled.



(c) Read is not enabled.

Set the disk on and perform check while the load command is in execution.



\* SIO bus line check method (with the MZ-700, 1E14, 1F11 in connection)

An example to check proper connection of the bus line to the SIO.

Write the interrupt vector to the write register 2 of the channel B, then read it out of the read register 2.

\*\* Z80 ASSEMBLER Z2-004C <QSK-0> PAGE 01

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```

01 0000          ;
02 0000          ; QDC SIO CHECK PROGRAM
03 0000          ;
04 0000 210001   START: LD    HL,0100H
05 0003 11AA55   LD     DE,55AAH
06 0006 01F702   LD     BC,02F7H
07 0009 ED61     OUT    (C),H
08 000B ED69     OUT    (C),L
09 000D ED41     OUT    (C),B
10 000F ED51     OUT    (C),D
11 0011 ED41     OUT    (C),B
12 0013 ED78     IN     A,(C)
13 0015 BA       CP     D
14 0016 20EB     JR     NZ,START
15 0018 ED41     OUT    (C),B
16 001A ED59     OUT    (C),E
17 001C ED41     OUT    (C),B
18 001E ED78     IN     A,(C)
19 0020 BB       CP     E
20 0021 20DD     JR     NZ,START
21 0023 C304EB   JP     E804H
22 0026          ;
23 0026          ;
24 0026          END
    
