

**MICROLINE 520/521**  
**TROUBLESHOOTING MANUAL**  
**With**  
**COMPONENT PARTS LIST**

## **PREFACE**

This manual describes in detail troubleshooting of the component parts for Microline 520/521 printer and provides a parts list.

# **TROUBLESHOOTING MANUAL**

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## 1. OUTLINE

This troubleshooting flowchart has been prepared for the repair of each board assembly of the Microline 520/521 printer. The repairmen using this manual are assumed to be familiar with certain repair techniques.

## 2. TOOLS

In addition to the general maintenance tools, the following are necessary:

- Oscilloscope : Approx. 100 MHz or more
- Soldering iron : Standard (A soldering iron with a thin tip is best.)

## 3. TROUBLESHOOTING TABLES

- ① The power source can not be turned on.
- ② Only the POWER lamp lights. (The printer does not work.)
- ③ The printer alarm is displayed.

- ③-1 Printer Internal RAM Alarm
- ③-2 S-I/F Internal RAM Error
- ③-3 S-I/F Connection Alarm
- ③-4 Program ROM Alarm
- ③-5 S-I/F ROM Alarm
- ③-6 EEPROM Alarm
- ③-7 WDT Alarm, BRK Command Alarm
- ③-8 NMI Alarm
- ③-9 Printer External RAM Alarm
- ③-10 S-I/F External RAM Alarm
- ③-11 SPACING Alarm, HOMING Alarm
- ③-12 Head A/D Alarm
- ③-13 Head Transfer Alarm
- ③-14 Head Gap1 Alarm, Head Gap2 Alarm
- ③-15 Head Defect Alarm, Connection NG1 Alarm, Connection NG2 Alarm
- ③-16 LF/SP Driver A/D Alarm

- ④ Wrong characters are printed or some characters are not printed.
- ⑤ Defective line feed.

⑥ When pressing the operation switch, it does not work.

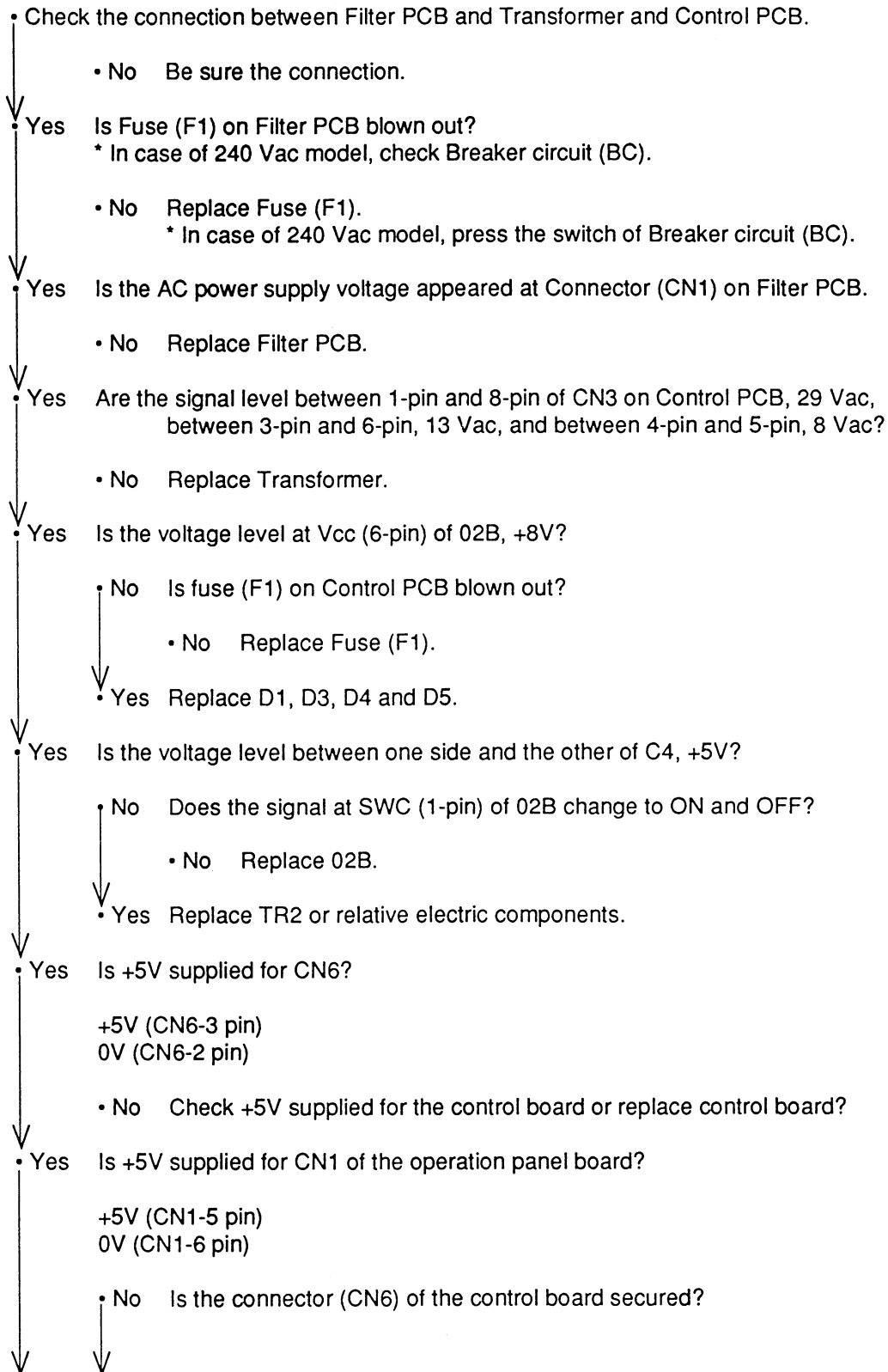
- ⑥-1 The SEL switch does not work.
- ⑥-2 The SHIFT switch does not work.
- ⑥-3 The LF switch does not work.
- ⑥-4 The FF switch does not work.
- ⑥-5 The TEAR switch does not work.
- ⑥-6 The PARK switch does not work.
- ⑥-7 The QUIET switch does not work.
- ⑥-8 The PRINT QUALITY switch does not work.
- ⑥-9 The CHARACTER PITCH switch does not work.

⑦ DATA can not be received.

- ⑦-1 Parallel interface data can not be received.
- ⑦-2 When receiving with the parallel interface, printed data is skipped, or the printer does not work.

## 4. TROUBLESHOOTING FLOWCHART

① The power source can not be turned on. (The POWER lamp does not light.)



- No Secure the CN6 connection.
- Yes Is the flexible cable of the operation panel board connected without break?
  - No Replace the flexible cable.
  - Yes Replace CN6.
- Yes Replace D2 or R2 on the operation panel.

② Only the POWER lamp lights. (The printer does not work.)

• Does the oscillating waveform from OSC have the form shown in Figure 1 below?

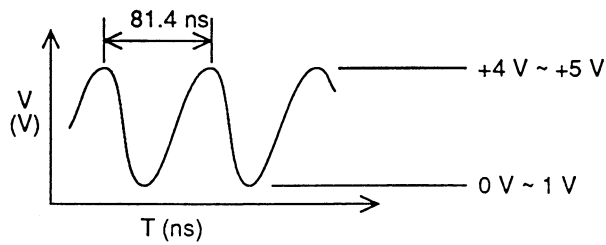


Fig. 1

• No Replace OSC

• Yes Does the RST-N signal have the waveform shown in Figure 2 below (with +5 V and +8V signals as reference)?

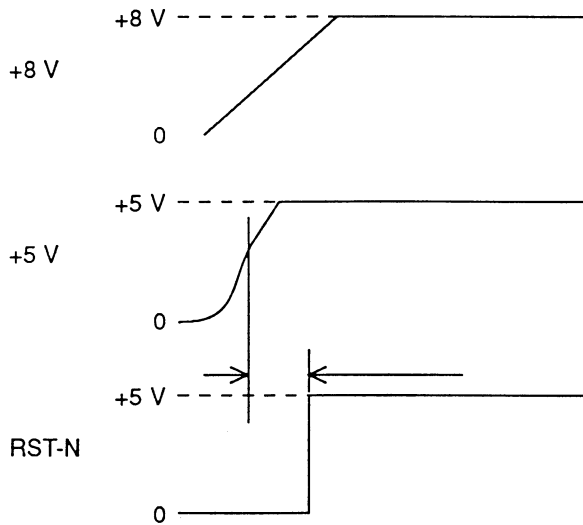


Fig. 2

• No Do the signal of pins 4 and 5 of 02C have the waveforms shown in Fig. 3?



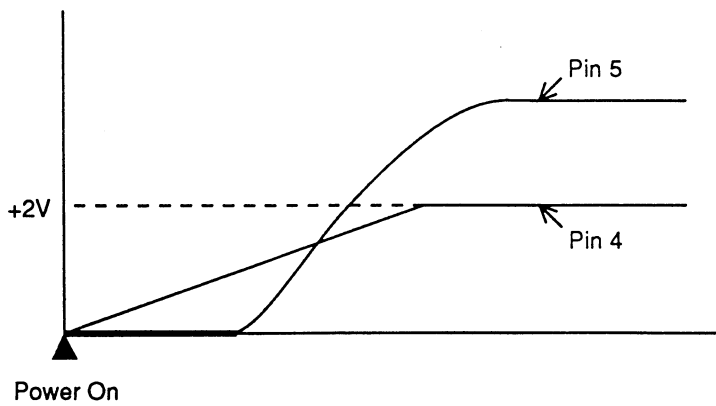


Fig. 3

- No Replace the relative electric component which are connected to pins4 and 5 of 02C.

- Yes Replace 02C.

- Yes Do bus line signals of 4C (67 x 640) such as ALE-P, PSEN-N, LSICS-N and RD-N/WRL-N have waveforms as shown in Fig. 4?

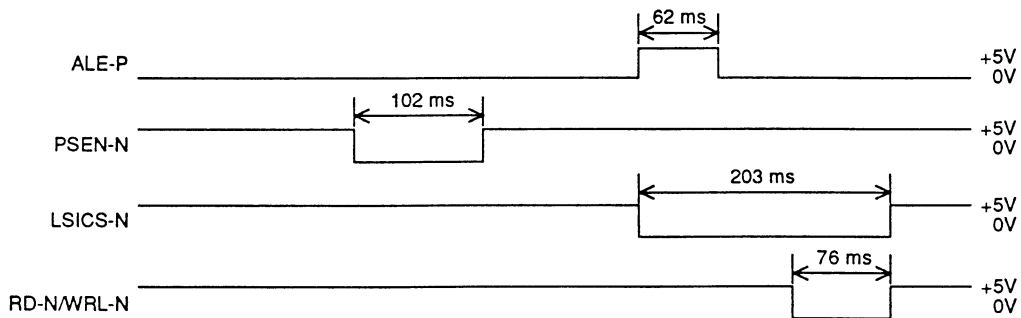


Fig. 4

At the rising edge of PSEN-N and RD-N/WRL-N, the bus line level is decisively set to "H" or "L".

- No Replace 04C.

- Yes Does the OPCLK-N/OPTXD signal arrive at CN6? See Fig. 5.

OPCLK-N (CN6-5 pin)  
OPTXP (CN6-4 pin)

- No Replace 04C.

- Yes Does the OPCLK-N/OPTXD signal arrive at CN1 of the operation panel? See Fig. 5.

OPCLK-N (CN1-3 pin)  
OPTXQ (CN1-4 pin)

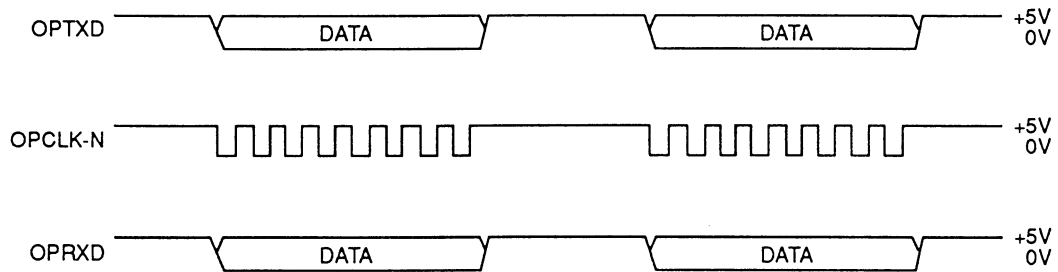
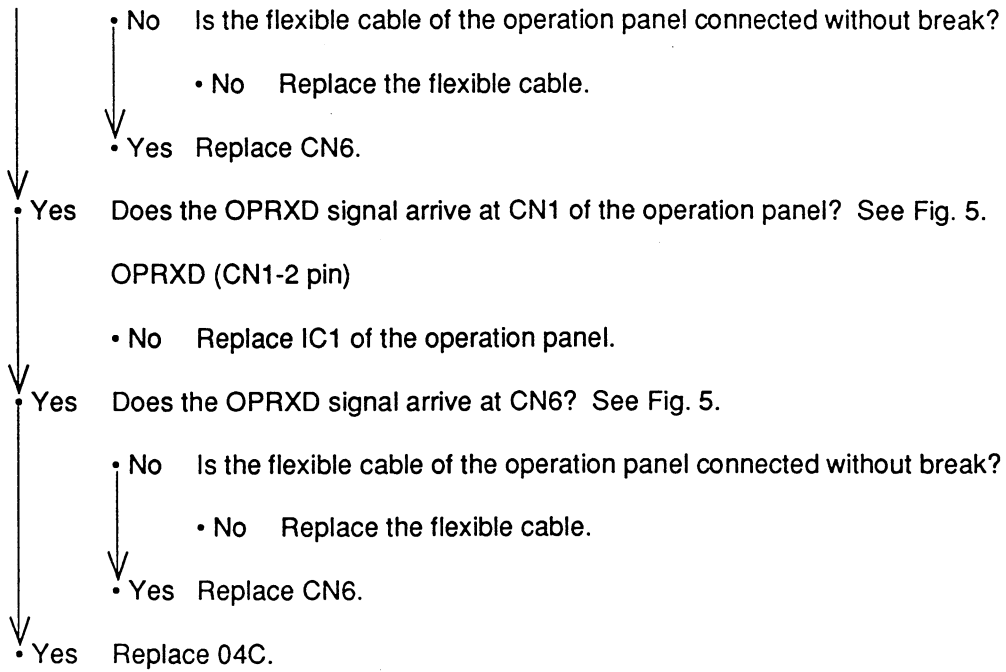


Fig. 5

③ The printer alarm is displayed.

