REV : 01
AUGUST 12, 1999

SW SERIES

SERVICE MANUAL

C A S CORPORATION

THE CONTENTS

CHAPTER-I
THE GENERAL INTRODUCTIONS

A. PREFACE

Thank you for the purchasing of SW scale.
This scale has been designed with CAS reliability, under rigid quality control and with outstanding performance.
Your departments can enjoy with this high quality reliable CAS product.
We believe that your needs will be satisfied and you will have proper reliability with in variable weight.
This manual will help you with proper operations and take care of the SW series.
Please keep it handy for the future references.

B. THE PRECAUTIONS

1. Make sure that you plug your scale into the proper power outlet.
2. Place the scale on a flat and stable surface.
3. Plug into a power outlet 30 minutes before operations.
4. Keep the scale away from strong EMI noises may cause incorrect weight readings.
5. This scale must be installed in a dry and liquid free environment.
6. Do not subject the scale to sudden temperature changes.
7. Do not subject the platter to sudden shocks.
8. If the scale is not properly level, please adjust the 4 legs at the bottom of the scale (turn legs clockwise or counterclockwise) so as to center the bubble of the leveling gauge inside the indicated circle.

C. SPECIFICATIONS

ITEM \ MODEL	SW-2	SW-5	SW-10	SW-20
CAPACITY	2.000 kg	5.000 kg	10.000 kg	20.00 kg
MIN. DIVISION	0.001 kg	0.002 kg	0.005 kg	0.01 kg
DISPLAY	LCD (5 DIGIT)			
PLATTER SIZE	230(W) x 190(D)			
PRODUCT SIZE	260(W) x 287(D) x 137(H)			
PRODUCT WEIGHT	2.8 kg			
POWER SUPPLY	1.5V x 6 (D size)			
POWER CONSUMPTION	APPROX. 0.25W			
BATTERY OPERATING TIME	500 hours(Manganese battery), 1000 hours(Alkaline battery)			
OPERATING TEMPERATURE	-10℃ ~40℃			
OPTION	9V Adaptor			

UNIT \ MODEL	SW-2	SW-5	SW-10	SW-20
g	2000 g	5000 g	10000 g	20000 g
	1g/2000	2g/2500	5g/2000	10g/2000
kg	2.000 kg	5.000 kg	10.000 kg	20.00 kg
	0.001kg/2000	0.002kg/2500	0.005kg/2000	0.01kg/2000
lb	5.000 lb	10.000 lb	20.00 lb	50.00 lb
	0.002lb/2500	0.005lb/2000	0.01lb/2000	0.02lb/2500
oz	80.00 oz	160.0 oz	400.0 oz	800.0 oz
	0.05oz/1600	0.1oz/1600	0.2oz/2000	0.5oz/1600

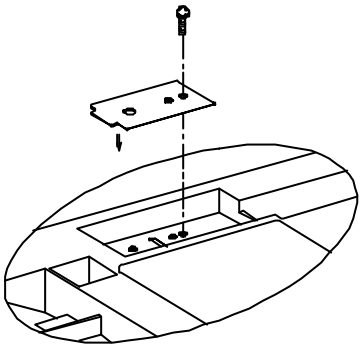
Notice : Specifications are subject to change for improvement without notice.