```

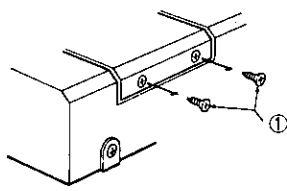
The control immediately proceeds to the monitor command entry (jump to \$E804) when the SIO data were read successfully. If not, it goes into an infinite program looping.

In this case, open cable wire, buffer failure, or SIO failure may be the cause.

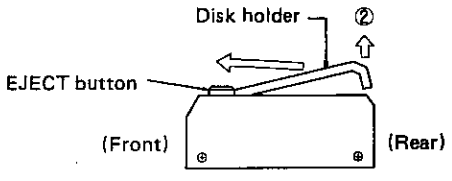
## 2. Pad unit replacement procedure

The pad's life is 18,000 passes. If the pad is operated an average of 20 times per day, it must be replaced every 2-1/2 years. To replace it, follow the procedure below.

- (1) Remove the disk holder. (See Figs. 1 and 2.)
  - 1) Remove the 2 screws from the rear of the disk holder.
  - 2) Lift the rear (from which the 2 screws were removed) and push it toward the front. This detaches the disk holder.

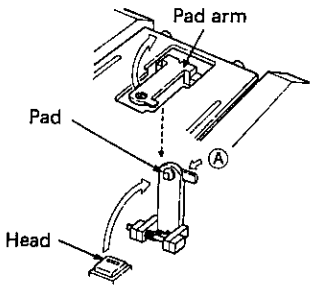


(Fig. 1)

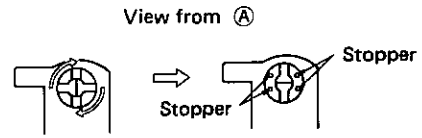


(Fig. 2)

- (2) Replace the pad unit. (See Figs. 3 and 4.)
  - 1) Lift the pad arm in the direction of the arrow.
  - 2) The pad unit is detachable. First nip the pad unit pin with tweezers and rotate the pin 90° in the direction of the arrow in Fig. 4(a). Then press the pin. When you press the pin, be sure to catch the pad unit with the hand so that it does not drop into the machine.
  - 3) Install the new pad unit by reversing step 2) above. Make sure the pad unit pin is properly positioned between the stoppers as shown in Fig. 4(a).



(Fig. 3)



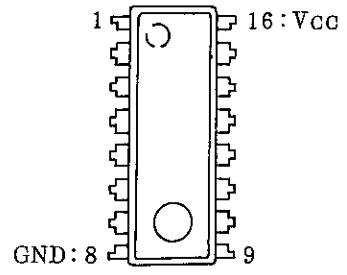
(a) Installed condition (b) Detachable condition  
(Fig. 4)

- (3) After installing the pad unit, replace the disk holder and check that the unit operates properly.