③-1 Printer internal RAM alarm

- Replace 04C.

③-2 S-I/F internal RAM alarms

- Replace Q3 of the LXHI board.

③-3 S-I/F connection alarm

- Replace the LXHI board.

③-4 Program ROM alarm

- Replace 05C (EPROM).

③-5 S-I/F ROM alarm

- Replace Q3 of the LXHI board.

③-6 EEPROM alarm

• Do signals of 04C (67 x 640) such as EECLK-P and EEDIN-P have the waveforms shown in Fig. 6?

- No Replace 04C.

• Yes Does the EECS-P signal of 04B (79V035) have the waveform shown in Fig. 6?

- Yes Replace 04B.

• Yes Do signals of 03C (EEPROM) such as EEDIN-P, EECS-P, EECLK-P and EEDOUT-P have the waveforms shown in Fig. 6?

- No Replace 03C.

• Yes Replace 04D.

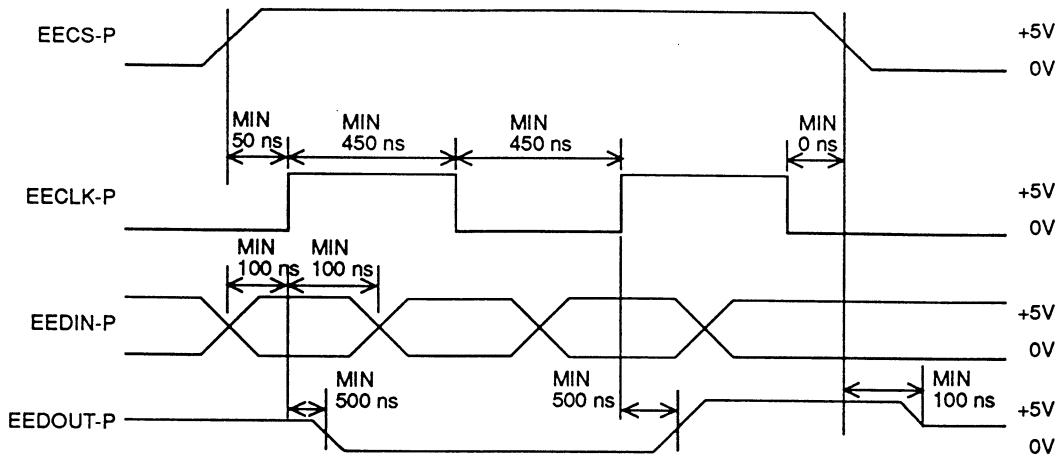


Fig. 6

3-7

WDT alarm, BRK command alarm

- Is the alarm canceled by turning on power?
  - No Replace ROM, 04C or the control board.

3-8

NMI alarm

- Is the alarm canceled by turning on power?
  - No Replace the control board.

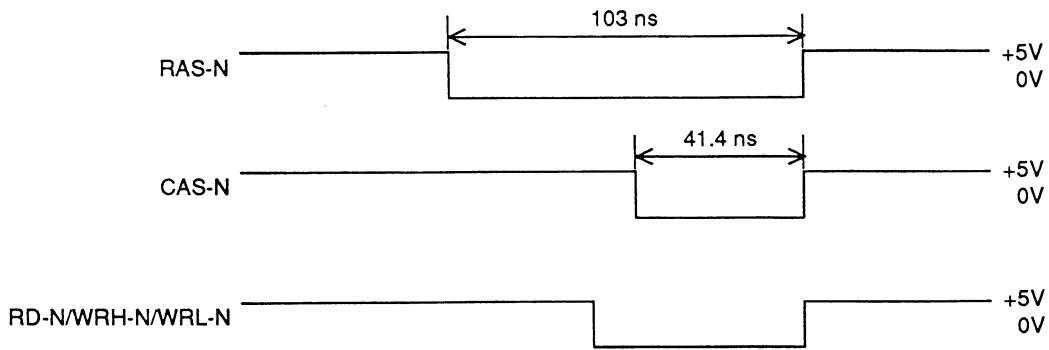
3-9

Printer external RAM alarm

- Do signals of 05CB (DRAM) such as RAS-N, CAS-N, RD-N, WRH-N and WRL-N have the waveforms shown in Fig. 7?

- RAS-N (05CB-24 pin)
- CAS-N (05CB-39 pin)
- RD-N (05CB-38 pin)
- WRH-N (05CB-22 pin)
- WRL-N (05CB-23 pin)

- No Is the dumping resistance of each signal broken?
  - Yes Replace the dumping resistance.
  - No Replace 04C.
- Yes Replace 05CB.



At the rising edge of RD-N, WRH-N and WRL-N, the bus line level is decisively set to "H" or "L".

Fig. 7

③-10 S-I/F external RAM alarm

- Replace Q9 of the LXHI board.

③-11 SPACING alarm, HOMING alarm

• Is the fuse (F2) blown?

- No Replace F2.

• Is RSSP of 04A (MHM2025) short-circuited to U, V, or W?

RSSP (04A-23 pin)  
 U (04A-21 pin)  
 V (04A-22 pin)  
 W (04A-1 pin)

- No Replace 04A.

• Yes Is RSLFA of 04A (MHM2025) short-circuited to A1 or A2?  
 or  
 Is RSLFB short-circuited to B1 or B2?

RSLFA (04A-7 pin)  
 A1 (04A-6 pin)  
 A2 (04A-8 pin)  
 RSLFB (04A-4 pin)  
 B1 (04A-3 pin)  
 B2 (04A-5 pin)

- No Replace 04A.

• Yes Do signals of 04B (79V035) such as SDATA-N, SCLK-N and SLATCH-N have the waveforms shown in Fig. 8?

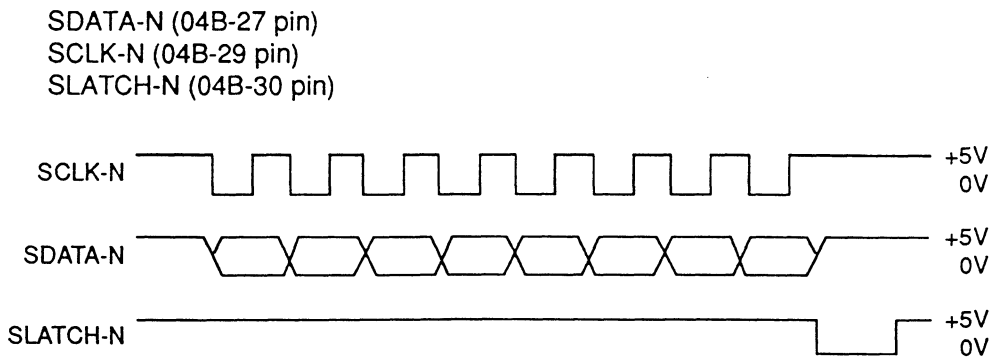


Fig. 8

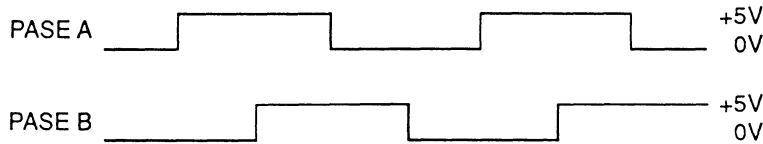
- No Replace 04B.

• Yes Do signals of 04A (MHM2025) such as SDATA-N, SCLK-N, and SLATCH-N have the wave forms shown in Fig. 8?

- No Replace the dumping resistance of each signal.

• Yes Do signals of CN7 such as PHASE A and PHASE B have the waveforms shown in Fig. 9?

PHASE A (CN7-10)  
 PHASE B (CN7-9)



When the carriage is manually moved.

Fig. 9

• No Is the connection of CN7 secured?

- No Secure the CN7 connection.

• Yes Is the carriage cable connected without break?

- No Replace the carriage cable.

• Yes Replace CN7 or carriage.

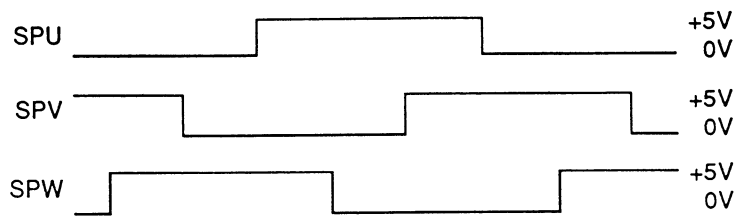
• Yes Do signals of 04B (79V035) such as PHASE A and PHASE B have the waveforms shown in Fig. 9?

PHASE1 (04B-22 pin)  
 PHASE2 (04B-23 pin)

- No Is the dumping resistance of each signal broken?
  - No Replace the dumping resistance.
- Yes Check the patterns of the PHASE A and PHASE B signals or replace the control board.

• Yes Do signals of 04A such as SPU, SPV and SPW have the waveforms shown in Fig. 10?

SPU (04A-14 pin)  
 SPV (04A-15 pin)  
 SPW (04A-16 pin)



When the carriage is manually moved.

Fig. 10

- No Replace 04B.
- Yes Replace 04A.

**3-12** Head A/D alarm

• Is the voltage of the HTEMP-N signal of 04C (67 x 640) +5V?

HTEMP-N (04C-62 pin)

- No Replace 04C.
- Yes Is the connection of CN7 secured?
  - No Secure the connection of CN7.
  - Yes Replace the head.

**3-13** Head transfer alarm

• Is the voltage of the HDPAR-N signal of 04B (79V035) +5V?

HDPAR-N (04B-20 pin)

- No Replace the head.
- Yes Replace 04B.

③-14 Head Gap1 alarm, Head Gap2 alarm

- Replace Head or carriage.

③-15 Head defect alarm, connection NG1 alarm, connection NG2 alarm

- Replace the head.

③-16 LF/SP drive A/D alarm

- Is the voltage of the TSD signal of 04C 1 to 2V?

TSD (04C-64 pin)

- No Replace 04C.

↓  
• Yes Replace 04A or relative electric component to the TSD signal.



④ Wrong characters are printed or some characters are not printed.

• Do signals of 04C (67 x 640) such as PSEN-N, LSICS-N, RD-N, WRL-N, WRH-L, RAS-N and CAS-N have the wave forms shown in Figs. 4 and 7?

- No Replace 04C.
- Yes Replace the head, 04B or the carriage.

⑤ Defective line feed.

- Do signals of 04A (MHM2025) such as SDATA-N, SCLK-N and SLATCH-N have the waveforms shown in Fig. 8?

SPATA-N (04A-12)  
SCLK-N (04A-13)  
SLATCH-N (04A-11)

- No Replace 04B.



- Yes Do signals of 04A such as A1, A2, B1 and B2 have the waveforms shown in Fig. 11?

A1 (04A-6)  
A2 (04A-8)  
B1 (04A-3)  
B2 (04A-5)

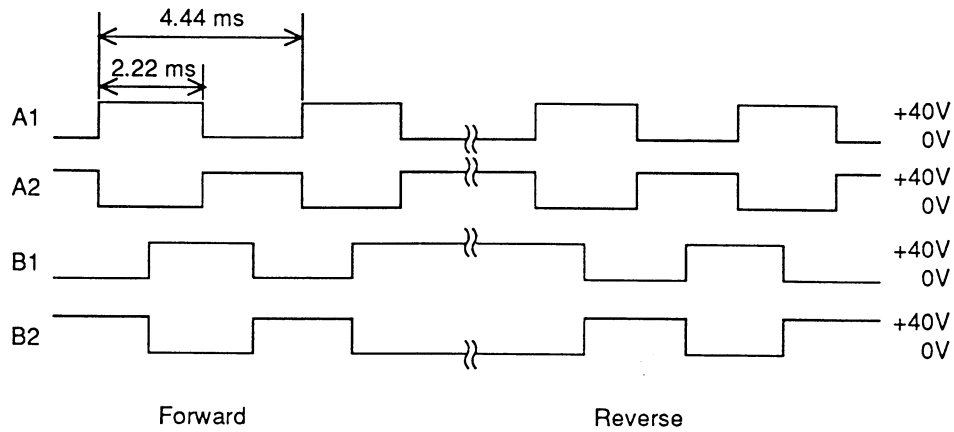


Fig. 11

- No Replace 04A.



- Yes Is the flexible cable connected without break?

- No Replace the flexible cable.