D. SEALING METHOD

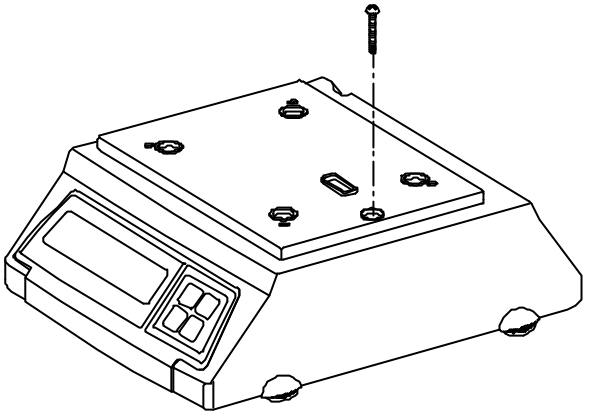
REV : 00

REV	SYM	CONTENTS	DRAWN	CHECKED	APPROVED

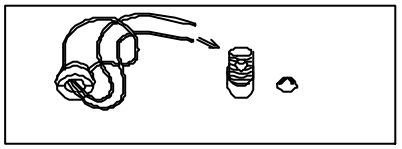
1 BOTTOM VIEW



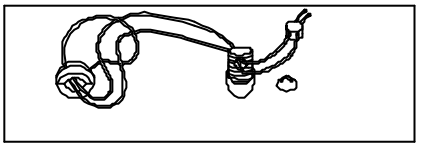
2



3 BOTTOM DETAIL



4



NO	PARTS NAME	SPECIFICATION	Q'TY	REMARK

TOLERANCES ,UNLESS OTHERWISE SPECIFIED	NAME OR TITLE: SEALING METHOD		CAS CORPORATION #19 KANAP-RI KWANGJEOK-MYON YANGJU-KUN KYUNGKI-DO,KOREA
ANGULAR ± N/A			
DECIMAL ± N/A	FIRST USED IN ASSEMBLY: SIMPLE WEIGHING SCALE		MATERIAL: N/A
Q'TY/SET: 1/1	FIRST MADE FOR: SW-1		END FINISH: N/A
	CONTRACT OR CUSTOMER NO: WORLD WIDE		DO NOT SCALE DRAWING / DIMENSIONS ARE IN MM.INCH

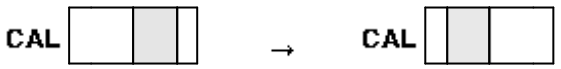
DRAWN	CHECKED	CHECKED	APPROVED	SCALE	DRAWING.PART NO.	REV
				F:S	3005-SW0-0000	00
. .19	. .19	. .19	. .19			

CHAPTER-II
THE CALIBRATIONS

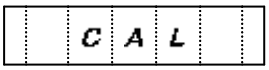
A. SET THE CALIBRATION MODE

The CAL switch is in the hole at the bottom of the scale.

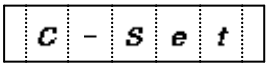
1. Remove a seal cover.
2. Make sure that power is OFF.
3. Slide CAL switch to the CAL position.



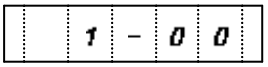
4. Turn the power ON.
   - The display will show CAL three times as below, then it will be disappeared.



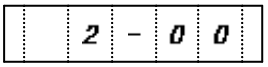
- Press the ON/OFF key, the display will show "C-SEt" as below.



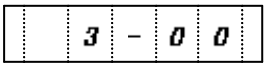
- After 2 or 3 seconds, the display will show "1-00" as below.
  (If you have set this before, the display will show previous value.)



- Press the ZERO key, the display will show "2-00" as below.
  (If you have set this before, the display will show previous value.)



- Press the ZERO key, the display will show "3-00" as below.
  (If you have set this before, the display will show previous value.)



- Press the ZERO key, the display will show the "End".
  After seconds, the display will show the A/D value.

B. HOW TO DISPLAY THE A/D VALUE

1. Press the ZERO key, then you can adjust zero point.
2. Press the TARE key to release the zero point.
3. Press the ON/OFF key to display A/D value.
4. Press the ON/OFF key to go to C. SPAN CALIBRATION.

C. SPAN CALIBRATION

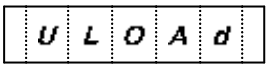
There are three kinds of calibration:

1) Span calibration.
2) Percent calibration.
3) Fine trimming.

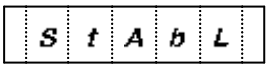
When the calibration is finished, the display will be cleared.

C.1 SPAN CALIBRATION

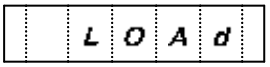
1. Press the ON/OFF key.
2. The display will show "ULOAd" as below.