## 3. QDC pin configuration

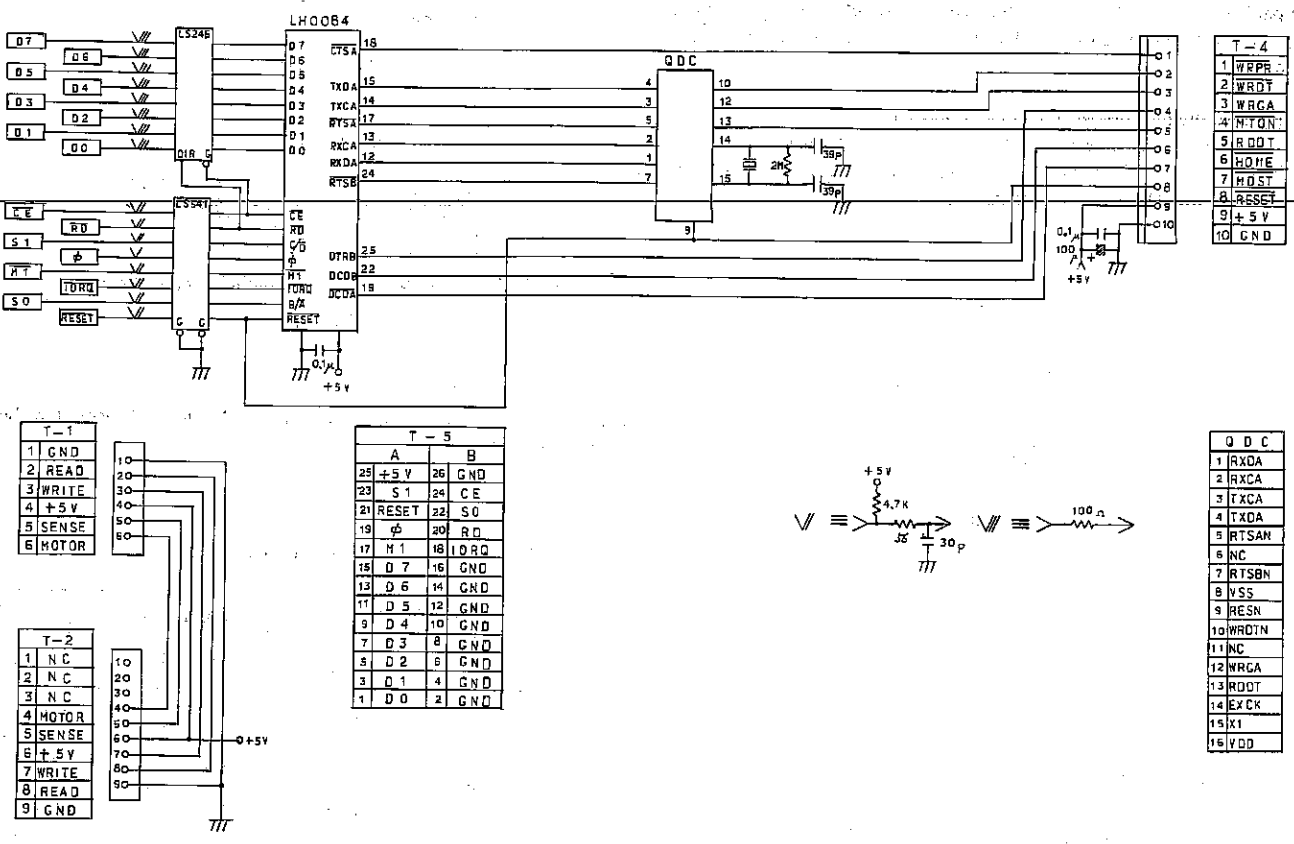
PIN No.	I/O	Signal name	PIN No.	I/O	Signal name
1	O	RXDA	9	I	RESN
2	O	RXCA	10	O	WRDTN
3	O	TXCA	11		(NC)
4	I	TXDA	12	O	WRGA
5	I	RTSAN	13	I	RDDT
6		(NC)	14	I	EXCK
7	I	RTSBN	15	O	X1
8		(GND)	16		Vcc

I : INPUT  
O : OUTPUT

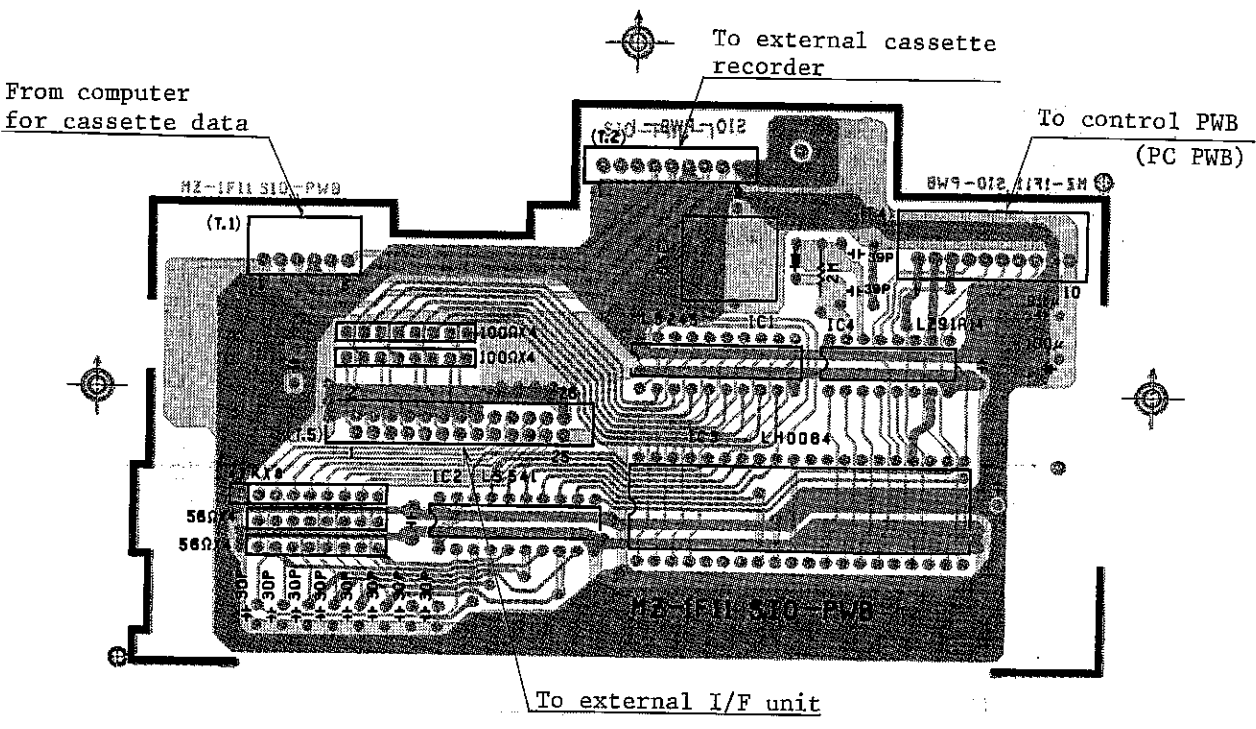


QDC pin configuration

4. Circuit diagram



5. Parts position of SIO PWB



## 6. Parts for SIO PWB

No.	Parts code	Price rank	New mark	Parts rank	Discription
1	OCF69-5107A//	AF		C	Connector (10P)(IL-G-10P-S3L2-F)
2	OCF69-5108A//	AE		C	Connector (6P)(IL-G-6P-S3L2-E)
3	OCF69-5109A//	AF		C	Connector (BS9P-SHF-1AA)
4	OCF69-5028B//	BF	N	C	Cable (FRC5-515E)
5	VHISN74LS245N	AR		B	IC (74LS245)
6	VHISN74LS541N	AP		B	IC (74LS541)
7	VHILH0084A/-1	AW		B	IC (LH0084A)
8	OCF69-5095A//	AC		B	Capacitor (USA 0J101MCA)
9	OCF69-5092E//	AC		B	Capacitor (SC45FIC104Z-A)
10	OCF69-5092F//	AA		B	Capacitor (CC45SLIH300JYA)
11	OCF69-5112A//	AE		B	Resister array (EXB-T44560K)
12	OCF69-5112B//	AD		B	Resistor array (EXB-R88472K)
13	OCF69-5112C//	AE		B	Resistor array (EXB-T44101K)
14	VHILZ91A14/-1	AU		B	LSI (QDC)LZ91A14
15	OCF69-5130B//	AN	N	B	X-TAL (HC/18 $\mu$ )
16	OCF69-5316A//	AA		B	Capacitor (DD105-257CH390J50V)
17	OCF69-5317A//	AA		C	Resistor (2M $\Omega$ 1/4W)

## Other

1	OCF69-5267A//	AD	N	B	Head pad unit
2	OCF69-5309B//	AB	N	D	Sheet (For head protect)
3	OCF69-5220A//	AL	N	D	Packing case (MZ-1F11)

**SHARP**

**SHARP CORPORATION**

Information Systems Group  
Quality & Reliability Control Center  
492 Minoshicho, Yamatokoriyama,  
Nara 639-11, Japan

June 1985 Printed Japan