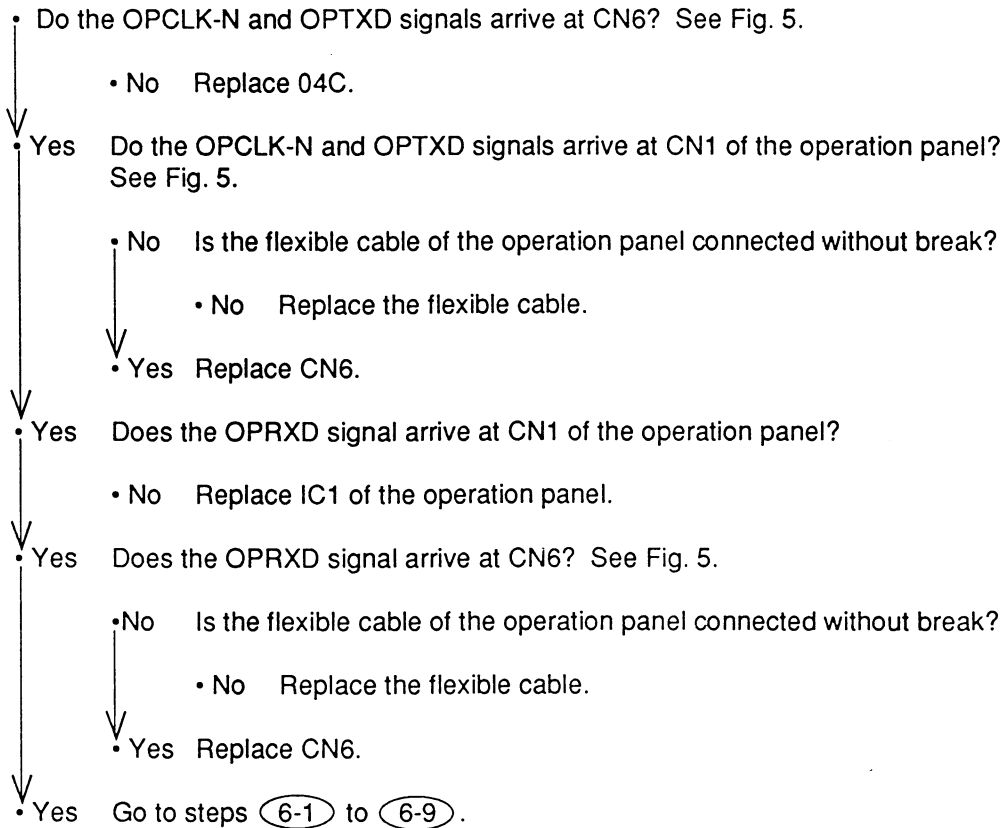
- Yes Is the CN5 broken?

- No Replace CN5.

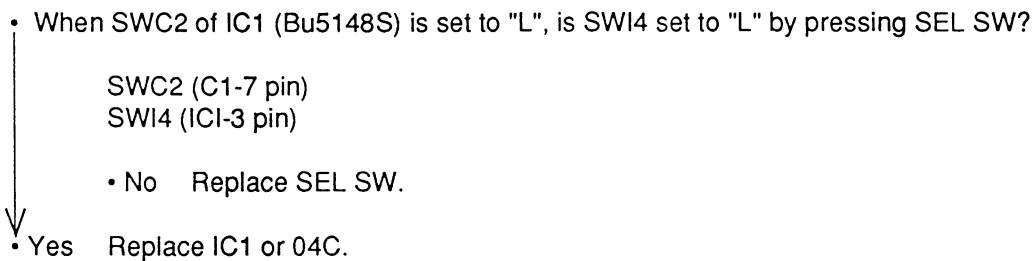


- Yes Replace the LF motor.

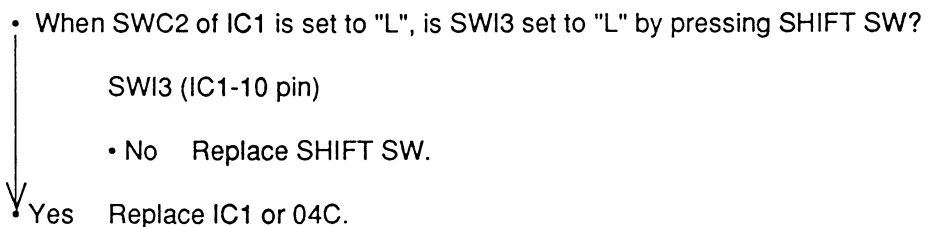
⑥ The printer does not operate though the operation switch is pressed.



⑥-1 SEL SW does not work.



⑥-2 SHIFT SW does not work.



6-3

LF SW does not work.

- When SWC2 of IC1 is set to "L", is SW1 set to "L" by pressing LF SW?

(IC1-18 pin)

- No Replace LF SW.

- Yes Does LF SW recover IC1 or 04C replaced?

- No Go to step ⑤.

6-4

FF SW does not work.

- When SWC2 of IC1 is set to "L", is SWI2 set to "L" by pressing FF SW?

SWI2 (IC1-23 pin)

- No Replace FF SW.

- Yes Does FF SW recover with IC1 or 04C replaced?

- No Go to step ⑤.

6-5

TEAR SW does not work.

- When SWC1 of IC1 is set to "L", is SWI4 set to "L" by pressing TEAR SW?

SWC1 (IC1-31 pin)

- No Replace TEAR SW.

- Yes Does TEAR SW recover with IC1 or 04C replaced?

- No Go to step ⑤.

6-6

PARK SW does not work.

- When SWC1 of IC1 is set to "L", is SW2 set to "L" by pressing PARK SW?

- No Replace PARK SW.

- Yes Does PARK SW recover with IC1 or 04C replaced?

- No Go to step ⑤.

6-7

QUIET SW does not work.

- When SWC1 of IC1 is set to "L", is SWI1 set to "L" by pressing QUIET SW?

- No Replace QUIET SW.

- Yes Replace IC1 or 04C.

6-8 PRINT QUALITY SW does not work.

- When SWC3 of IC1 is set to "L", is SW11 set to "L" by pressing PRINT QUALITY SW?
  - No Replace PRINT QUALITY SW.
  - Yes Replace IC1 or 04C.

6-9 CHARACTER PITCH SW does not work.

- When SWC1 of IC1 is set to "L", is SW13 set to "L" by pressing CHARACTER PITCH SW?
  - No Replace CHARACTER PITCH SW.
  - Yes Replace IC1 or 04C.

⑦ Data can not be received.

7-1 Parallel interface data can not be received.

• Do the IFDATA 1 to 8 signals of 04B have the waveform shown in Figure 12 below?

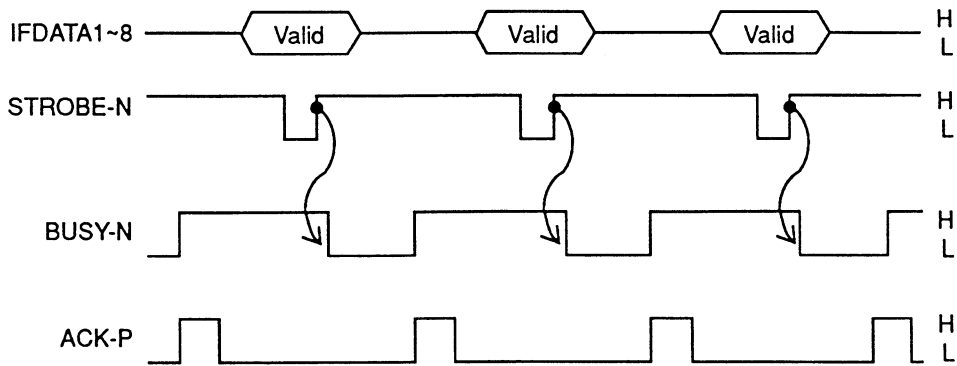


Fig. 12

• No Replace either relative electric component to the DATA 1 to 8 signals, or replace CN1.

• Yes Does the STROBE-N signal of 04B have the waveform shown in Fig. 12?

• No Replace either resistor or capacitor of the STROBE-N signal.

• Yes Do the BUSY-N and ACK-P signals have the waveforms shown in Fig. 12?

• No Replace 04B.

BUSY-N (04B-85 pin)

ACK-P (04B-86 pin)

• Yes Replace 01A.

7-2 When receiving with the parallel interface, printed data is skipped, or the printer does not work.

• Gap in the self-test?

• Yes To step ④.

• No Does the signal of BUSY-N or ACK-P of 04B have the waveform shown in Figure 12?

• No Replace 04B.

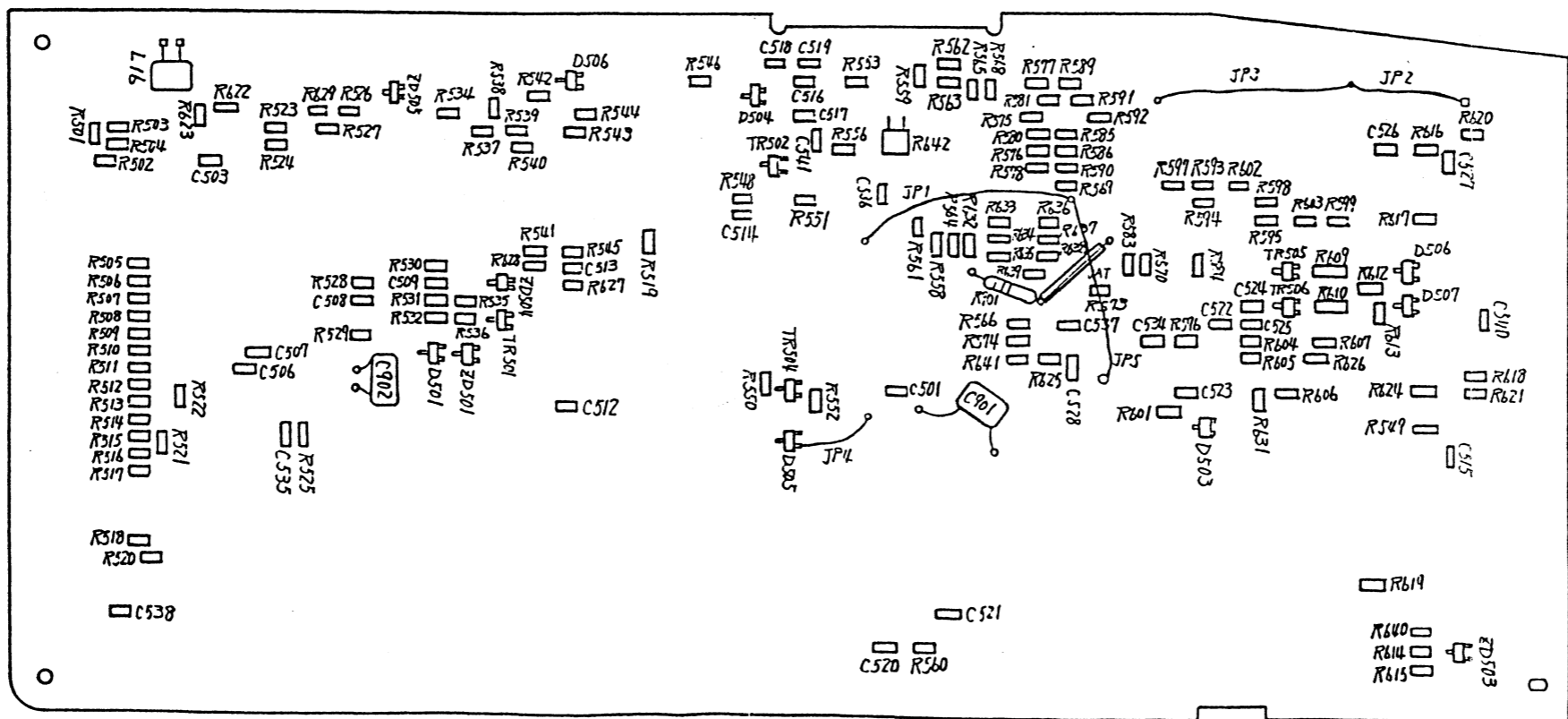
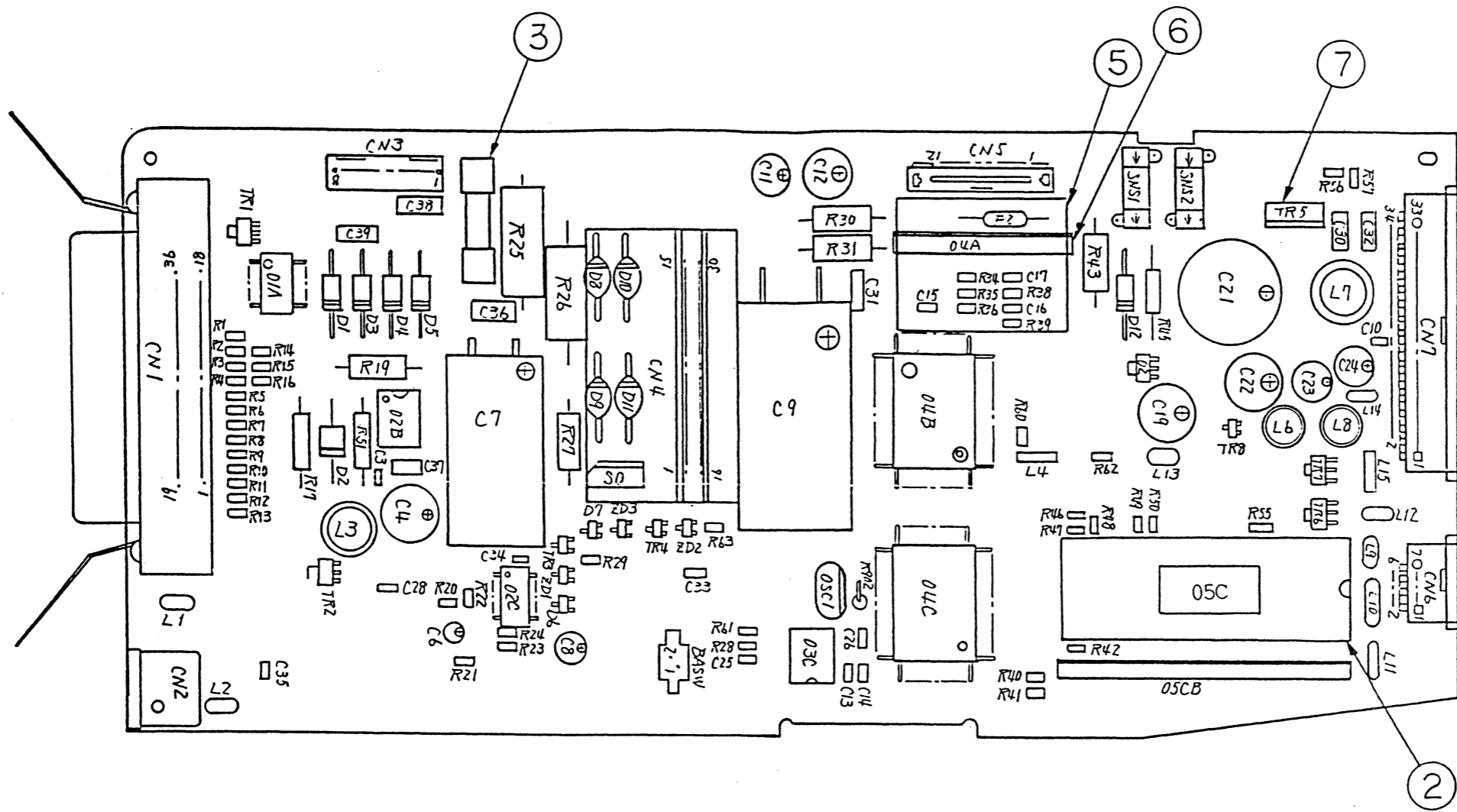
• Yes Replace either relative electric component to ACK-P or BUSY-N signal, or replace 01A.