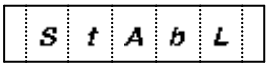
3. Press the ON/OFF key.
4. The display will show "StAbL" as below.



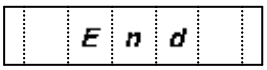
5. Zero adjustment is finished, then "StAbL" will be disappeared.
   (If this scale exceed the zero range, the display will show "HHHHH" and then go to step 1.)
6. The display will show "LOAd" as below.



7. Load the full weight on the platter.
8. Press the ON/OFF key.
9. The display shows "StAbL" as below.



10. The span calibration is finished and "StAbL" will be disappeared.
    (If the span value exceed the span range, the display will show "LLLLL" or "HHHHH".
    And then go to step 1.)
11. The display will show "End" as below.

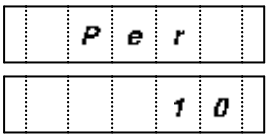


12. "End" will be disappeared.
13. Go to section D. HOW TO RETURN TO NORMAL MODE.

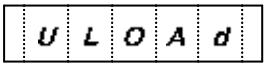
NOTE : If you want to stop calibrations, press the Zero key.
Then you can go to section D. HOW TO RETURN TO NORMAL MODE.

C.2. PERCENT CALIBRATION

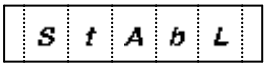
1. Press the HOLD/UNIT key.
2. The display shows "Per" and then the display shows "10" as below.



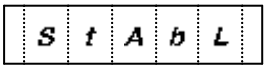
3. Type the Percent value. (Percent value should be bigger than 10)
   - Press the HOLD/UNIT key, then first digit can be increased from 0 to 9.
   - Press the TARE key, then the first digit move to second digit and first digit becomes 0, it can be increased by pressing HOLD/UNIT key.
   - Press the HOLD/UNIT key, until the display shows first digit that you wish to take.
4. Press the ZERO key, then the display shows "ULOAd" as below.



5. Press the ON/OFF key.
6. The display shows "StAbL" as below.



7. Zero adjustment is finished and "StAbL" will be disappeared.
8. The display shows "LOAd".
9. Place the load on the platter.
10. Press the ON/OFF key.
11. The display shows "StAbL" as below.



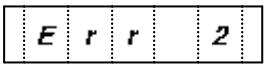
12. Span calibration is finished, and "StAbL" will be disappeared.
    (If the span value exceed the range, the display shows "LLLLL" or "HHHHH".
    And then go to step 1.)
13. The display shows "End".
14. The display will be cleared, remove the weight from the platter.
15. Go to section D.HOW TO RETURN TO NORMAL MODE.

C.3.TO CONFIRM THE SPAN AND TO DO FINE TRIMMING

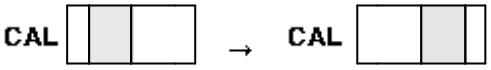
1. Press the Tare key, then the display shows A/D value.
2. Load a weight on the platter.
3. If you want to increase the value, press the HOLD key.
   Then you will see 'HOLd" on the display, press the HOLD key again.
   If you want to decrease the value, press the HOLD and TARE key.
4. Empty the platter.
5. Press the ON/OFF key to finish this calibration.
6. The display will be cleared, and then go to section D. HOW TO RETURN TO NORMAL MODE.

D. HOW TO RETURN TO NORMAL MODE

1. Press the ZERO key.
2. The display shows "Err 2", but actually this error message is not a real error, it prompts only return CAL switch to the normal position.



3. Return CAL switch to the normal position (initial position).



4. This scale checks the display, and go to normal mode to weigh an item.

CHAPTER-III
THE PART REPLACEMENTS

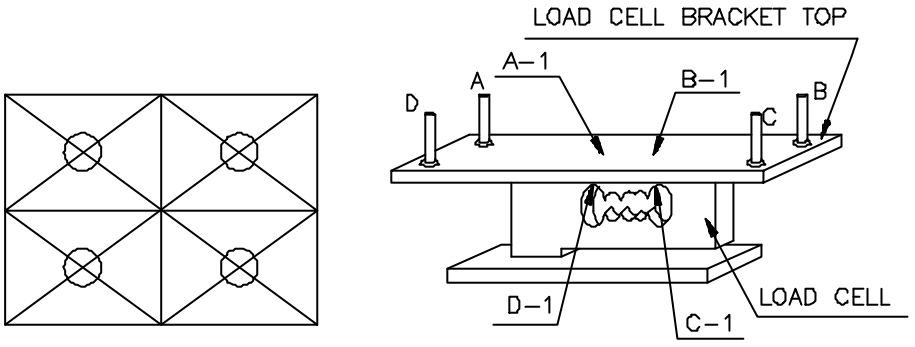
A. REPLACEMENT OF THE LOAD CELL

A.1 REPLACEMENT OF THE LOAD CELL

A.1.1 Remove the platter and disassemble the upper case.
A.1.2 Remove the platform on the load cell with a hex wrench.
A.1.3 Disconnect a connector wire of the load cell from the P.C.B.
A.1.4 Remove the load cell from the body.
A.1.5 Replace the load cell by a new one.
A.1.6 Connect a connector wire of the load cell to the P.C.B.
A.1.7 Place the platform on the load cell.
NOTE : After replacement of the load cell, you must do the calibration again.

A.2 CORRECTION OF THE ECCENTRICITY

A.2.1 Set the calibration mode (Refer to Section A. in chapter II.)
A.2.2 Rezero the display by pressing the "ZERO" key, if it is needed.
A.2.3 Place a third of the full weight on the platter by turns as shown in below.



A.2.4 Compare to four values which is output from load cell.
Maximum value is regarded as a base and grind the point in load cell where shows less than other value.
And check each point is within ±1 count tolerance with 1/3 of full load.