# **COMPONENTS PARTS LIST**

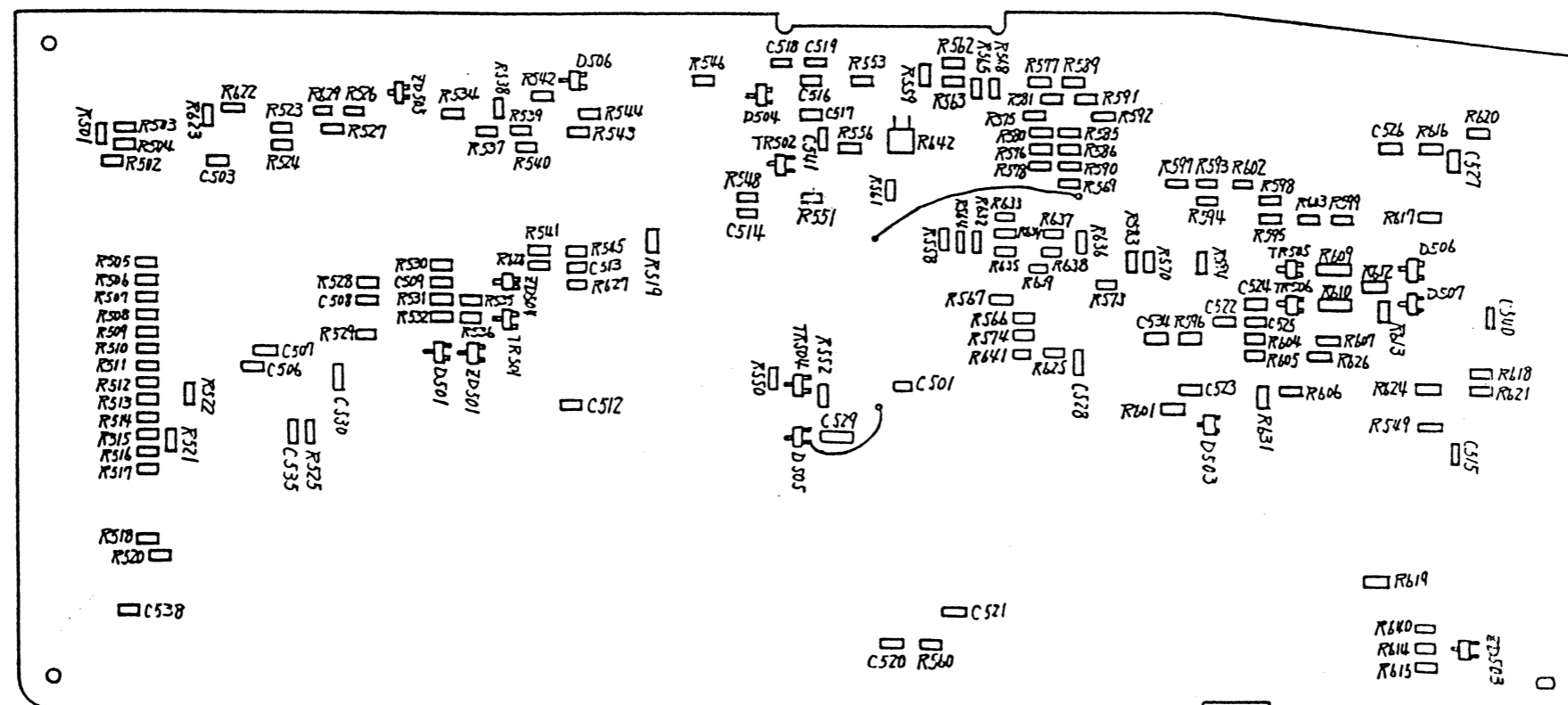
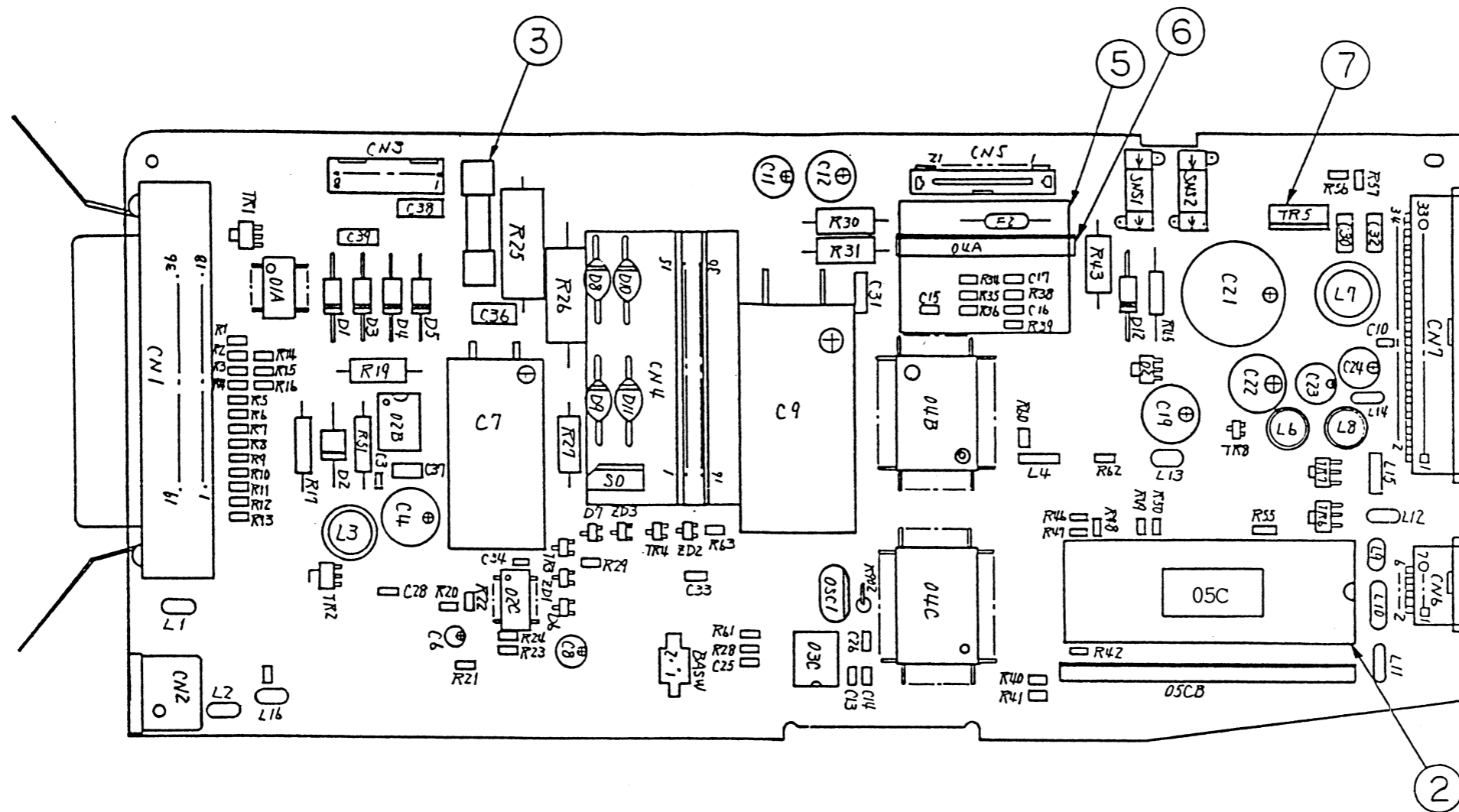
## DRAWING LIST

FJIM-PCB(Main Control Board) REV.9	4YA4042-1515G1 ..... 2-1 (for ODA) 4YA4042-1515G101 ..... 2-1 (for OEL)
for UK [FJUK-PCB (Main Control Board) REV.3]	[4YA4042-1528G101]
FJIM-PCB (Main Control Board) REV.10	4YA4042-1515G1 ..... 2-13 (for ODA) 4YA4042-1515G101 ..... 2-13 (for OEL)
for UK [FJUK-PCB (Main Control Board) REV.4]	[4YA4042-1528G101]
FJIM-PCB (Main Control Board) REV.11	4YA4042-1515G1 ..... 2-23 (for ODA) 4YA4042-1515G101 ..... 2-23 (for OEL)
for UK [FJUK-PCB (Main Control Board) REV.5]	[4YA4042-1528G101]
LEOP-2PCB (Operator Panel) REV.5	4YA4042-1516G2 ..... 2-33 (ODA/OEL)
LXHI (RS-232C) Printed Circuit Board	4YA4021-1050Gxxx ..... 2-35 (ODA/OEL)





FJIM-PCB (Main Control Board) Rev. 9  
 4YA4042-1515G1 (ODA)  
 4YA4042-1515G101 (OEL)  
 1/2  
 for UK  
 FJUK- PCB (Main Control Board) Rev. 3  
 (4YA4042-1528G101)



FJIM-PCB (Main Control Board) Rev. 10  
 4YA4042-1515G1 (ODA)  
 4YA4042-1515G101 (OEL)  
 1/2  
 for UK  
 FJUK- PCB (Main Control Board) Rev. 4  
 (4YA4042-1528G101)

**FJIM-PCB (Main Control Board) Rev. 9**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 1/9**  
**[for UK FJUK-PCB (Main Control Board) REV. 3 (4YA4042-1528G101)]**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	D6, 7, 501, 502, 504, 505, 507	MA151WK/N202K/2838 Signal Diode (CP)	611A0003N0003	7	
2	D503	SS100MA80VACP Signal Diode (CP)	611A0000N0001	1	
3	D506	1SS181 Signal Diode (CP)	611A0025M0013	1	
4	ZD1	RD2.7M-B2 Zener Diode (CP)	613A0233M0042B	1	
5	ZD505	RD5.1M-B2 Zener Diode (CP)	613A0233M0112B	1	
6	ZD501	RD5.6M-B2 Zener Diode (CP)	613A0233M0122B	1	
7	ZD2	RD20M-B Zener Diode (CP)	613A0233M0252	1	
8	ZD3, 504	RD20M-B3 Zener Diode (CP)	613A0233M0252C	2	
9	ZA503	MA3300-M Zener Diode (CP)	613A0291M0292M	1	
10	D1, 3-5, 12	EM01Z/SM1XN02/DSM1D2 Rectifying Diode	610A0003M0001	5	
11	D2	RK14 Rectifying Diode	610A0326M0003	1	
12	D8-11	DSA3A2 Rectifying Diode	610A0021L0092A	4	
13	R561, 617	2125JPW Chip Jumper (CP)	323A5003P0001	2	
14	R46-50, 55, 556, 558, 564-566, 569, 570, 573-576, 578, 580, 583-586, 590, 593-595, 597-599, 602, 603, 625, 632-639, 641	RM73B2A510J RN Resistor	323A5003J0510	42	

**FJIM-PCB (Main Control Board) Rev. 9**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 2/9)**  
**[for UK FJUK-PCB (Main Control Board) REV. 3 (4YA4042-1528G101)]**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
15	R35, 505, 596	RM73B2A101J RN Resistor (CP)	323A5003J0101	3	
16	R525, 624	RM73B2A201J RN Resistor (CP)	323A5003J0201	2	
17	R20, 62	RM73B2A241J RN Resistor (CP)	323A5003J0241	2	
18	R548, 549	RM73B2A331J RN Resistor (CP)	323A5003J0331	2	
19	R56, 57, 541	RM73B2A431J RN Resistor (CP)	323A5003J0431	3	
20	R531, 559	RM73B2A471J RN Resistor (CP)	323A5003J0471	2	
21	R34, 36, 518, 629	RM73B2A511J RN Resistor (CP)	323A5003J0511	4	
22	R60	RM73B2A821J RN Resistor (CP)	323A5003J0821	1	
23	R13, 15, 519, 520, 530, 612, 613, 631, 640	RM73B2A102J RN Resistor (CP)	323A5003J0102	9	
24	R24, 526, 545, 619	RM73B2A122J RN Resistor (CP)	323A5003J0122	4	
25	R535, 606, 622, 623	RM73B2A152J RN Resistor (CP)	323A5003J0152	4	
26	R28, 568, 627, 628	RM73B2A202J RN Resistor (CP)	323A5003J0202	4	
27	R562, 563, 620	RM73B2A272J RN Resistor (CP)	323A5003J0272	3	
28	R517	RM73B2A302J RN Resistor (CP)	323A5003J0302	1	
29	R1-12, 14, 21, 23, 515, 516, 521, 527	RM73B2A332J RN Resistor (CP)	323A5003J0332	19	
30	R536, 546, 553, 618, 621	RM73B2A512J RN Resistor (CP)	323A5003J0512	5	