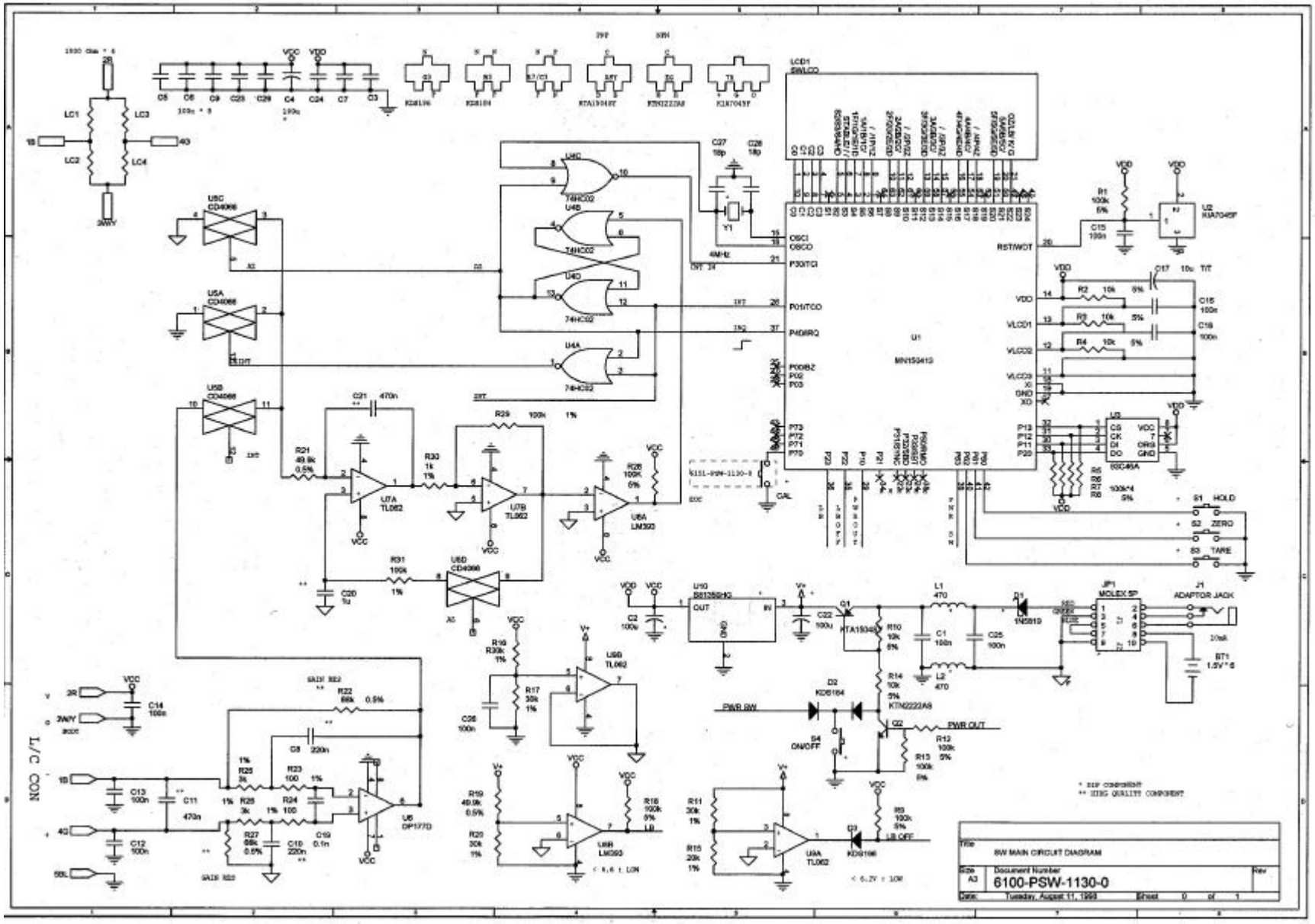
A.3 THE SPAN CALIBRATION

Refer to the SPAN CALIBRATION.