**FJIM-PCB (Main Control Board) Rev. 9**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 3/9)**  
**[for UK FJUK-PCB (Main Control Board) REV. 3 (4YA4042-1528G101)]**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
31	R501, 502, 523, 524, 550-552, 601, 604, 605, 607, 626	RM73B2A562J RN Resistor (CP)	323A5003J0562	12	
32	R16, 40-42, 61, 503, 504, 506-514, 522, 577, 581, 589, 591, 592, 614-616	RM73B2A103J RN Resistor (CP)	323A5003J0103	25	
33	R532	RM73B2A123J RN Resistor (CP)	323A5003J0123	1	
34	R38, 39	RM73B2A913J RN Resistor (CP)	323A5003J0913	2	
35	R29, 63	RM73B2A104J RN Resistor (CP)	323A5003J0104	2	
36	R534	RM73B2A164J RN Resistor (CP)	323A5003J0164	1	
37	R560	RM73B2A204J RN Resistor (CP)	323A5003J0204	1	
38	R22	RM73B2A394J RN Resistor (CP)	323A5003J0394	1	
39	R539	RM73B2A681F RN Resistor (CP)	323A5003F0681	1	
40	R542, 543	RM73B2A302F RN Resistor (CP)	323A5003F0302	2	
41	R540	RM73B2A472F RN Resistor (CP)	323A5003F0472	1	
42	R537, 538	RM73B2A512F RN Resistor (CP)	323A5003F0512	2	
43	R529	RM73B2A123F RN Resistor (CP)	323A5003F0123	1	
44	R544	RM73B2A273F RN Resistor (CP)	323A5003F0273	1	
45	R528	RM73B2A363F RN Resistor (CP)	323A5003F0363	1	

**FJIM-PCB (Main Control Board) Rev. 9**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 4/9)**  
**[for UK FJUK-PCB (Main Control Board) REV. 3 (4YA4042-1528G101)]**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
46	R609, 610	RM73B2B682J RN Resistor (CP)	323A5015J0682	2	
47	R17	RD1/4Y10ΩJ RD Resistor	321A1421J0100	1	
48	R45	RD1/4Y2KΩJ RD Resistor	321A1421J0202	1	
49	R30	MSF1/2B0.56ΩJ RS Resistor	324A1001J0568	1	
50	R31, 43	MSF1/2B0.82ΩJ RS Resistor	324A1001J0828	2	
51	R19	RD1/2Y110ΩJ RD Resistor	321A1431J0111	1	
52	R901	RD1/4Y470ΩJ RD Resistor	321A1421J0471	1	
53	R902	RD1/4Y1.5KΩJ RD Resistor	321A1421J0152	1	
54	R27	RD1/2Y2KΩJ RD Resistor	321A1431J0202	1	
55	R26	MOR2B3.3KΩJ RS Resistor	324A1121J0332	1	
56	R51	SPRX1/2-0.18ΩJ RN Resistor	323A1036J0188	1	
57	R25	2SB0.51ΩK RW Resistor	320A2017K0518	1	
58	C528	CC2012SL1H820J 50V CC Capacitor (CP)	303A3007K0820	1	
59	C524, 525	CC2012SL1H101J 50V CC Capacitor (CP)	303A3007K0101	2	
60	C534	CC2012SL1H471J 50V CC Capacitor (CP)	303A3007K0471	1	
61	C33, 507, 522, 535	CC2012SL1H561J 50V CC Capacitor (CP)	303A3007K0561	4	

**FJIM-PCB (Main Control Board) Rev. 9**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 5/9)**  
**[for UK FJUK-PCB (Main Control Board) REV. 3 (4YA4042-1528G101)]**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
62	C16, 17, 520	CC2012SL1H821J 50V CC Capacitor (CP)	303A3007K0821	3	
63	C25, 501, 508, 540	CC2012SL1H102J 50V CC Capacitor (CP)	303A3007K0102	4	
64	C40, 538	CK2012B1H103K 50V CK Capacitor (CP)	303A6008K3103	2	
65	C506	CK 2012B1H332K 50V CK Capacitor (CP)	303A6008K3332	1	
66	C541	Ck2012F1H223Z 50V CK Capacitor (CP)	303A6008Z3223	1	
67	C3, 13-15, 26, 28, 34, 503, 512-519, 521, 523, 526, 527	CK2012F1E104Z 25V CK Capacitor (CP)	303A6008Z2104	20	
68	C509	CK2012F1E224Z 25V CK Capacitor (CP)	303A6008Z2224	1	
69	C35	CK2012F1H104Z 50V CK Capacitor (CP)	303A6008Z3104	1	
70	C30-32	CQMF92PP2A102J-F0 CQ Capacitor 0.001UF	306A4103J2102	3	
71	C38, 39	TCK45F2E103ZYA 250V CK Capacitor 10000PF	302A4027Z5103	2	
72	C36, 37, 901, 902	CK92F1E105ZS 25V CK Capacitor 1UF	303A4117Z2105	4	
73	C8	CEUSM2A3R3 100V CE Capacitor 3.3UF	304A1041A2339	1	
74	C6	10MS5-22M 10V CE Capacitor 22UF	304A1046A1220	1	
75	C12	CEUSM1H470 50V CE Capacitor 47UF	304A1041H1470	1	
76	C11, 23, 24	CEUSM1A101 10V CE Capacitor 100UF	304A1041A1101	3	
77	C19	CEUSM1E221 25V CE Capacitor 220UF	304A1041E1221	1	

**FJIM-PCB (Main Control Board) Rev. 9**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 6/9)**  
**[for UK FJUK-PCB (Main Control Board) REV. 3 (4YA4042-1528G101)]**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
78	C22	CEUSM1E331 25V CE Capacitor 330UF	304A1041E1331	1	
79	C4	CEUSM1A471 10V CE Capacitor 470UF	304A1041A1471	1	
80	C21	SRC50VB-680 (M) 50V CE Capacitor 680UF	304A1035H1681	1	
81	C9	50VBSN-4700 (M) BC 50V CE Capacitor 4700UF	304A1177H1472	1	
82	C7	KMG16VBSN-6800 (M) BC CE Capacitor 6800UF	304A1178C1682	1	
83	Q2	UPC78L10T BIP Linear IC (CP)	720A1023N2010	1	
84	01A	SN7406NS BIP Digital IC (SO)	700A0050N0006	1	
85	02C	NJM2901M/UPC339G2 BIP Linear IC (SO)	720A0503N0007	1	
86	04B	MSM79V035GS-V1K MOS Digital IC (FP)	702A4624N9013	1	
87	04C	MSM67X640GS-V1K MOS-CPU (FP)	851A0324N0007	1	
88	03C	BR93LC46A MOS-EEPROM	816A0330M0000	1	
89	02B	MC34063AP1 BIP Linear IC	720A0956M0002	1	
90	05C	Program ROM	4YR4084-3064G1 4YR4084-3065G1	1	ODA OEL
91	05CB	TC511664BZ-80 MOS-D-RAM	802A0025M0614	1	
92	04A	MHM2025 BIP Linear IC	720A1821M0011	1	
93	2	DICF-40CS-E IC Socket	245A1221P0400	1	



**FJIM-PCB (Main Control Board) Rev. 9**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 7/9)**  
**[for UK FJUK-PCB (Main Control Board) REV. 3 (4YA4042-1528G101)]**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
94	TR505, 506	2SC3361/2SC2412KVL NPN-HF-TR (CP)	602A1003N0002	2	
95	TR3, 8, 502	A1344/UN2111/DTA114K PNP-HF-TR (CP)	600A1003N0003	3	
96	TR4	2SA1344 PNP-HF-TR (CP)	600A1032N0004	1	
97	TR501, 504	DTC114EK NPN-FH-TR (CP)	602A1035N0005	2	
98	TR1	2SB766A-Q/R PNP-LF-TR (CP)	601A1130M0001	1	
99	TR6, 7	2SB1123 PNP-LF-TR (CP)	601A1032N0002	2	
100	TR2	2SB1124 PNP-LF-TR (CP)	601A1032N0004	1	
101	TR5	2SB882 PNP-LF-TR	601A1132M0003	1	
102	SO	Thyristor (Additional Processing)	4PK4042- 1526G001	1	
103	F1	GG52 Fuse	540A2036M1202	1	
104	F2	251-002 Fuse	540A2208S1202	1	
105	CN1	57RE-40360-73OB-D29A Square-Shaped Connector	220A1783P0360	1	
106	CN2	TCS7588-01-201 Round-Shaped Connector	221A1525P0081	1	
107	CN3	00-8263-0812-00-000 PC Connector	224A3357P0080	1	
108	CN4	MCR69-30D-2.54DS PC Connector	224A1052P0300	1	
109	CN5	PFC-12 PC Connector	224A3197P0120	1	

**FJIM-PCB (Main Control Board) Rev. 9**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 8/9)**  
**[for UK FJUK-PCB (Main Control Board) REV. 3 (4YA4042-1528G101)]**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
110	CN6	ZC-107 PC Connector	224A3591P0070	1	
111	CN7	ZC-134 PC Connector	224A3591P0340	1	
112	L1, 2, 9, 12-14, 16, R642	ZBF253D-01 Beads Filter	377A1115P1309	8	
113	L4, 15	SBT-0240 Noise Filter	377A1108P0003	2	
114	L10, 11	DST306-55F103Z EMI Filter	342A1004P2103	2	
115	L3	635LYF-151K P Coil	350A0222K0151	1	
116	L6, 8	TSL-0707-470KR94 P Coil	350A3007K0470	2	
117	L7	TSL1110-3R3M4R5 P Coil	350A3005M0339	1	
118	OSC1	CST12.288MTW Ceramic Oscillator	381A1045B0017	1	
119	SNS1, SNS2	EE-SX1054 Photo Sensor	651A0127M0001	2	
120	BASW	MSW-1731CVC Leaf Switch	218A7050P0001	1	
121	7	F2 (Bore 10 white) Corner Tube	LY-80094-10-WE	1	
122	3	FP-213 Fuse Holder	4LP-7142	2	
123	5	Heat Sink (for SP23)	4PB4021-1140P001	1	
124	6	Clamp Spring	4PP4021-1137P001	1	
125	JP4	0.26 Teflon Resin Wire (green; L=13)	LY-6507-1-GN	1	
126	JP5	0.26 Teflon Resin Wire (green; L=30)	LY-6507-1-GN	1	

**FJIM-PCB (Main Control Board) Rev. 9**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 9/9)**  
**[for UK FJUK-PCB (Main Control Board) REV. 3 (4YA4042-1528G101)]**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
127	JP1, 3	0.26 Teflon Resin Wire (green; L=40)	LY-6507-1-GN	2	
128	JP2	0.26 Teflon Resin Wire (green; L=30)	LY-6507-1-GN	1	
129	VAT	Varnished Tube (black; L=12)	VAT1-BK	1	

**FJIM-PCB (Main Control Board) Rev. 10**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 1/8)**  
**[for UK FJUK-PCB (Main Control Board) REV. 4 (4YA4042-1528G101)]**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	D6, 7, 501, 502, 504, 505, 507	MA151WK/N202K/2838 Signal Diode (CP)	611A0003N0003	7	
2	D503	SS100MA80VACP Signal Diode (CP)	611A0000N0001	1	
3	D506	1SS181 Signal Diode (CP)	611A0025M0013	1	
4	ZD1	RD2.7M-B2 Zener Diode (CP)	613A0233M0042B	1	
5	ZD505	RD5.1M-B2 Zener Diode (CP)	613A0233M0112B	1	
6	ZD501	RD5.6M-B2 Zener Diode (CP)	613A0233M0122B	1	
7	ZD2	RD20M-B Zener Diode (CP)	613A0233M0252	1	
8	ZD3, 504	RD20M-B3 Zener Diode (CP)	613A0233M0252C	2	
9	ZD503	MA3300-M Zener Diode (CP)	613A0291M0292M	1	
10	D1, 3-5, 12	EM01Z/SM1XN02/DSM1D2 Rectifying Diode	610A0003M0001	5	
11	D2	RK14 Rectifying Diode	610A0326M0003	1	
12	D8-11	DSA3A2 Rectifying Diode	610A0021L0092A	4	
13	R617	2125JPW Chip Jumper (CP)	323A5003P0001	1	
14	R46-50, 55, 556, 558, 564-566, 569, 570, 573-576, 578, 580, 583-586, 590, 593-595, 597-599, 602, 603, 625, 632-639, 641	RM73B2A510J RN Resistor (CP)	323A5003J0510	42	

**FJIM-PCB (Main Control Board) Rev. 10**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 2/8)**  
**[for UK FJUK-PCB (Main Control Board) REV. 4 (4YA4042-1528G101)]**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
15	R35, 505, 596	RM73B2A101J RN Resistor (CP)	323A5003J0101	3	
16	R525, 624	RM73B2A201J RN Resistor (CP)	323A5003J0201	2	
17	R20, 62	RM73B2A241J RN Resistor (CP)	323A5003J0241	2	
18	R548, 549	RM73B2A331J RN Resistor (CP)	323A5003J0331	2	
19	R56, 57, 541	RM73B2A431J RN Resistor (CP)	323A5003J0431	3	
20	R531, 559, 567	RM73B2A471J RN Resistor (CP)	323A5003J0471	3	
21	R34, 36, 518, 629	RM73B2A511J RN Resistor (CP)	323A5003J0511	4	
22	R60	RM73B2A821J RN Resistor (CP)	323A5003J0821	1	
23	R13, 15, 519, 520, 530, 612, 613, 631, 640	RM73B2A102J RN Resistor (CP)	323A5003J0102	9	
24	R24, 526, 545, 619	RM73B2A122J RN Resistor (CP)	323A5003J0122	4	
25	R535, 561, 606, 622, 623	RM73B2A152J RN Resistor (CP)	323A5003J0152	5	
26	R28, 568, 627, 628	RM73B2A202J RN Resistor (CP)	323A5003J0202	4	
27	R562, 563, 620	RM73B2A272J RN Resistor (CP)	323A5003J0272	3	
28	R517	RM73B2A302J RN Resistor (CP)	323A5003J0302	1	
29	R1-12, 14, 21, 23, 515, 516, 521, 527	RM73B2A332J RN Resistor (CP)	323A5003J0332	19	
30	R536, 546, 553, 618, 621	RM73B2A512J RN Resistor (CP)	323A5003J0512	5	

**FJIM-PCB (Main Control Board) Rev. 10**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 3/8)**  
**[for UK FJUK-PCB (Main Control Board) REV. 4 (4YA4042-1528G101)]**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
31	R501, 502, 523, 524, 550-552, 601, 604, 605, 607, 626	RM73B2A562J RN Resistor (CP)	323A5003J0562	12	
32	R16, 40-42, 61, 503, 504, 506-514, 522, 577, 581, 589, 591, 592, 614-616	RM73B2A103J RN Resistor (CP)	323A5003J0103	25	
33	R532	RM73B2A123J RN Resistor (CP)	323A5003J0123	1	
34	R38, 39	RM73B2A913J RN Resistor (CP)	323A5003J0913	2	
35	R29, 63	RM73B2A104J RN Resistor (CP)	323A5003J0104	2	
36	R534	RM73B2A164J RN Resistor (CP)	323A5003J0164	1	
37	R560	RM73B2A204J RN Resistor (CP)	323A5003J0204	1	
38	R22	RM73B2A394J RN Resistor (CP)	323A5003J0394	1	
39	R539	RM73B2A681F RN Resistor (CP)	323A5003F0681	1	
40	R542, 543	RM73B2A302F RN Resistor (CP)	323A5003F0302	2	
41	R540	RM73B2A472F RN Resistor (CP)	323A5003F0472	1	
42	R537, 538	RM73B2A512F RN Resistor (CP)	323A5003F0512	2	
43	R529	RM73B2A123F RN Resistor (CP)	323A5003F0123	1	
44	R544	RM73B2A273F RN Resistor (CP)	323A5003F0273	1	
45	R528	RM73B2A363F RN Resistor (CP)	323A5003F0363	1	

**FJIM-PCB (Main Control Board) Rev. 10**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 4/8)**  
**[for UK FJUK-PCB (Main Control Board) REV. 4 (4YA4042-1528G101)]**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
46	R609, 610	RM73B2B682J RN Resistor (CP)	323A5015J0682	2	
47	R17	RD1/4Y10ΩJ RD Resistor	321A1421J0100	1	
48	R45	RD1/4Y2KΩJ RD Resistor	321A1421J0202	1	
49	R30	MSF1/2B0.56ΩJ RS Resistor	324A1001J0568	1	
50	R31, 43	MSF1/2B0.82ΩJ RS Resistor	324A1001J0828	2	
51	R19	RD1/2Y110ΩJ RD Resistor	321A1431J0111	1	
52	R27	RD1/2Y2KΩJ RD Resistor	321A1431J0202	1	
53	R26	MOR2B3.3KΩJ RS Resistor	324A1121J0332	1	
54	R51	SPRX1/2-0.18ΩJ RN Resistor	323A1036J0188	1	
55	R25	2SB0.51ΩK RW Resistor	320A2017K0518	1	
56	C528	CC2012SL1H820J 50V CC Capacitor (CP)	303A3007K0820	1	
57	C524, 525	CC2012SL1H101J 50V CC Capacitor (CP)	303A3007K0101	2	
58	C534	CC2012SL1H471J 50V CC Capacitor (CP)	303A3007K0471	1	
59	C33, 507, 522, 535	CC2012SL1H561J 50V CC Capacitor (CP)	303A3007K0561	4	
60	C16, 17, 520	CC2012SL1H821J 50V CC Capacitor (CP)	303A3007K0821	3	
61	C25, 501, 508, 540	CC2012SL1H102J 50V CC Capacitor (CP)	303A3007K0102	4	

**FJIM-PCB (Main Control Board) Rev. 10**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 5/8)**  
**[for UK FJUK-PCB (Main Control Board) REV. 4 (4YA4042-1528G101)]**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
62	C40, 538	CK2012B1H103K 50V CK Capacitor (CP)	303A6008K3103	2	
63	C506	CK2012B1H332K 50V CK Capacitor (CP)	303A6008K3332	1	
64	C541	CK2012F1H223Z 50V CK Capacitor (CP)	303A6008Z3223	1	
65	C3, 13-15, 26, 28, 34, 503, 512-519, 521, 523, 526, 527	CK2012F1E104Z 25V CK Capacitor (CP)	303A6008Z2104	20	
66	C509	CK2012F1E224Z 25V CK Capacitor (CP)	303A6008Z2224	1	
67	C35	CK2012F1H104Z 50V CK Capacitor (CP)	303A6008Z3104	1	
68	C529, 530	CK3216F1C105Z 16V CK Capacitor (CP) 1UF	303A6009Z1105	2	
69	C30-32	CQMF92PP2A102J-F0 CQ Capacitor 0.001UF	306A4103J2102	3	
70	C38, 39	TCK45F2E103ZYA 250V CK Capacitor 10000PF	302A4027Z5103	2	
71	C36, 37	CK92F1E105ZS 25V CK Capacitor 1UF	303A4117Z2105	2	
72	C8	CEUSM2A3R3 100V CE Capacitor 3.3UF	304A1041A2339	1	
73	C6	10MS5-22M 10V CE Capacitor 22UF	304A1046A1220	1	
74	C12	CEUSM1H470 50V CE Capacitor 47UF	304A1041H1470	1	
75	C11, 23, 24	CEUSM1A101 10V CE Capacitor 100UF	304A1041A1101	3	
76	C19	CEUSM1E221 25V CE Capacitor 220UF	304A1041E1221	1	
77	C22	CEUSM1E331 25V CE Capacitor 330UF	304A1041E1331	1	



**FJIM-PCB (Main Control Board) Rev. 10**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 6/8)**  
**[for UK FJUK-PCB (Main Control Board) REV. 4 (4YA4042-1528G101)]**

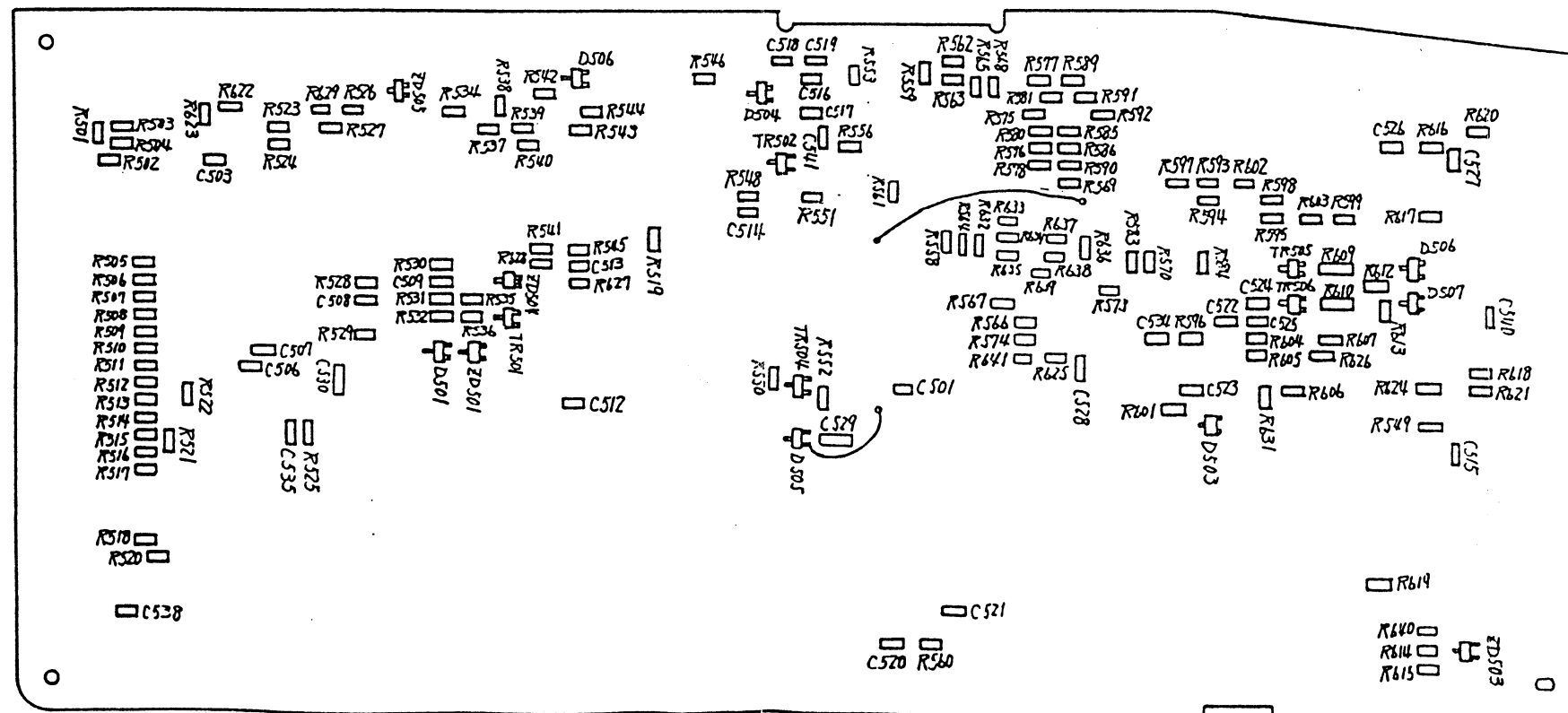
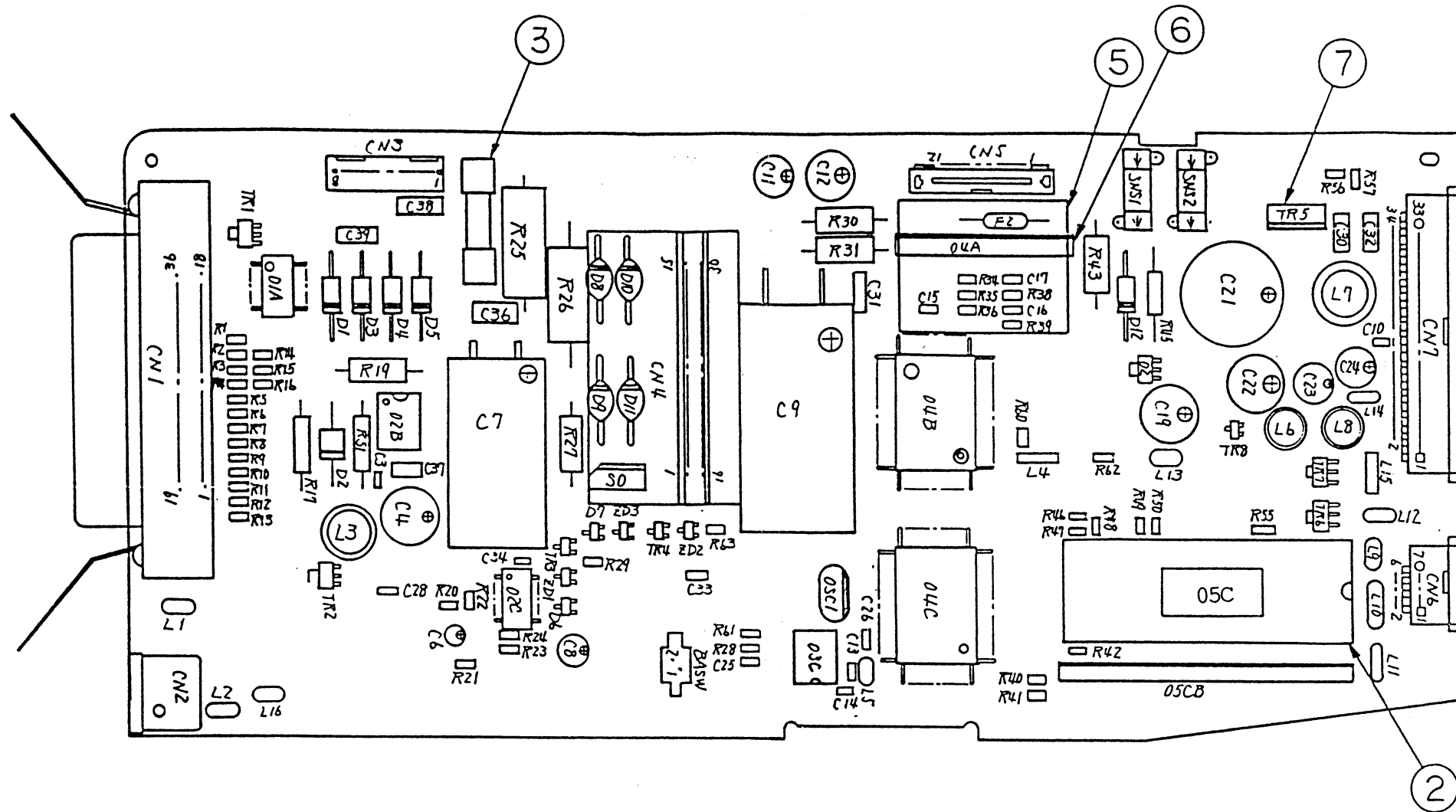
REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
78	C4	CEUSM1A471 10V CE Capacitor 470UF	304A1041A1471	1	
79	C21	SRC50VB-680(M) 50V CE Capacitor 680UF	304A1035H1681	1	
80	C9	50VBSN-4700(M)BC 50V CE Capacitor 4700UF	304A1177H1472	1	
81	C7	KMG16VBSN-6800(M)BC CE Capacitor 6800UF	304A1178C1682	1	
82	Q2	UPC78L10T BIP Linear IC (CP)	720A1023N2010	1	
83	01A	SN7406NS BIP Digital IC (SO)	700A0050N0006	1	
84	02C	NJM2901M/UPC339G2 BIP Linear IC (SO)	720A0503N0007	1	
85	04B	MSM79V035GS-V1K MOS Digital IC (FP)	702A4624N9013	1	
86	04C	MSM67X640GS-V1K MOS-CPU (FP)	851A0324N0007	1	
87	03C	BR93LC46A MOS-EEPROM	816A0330M0000	1	
88	02B	MC34063AP1 BIP Linear IC	720A0956M0002	1	
89	05CB	TC511664BZ-80 MOS-D-RAM	802A0025M0614	1	
90	04A	MHM2025 BIP Linear IC	720A1821M0011	1	
91	2	DICF-40CS-E IC Socket	245A1221P0400	1	
92	05C	4YR4084-3064G1 4YR4084-3065G1	Program ROM	1	ODA OEL
93	TR505, 506	2SC3361/2SC2412KVL NPN-HF-TR (CP)	602A1003N0002	2	

**FJIM-PCB (Main Control Board) Rev. 10**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 7/8)**  
**[for UK FJUK-PCB (Main Control Board) REV. 4 (4YA4042-1528G101)]**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
94	TR3, 8, 502	A1344/UN2111/DTA114K PNP-HF-TR (CP)	600A1003N0003	3	
95	TR4	2SA1344 PNP-HF-TR (CP)	600A1032N0004	1	
96	TR501, 504	DTC114EK NPN-HF-TR (CP)	602A1035N0005	2	
97	TR1	2SB766A-Q/R PNP-LF-TR (CP)	601A1130M0001	1	
98	TR6, 7	2SB1123 PNP-LF-TR (CP)	601A1032N0002	2	
99	TR2	2SB1124 PNP-LF-TR (CP)	601A1032N0004	1	
100	TR5	2SB882 PNP-LF-TR	601A1132M0003	1	
101	SO	Thyristor (Additional Processing)	4PK4042-1526G001	1	
102	F1	GG52 Fuse	540A2036M1202	1	
103	F2	251-002 Fuse	540A2208S1202	1	
104	CN1	57RE-40360-730B-D29A Square-Shaped Connector	220A1783P0360	1	
105	CN2	TCS7588-01-201 Round-Shaped Connector	221A1525P0081	1	
106	CN3	00-8263-0812-00-000 PC Connector	224A3357P0080	1	
107	CN4	MCR69-30D-2.54DS PC Connector	224A1052P0300	1	
108	CN5	PFC-12 PC Connector	224A3197P0120	1	
109	CN6	ZC-107 PC Connector	224A3591P0070	1	

**FJIM-PCB (Main Control Board) Rev. 10**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 8/8)**  
**[for UK FJUK-PCB (Main Control Board) REV. 4 (4YA4042-1528G101)]**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
110	CN7	ZC-134 PC Connector	224A3591P0340	1	
111	L1, 2, 9, 12-14, 16, R642	ZBF253D-01 Beads Filter	377A1115P1309	8	
112	L4, 15	SBT-0240 Noise Filter	377A1108P0003	2	
113	L10, 11	DST306-55F103Z EMI Filter	342A1004P2103	2	
114	L3	635LYF-151K P Coil	350A0222K0151	1	
115	L6, 8	TSL-0707-470KR94 P Coil	350A3007K0470	2	
116	L7	TSL1110-3R3M4R5 P Coil	350A3005M0339	1	
117	OSC1	CST12.288MTW Ceramic Oscillator	381A1045B0017	1	
118	SNS1, SNS2	EE-SX1054 Photo Sensor	651A0127M0001	2	
119	BASW	MSW-1731CVC Leaf Switch	218A7050P0001	1	
120	3	FP-213 Fuse Holder	4LP-7142	2	
121	5	Heat Sink (for SP23)	4PB4021-1140P001	1	
122	6	Clamp Spring	4PP4021-1137P001	1	
123	JP1	0.26 Teflon Resin Wire (green; L=40)	LY-6507-1-GN	1	
124	JP4	0.26 Teflon Resin Wire (green; L=13)	LY-6507-1-GN	1	
125	7	Corner Tube (Bore 10 white)	LY-80094-10-WE	1	



FJIM-PCB (Main Control Board) Rev. 11  
 4YA4042-1515G1 (ODA)  
 4YA4042-1515G101 (OEL)  
 1/2  
 for UK  
 FJUK- PCB (Main Control Board) Rev. 5  
 (4YA4042-1528G101)

**FJIM-PCB (Main Control Board) Rev. 11**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 1/8**  
**[for UK FJUK-PCB (Main Control Board) REV. 5 (4YA4042-1528G101)]**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	D6, 7, 501, 502, 504, 507	MA151WK/N202K/2838 Signal Diode (CP)	611A0003N0003	6	
2	D503	SS100MA80VACP Signal Diode (CP)	611A0000N0001	1	
3	D506	1SS181 Signal Diode (CP)	611A0025M0013	1	
4	ZD1	RD2.7M-B2 Zener Diode (CP)	613A0233M0042B	1	
5	ZD505	RD5.1M-B2 Zener Diode (CP)	613A0233M0112B	1	
6	ZD501	RD5.6M-B2 Zener Diode (CP)	613A0233M0122B	1	
7	ZD2	RD20M-B Zener Diode (CP)	613A0233M0252	1	
8	ZD3, 504	RD20M-B3 Zener Diode (CP)	613A0233M0252C	2	
9	ZA503	MA3300-M Zener Diode (CP)	613A0291M0292M	1	
10	D1, 3-5, 12	EM01Z/SM1XN02/DSM1D2 Rectifying Diode	610A0003M0001	5	
11	D2	RK14 Rectifying Diode	610A0326M0003	1	
12	D8-11	DSA3A2 Rectifying Diode	610A0021L0092A	4	
13	R617	2125JPW Chip Jumper (CP)	323A5003P0001	1	
14	R46-50, 55, 556, 558, 564-566, 569, 570, 573-576, 578, 580, 583-586, 590, 593-595, 597-599, 602, 603, 625, 632-639, 641	RM73B2A510J RN Resistor (CP)	323A5003J0510	42	

**FJIM-PCB (Main Control Board) Rev. 11**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 2/8**  
**[for UK FJUK-PCB (Main Control Board) REV. 5 (4YA4042-1528G101)]**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
15	R35, 505, 596	RM73B2A101J RN Resistor (CP)	323A5003J0101	3	
16	R525, 624	RM73B2A201J RN Resistor (CP)	323A5003J0201	2	
17	R20, 62	RM73B2A241J RN Resistor (CP)	323A5003J0241	2	
18	R548, 549	RM73B2A331J RN Resistor (CP)	323A5003J0331	2	
19	R56, 57, 541	RM73B2A431J RN Resistor (CP)	323A5003J0431	3	
20	R531, 559, 567	RM73B2A471J RN Resistor (CP)	323A5003J0471	3	
21	R34, 36, 518, 629	RM73B2A511J RN Resistor (CP)	323A5003J0511	4	
22	R60	RM73B2A821J RN Resistor (CP)	323A5003J0821	1	
23	R13, 15, 519, 520, 530, 612, 613, 631, 640	RM73B2A102J RN Resistor (CP)	323A5003J0102	9	
24	R24, 526, 545, 619	RM73B2A122J RN Resistor (CP)	323A5003J0122	4	
25	R535, 561, 606, 622, 623	RM73B2A152J RN Resistor (CP)	323A5003J0152	5	
26	R28, 568, 627, 628	RM73B2A202J RN Resistor (CP)	323A5003J0202	4	
27	R562, 563, 620	RM73B2A272J RN Resistor (CP)	323A5003J0272	3	
28	R517	RM73B2A302J RN Resistor (CP)	323A5003J0302	1	
29	R1-12, 14, 21, 23, 515, 516, 521, 527	RM73B2A332J RN Resistor (CP)	323A5003J0332	19	
30	R536, 546, 553, 618, 621	RM73B2A512J RN Resistor (CP)	323A5003J0512	5	

**FJIM-PCB (Main Control Board) Rev. 11**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 3/8**  
**[for UK FJUK-PCB (Main Control Board) REV. 5 (4YA4042-1528G101)]**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
31	R501, 502, 523, 524, 550-552, 601, 604, 605, 607, 626	RM73B2A562J RN Resistor (CP)	323A5003J0562	12	
32	R16, 40-42, 61, 503, 504, 506-514, 522, 577, 581, 589, 591, 592, 614-616	RM73B2A103J RN Resistor (CP)	323A5003J0103	25	
33	R532	RM73B2A123J RN Resistor (CP)	323A5003J0123	1	
34	R38, 39	RM73B2A913J RN Resistor (CP)	323A5003J0913	2	
35	R29, 63	RM73B2A104J RN Resistor (CP)	323A5003J0104	2	
36	R534	RM73B2A164J RN Resistor (CP)	323A5003J0164	1	
37	R560	RM73B2A204J RN Resistor (CP)	323A5003J0204	1	
38	R22	RM73B2A394J RN Resistor (CP)	323A5003J0394	1	
39	R539	RM73B2A681F RN Resistor (CP)	323A5003F0681	1	
40	R542, 543	RM73B2A302F RN Resistor (CP)	323A5003F0302	2	
41	R540	RM73B2A472F RN Resistor (CP)	323A5003F0472	1	
42	R537, 538	RM73B2A512F RN Resistor (CP)	323A5003F0512	2	
43	R529	RM73B2A123F RN Resistor (CP)	323A5003F0123	1	
44	R544	RM73B2A273F RN Resistor (CP)	323A5003F0273	1	
45	R528	RM73B2A363F RN Resistor (CP)	323A5003F0363	1	

**FJIM-PCB (Main Control Board) Rev. 11**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 4/8**  
**[for UK FJUK-PCB (Main Control Board) REV. 5 (4YA4042-1528G101)]**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
46	R609, 610	RM73B2B682J RN Resistor (CP)	323A5015J0682	2	
47	R17	RD1/4Y10ΩJ RD Resistor	321A1421J0100	1	
48	R45	RD1/4Y2KΩJ RD Resistor	321A1421J0202	1	
49	R30	MSF1/2B0.56ΩJ RS Resistor	324A1001J0568	1	
50	R31, 43	MSF1/2B0.82ΩJ RS Resistor	324A1001J0828	2	
51	R19	RD1/2Y110ΩJ RD Resistor	321A1431J0111	1	
52	R27	RD1/2Y2KΩJ RD Resistor	321A1431J0202	1	
53	R26	MOR2B3.3KΩJ RS Resistor	324A1121J0332	1	
54	R51	SPRX1/2-0.18ΩJ RN Resistor	323A1036J0188	1	
55	R25	2SB0.51ΩK RW Resistor	320A2017K0518	1	
56	C528	CC2012SL1H820J 50V CC Capacitor (CP)	303A3007K0820	1	
57	C524, 525	CC2012SL1H101J 50V CC Capacitor (CP)	303A3007K0101	2	
58	C534	CC2012SL1H471J 50V CC Capacitory (CP)	303A3007K0471	1	
59	C33, 507, 522, 535	CC2012SL1H561J 50V CC Capacitor (CP)	303A3007K0561	4	
60	C16, 17, 520	CC2012SL1H821J 50V CC Capacitor (CP)	303A3007K0821	3	
61	C25, 501, 508, 540	CC2012SL1H102J 50V CC Capacitor (CP)	303A3007K0102	4	



**FJIM-PCB (Main Control Board) Rev. 11**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 5/8**  
**[for UK FJUK-PCB (Main Control Board) REV. 5 (4YA4042-1528G101)]**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
62	C40, 538	CK2021B1H103K 50V CK Capacitor (CP)	303A6008K3103	2	
63	C506	CK 2012B1H332K 50V CK Capacitor (CP)	303A6008K3332	1	
64	C541	Ck2012F1H223Z 50V CK Capacitor (CP)	303A6008Z3223	1	
65	C3, 13-15, 26, 28, 34, 503, 512-519, 521, 523, 526, 527	CK2012F1E104Z 25V CK Capacitor (CP)	303A6008Z2104	20	
66	C509	CK2012F1E224Z 25V CK Capacitor (CP)	303A6008Z2224	1	
67	C529, 530	CK3216F1C105Z 16V CK Capacitor (CP) 1UF	303A6009Z1105	2	
68	C30-32	CQMF92PP2A102J-F0 CQ Capacitor 0.001UF	306A4103J2102	3	
69	C38, 39	TCK45F2E103ZYA 250V CK Capacitor 10000PF	302A4027Z5103	2	
70	C36, 37	CK92F1E105ZS 25V CK Capacitor 1UF	303A4117Z2105	2	
71	C8	CEUSM2A3R3 100V CE Capacitor 3.3UF	304A1041A2339	1	
72	C6	10MS5-22M 10V CE Capacitor 22UF	304A1046A1220	1	
73	C12	CEUSM1H470 50V CE Capacitor 47UF	304A1041H1470	1	
74	C11, 23, 24	CEUSM1A101 10V CE Capacitor 100UF	304A1041A1101	3	
75	C19	CEUSM1E221 25V CE Capacitor 220UF	304A1041E1221	1	
76	C22	CEUSM1E331 25V CE Capacitor 330UF	304A1041E1331	1	
77	C4	CEUSM1A471 10V CE Capacitor 470UF	304A1041A1471	1	

**FJIM-PCB (Main Control Board) Rev. 11**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 6/8**  
**[for UK FJUK-PCB (Main Control Board) REV. 5 (4YA4042-1528G101)]**

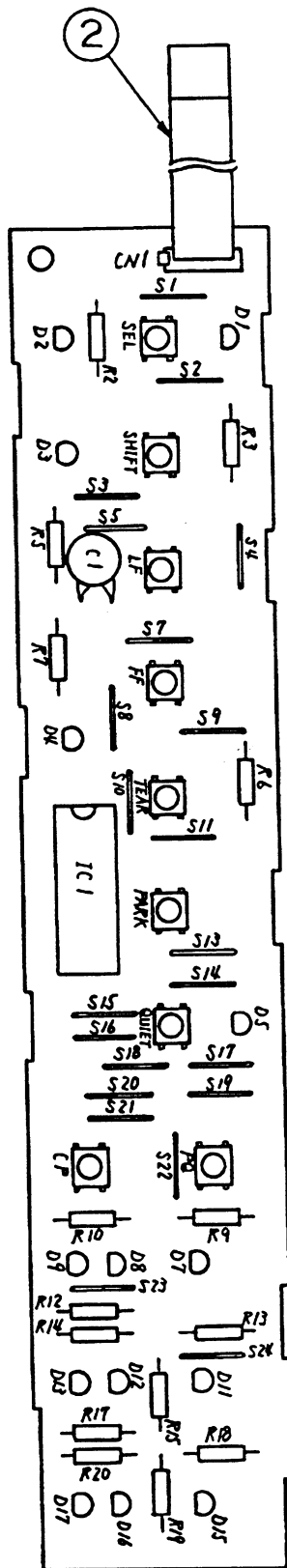
REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
78	C21	SRC50VB-680 (M) 50V CE Capacitor 680UF	304A1035H1681	1	
79	C9	50VBSN-4700 (M) BC 50V CE Capacitor 4700UF	304A1177H1472	1	
80	C7	KMG16VBSN-6800 (M) BC CE Capacitor 6800UF	304A1178C1682	1	
81	Q2	UPC78L10T BIP Linear IC (CP)	720A1023N2010	1	
82	01A	SN7406NS BIP Digital IC (SO)	700A0050N0006	1	
83	02C	NJM2901M/UPC339G2 BIP Linear IC (SO)	720A0503N0007	1	
84	04B	MSM79V035GS-V1K MOS Digital IC (FP)	702A4624N9013	1	
85	04C	MSM67X640GS-V1K MOS-CPU (FP)	851A0324N0007	1	
86	03C	BR93LC46A MOS-EEPROM	816A0330M0000	1	
87	02B	MC34063AP1 BIP Linear IC	720A0956M0002	1	
88	05CB	TC511664BZ-80 MOS-D-RAM	802A0025M0614	1	
89	04A	MHM2025 BIP Linear IC	720A1821M0011	1	
90	05C	Program ROM	4YR4084-3064G1 4YR4084-3065G1	1	ODA OEL
91	2	DICF-40CS-E IC Socket	245A1221P0400	1	
92	TR505, 506	2SC3361/2SC2412KVL NPN-HF-TR (CP)	602A1003N0002	2	
93	TR3, 8, 502	A1344/UN2111/DTA114K PNP-HF-TR (CP)	600A1003N0003	3	

**FJIM-PCB (Main Control Board) Rev. 11**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 7/8**  
**[for UK FJUK-PCB (Main Control Board) REV. 5 (4YA4042-1528G101)]**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
94	TR4	2SA1344 PNP-HF-TR (CP)	600A1032N0004	1	
95	TR501, 504	DTC114EK NPN-FH-TR (CP)	602A1035N0005	2	
96	TR1	2SB766A-Q/R PNP-LF-TR (CP)	601A1130M0001	1	
97	TR6, 7	2SB1123 PNP-LF-TR (CP)	601A1032N0002	2	
98	TR2	2SB1124 PNP-LF-TR (CP)	601A1032N0004	1	
99	TR5	2SB1225/2SB1351 PNP-LF-TR	601A1203M0003	1	
100	SO	Thyristor (Additional Processing)	4PK4042- 1526G001	1	
101	F1	GG52 Fuse	540A2036M1202	1	
102	F2	251-002 Fuse	540A2208S1202	1	
103	CN1	57RE-40360-730B-D29A Square-Shaped Connector	220A1783P0360	1	
104	CN2	TCS7588-01-201 Round-Shaped Connector	221A1525P0081	1	
105	CN3	00-8263-0812-00-000 PC Connector	224A3357P0080	1	
106	CN4	MCR69-30D-2.54DS PC Connector	224A1052P0300	1	
107	CN5	PFC-12 PC Connector	224A3197P0120	1	
108	CN6	ZC-107 PC Connector	224A3591P0070	1	
109	CN7	ZC-134 PC Connector	224A3591P0340	1	

**FJIM-PCB (Main Control Board) Rev. 11**  
**(4YA4042-1515G1 (ODA), 4YA4042-1515G101 (OEL) - 2/2 - 8/8**  
**[for UK FJUK-PCB (Main Control Board) REV. 5 (4YA4042-1528G101)]**

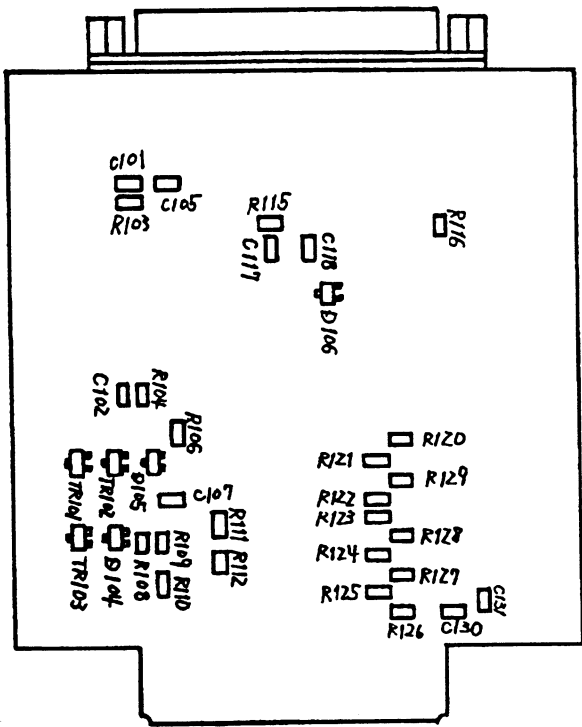
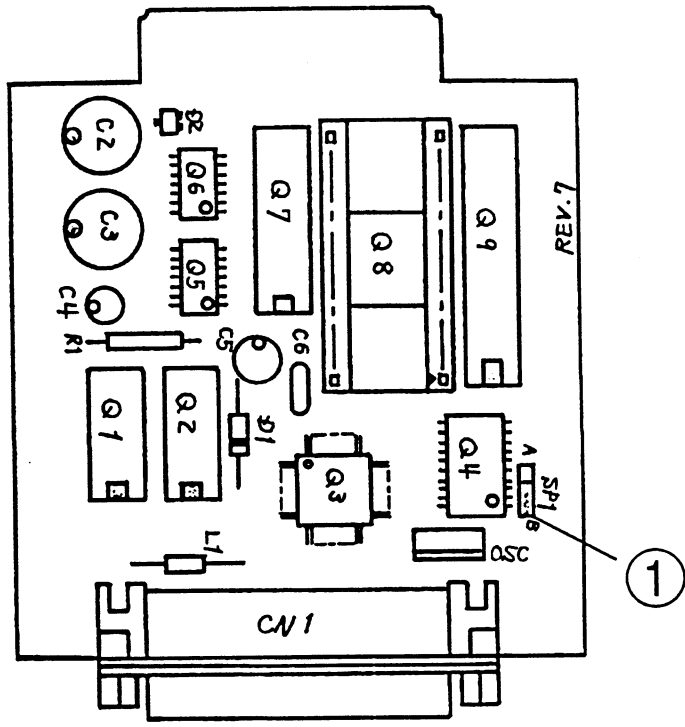
REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
110	L1, 2, 9, 12-14, 16	ZBF253D-01 Beads Filter	377A1115P1309	8	
111	L4, 15	SBT-0240 Noise Filter	377A1108P0003	2	
112	L10, 11	DST306-55F103Z EMI Filter	342A1004P2103	2	
113	L3	635LYF-151K P Coil	350A0222K0151	1	
114	L6, 8	TSL-0707-470KR94 P Coil	350A3007K0470	2	
115	L7	TSL1110-3R3M4R5 P Coil	350A3005M0339	1	
116	OSC1	CST12.288MTW Ceramic Oscillator	381A1045B0017	1	
117	SNS1, SNS2	EE-SX1054 Photo Sensor	651A0127M0001	2	
118	BASW	MSW-1731CVC Leaf Switch	218A7050P0001	1	
119	3	FP-213 Fuse Holder	4LP-7142	2	
120	5	Heat Sink (for SP23)	4PB4021-1140P001	1	
121	6	Clamp Spring	4PP4021-1137P001	1	
122	JP1	0.26 Teflon Resin Wire (green; L=40)	LY-6507-1-GN	1	



LEOP-2PCB (Operator Panel) Rev. 5 1/2  
 4YA4042-1516G2 (ODA/OEL)

**LEOP-2 PCB (Operator Panel) Rev. 5  
(4YA4042-1516G2 (ODA/OEL) - 2/2 - 1/1**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	R2, 3, 5-7, 9, 10, 12-15, 17, 18	RD1/4Y150ΩJ RD Resistor	321A1421J0151	13	
2	R20	RD1/4Y130ΩJ RD Resistor	321A1421J0131	1	
3	R19	RD1/4Y560ΩJ RD Resistor	321A1421J0561	1	
4	SEL•SHIFT, LF, FF, TEAR, PARK, QUIET, PQ, CP	SOA-113HS Push-Button Switch	205A1162P1001	9	
5	C1	TCK45F2E103ZYA 250V CK Capacitor 10000PF	302A4027Z5103	1	
6	D1, 2, 4, 5, 7-9, 11-13, 15-17	SEL3913KYZ/GL3HY47BC LED	650A0203M0001	13	
7	D3	SEL3213C/GL3HD47 LED	650A0103M0001	1	
8	IC1	BU5148S MOS Digital IC	702A4733M0001	1	
9	S1-5, 7-11, 13-24	0.5 Tin Metallizing Soft Copper Wire (P=10.16mm, L=20mm)	TA-0.5	22	
10	CN1	00-5062-301-007-000 PC Connector	224A5114P0070	1	
11	2	SMCD7X170ES10 (2.7) 7 Sumi-Card	238A1063P0006	1	



LXHI-PCB (Serial I/F Board, Option) Rev. 7  
(4YA4021-1050G1 - 1/2)

**LXHI-PCB (Serial I/F Board Option) Rev. 7**  
**(4YA4021-1050G1 - 2/2 - 1/2)**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	D2	MA153 Signal Diode (CP)	611A0029N0004	1	
2	D104, 105, 106	MA151WK/N202K/2838 Signal Diode (CP)	611A0003N0003	3	
3	D1	RD10F-B Zener Diode	613A2232L0182	1	
4	R115	RM73B2B102J RN Resistor (CP)	323A5015J0102	1	
5	R104	RM73B2B122J RN Resistor (CP)	323A5015J0122	1	
6	R103, 109, 110	RM73B2B242J RN Resistor (CP)	323A5015J0242	3	
7	R111, 112, 116, 120-129	RM73B2B103J RN Resistor (CP)	323A5015J0103	13	
8	R106	RM73B2B203J RN Resistor (CP)	323A5015J0203	1	
9	R108	RM73B2B474J RN Resistor (CP)	323A5015J0474	1	
10	R1	RD1/2Y150ΩJ RD Resistor	321A1431K0151	1	
11	C101, 102, 105, 107, 117, 118, 130, 131	CK3216F1H104Z CK Capacitor (CP)	50V 303A6009Z3104	8	
12	C6	CK92F1E105ZS CK Capacitor	25V 1UF 303A4117Z2105	1	
13	C5	CEUSM1E470 CE Capacitor	25V 47UF 304A1041E1470	1	
14	C2, 3	CEUSM1E221 CE Capacitor	25V 220UF 304A1041E1221	2	
15	C4	CEUSM2A010 CE Capacitor	100V 1.0UF 304A1041A2109	1	
16	Q6	SN74LS05NS BIP Digital IC (SO)	700A0550N0005	1	



**LXHI-PCB (Serial I/F Board Option) Rev. 7**  
**(4YA4021-1050G1 - 2/2 - 2/2)**

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
17	Q5	74LS32FP BIP Digital IC (SO)	700A0503N0032	1	
18	Q4	SN74LS373NS BIP Digital IC (SO)	700A0550N0373	1	
19	Q7	74LS245P BIP Digital IC	700A0503M0245	1	
20	Q2	75189P BIP-INF-IC	710A0003M0189	1	
21	Q1	75188P BIP-INF-IC	710A0003M0188	1	
22	Q3	MSM80C51FV-568GS-V1K MOS-CPU (ROM) (FP)	853A0150N0568	1	
23	Q9	HM6264ALSP-15 MOS-S-RAM	804A0021M6335	1	
24	Q8	DICF-28CS-E IC Socket	245A1221P0280	1	
25	TR101	A1344/UN2111/DTA114K PNP-HF-TR (CP)	600A1003N0003	1	
26	TR103	2SA1331/2SA1037K PNP-HF-TR (CP)	600A1003N0002	1	
27	TR102	2SC3361/2SC2412KVL NPN-HF-TR (CP)	602A1003N0002	1	
28	OSC	FAR-C4SB11059000-M02 Oscillator	4LP-12186-1	1	
29	SP1	FFC-3AMEP1 FC Connector	225A3123P0030	1	
30	CN1	D25S-LLD-6 angles (#4-40) Square-shape Connector	220A0121P0250	1	
31	L1	FBA04HA900KF-00 Beads Core	105A1222C1001	1	
32	1	DIC-252 PC Connector	224A3181P0020	1	