CHAPTER-IV
THE SCHEMATICS AND THE DIAGRAMS

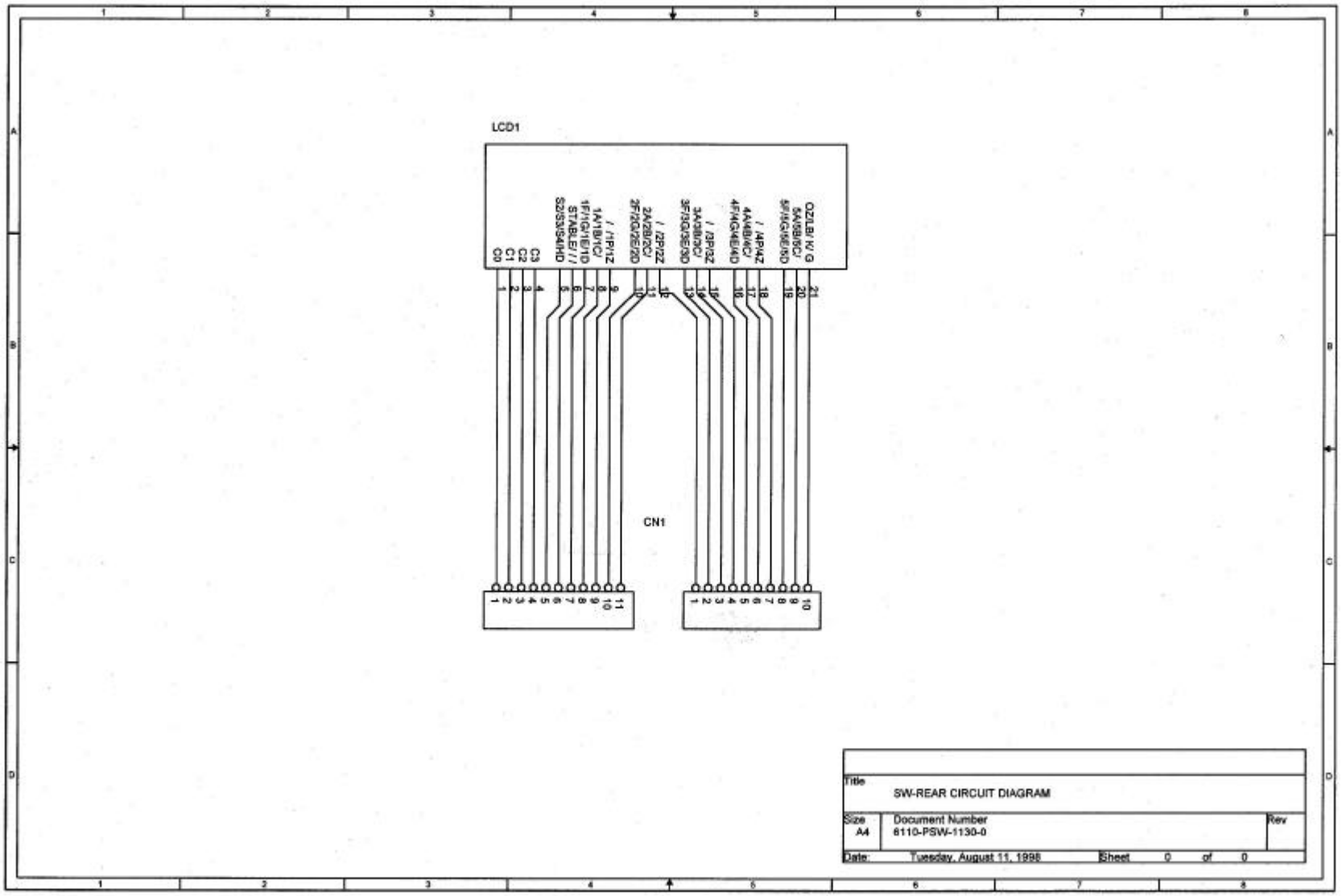
A. MAIN CIRCUIT DIAGRAM

REV : 00


LCD1
SWLCD
MN153413
U1
OSCI
OSCO
RST/WDT
P30/TCI
P01/TCO
P00/IRQ
P00/BZ
P02
P03
P73
P72
P71
P70
P13
P12
P11
P10
VDD
VLCD1
VLCD2
VLCD3
XI
GND
XO
U4C
74HC02
U4D
74HC02
U4B
74HC02
U4A
74HC02
U5C
CD4066
U5A
CD4066
U5B
CD4066
U5D
CD4066
U7A
TL062
U7B
TL062
U8A
LM393
U8B
TL062
U8C
LM393
U8D
TL062
U9
U10
Y1
4MHz
C27
18p
C28
18p
C17
10u T/T
C15
100n
C16
100n
R1
100k
5%
U2
KIA7045F
R2
10k
5%
R3
10k
5%
R4
10k
5%
U3
93C46A
R5
R6
R7
R8
100k*4
5%
S1 HOLD
S2 ZERO
S3 TARE
C21
470n
R29
100k
1%
R21
49.9k
0.5%
R30
1k
1%
R28
100k
5%
R31
100k
1%
C20
1u
R19
49.9k
0.5%
R20
30k
1%
R16
100k
5%
LB
R17
30k
1%
C26
100n
R11
30k
1%
R15
20k
1%
R9
100k
5%
LB OFF
D3
KDS196
< 6.2V : LOW
C2
100u
C22
100u
L1
470
L2
470
C1
100n
C25
100n
D1
1N5819
Q1
KTA1504S
R10
10k
5%
R14
10k
5%
D2
KDS184
PWR SW
S4
ON/OFF
Q2
KTN2222AS
PWR OUT
R12
100k
5%
R13
100k
5%
JP1
MOLEX 5P
J1
ADAPTOR JACK
10mA
BT1
1.5V*6
C14
100n
C13
100n
C11
470n
C12
100n
R25
3k
R23
100
R24
100
R27
68k
0.5%
C10
220n
C19
0.1n
C8
220n
R22
68k
0.5%
U6
OP177G
GAIN RES
C/C CON
* : 0.5% COMPONENT
** : HIGH QUALITY COMPONENT
Title
6W MAIN CIRCUIT DIAGRAM
Size
A3
Document Number
6100-PSW-1130-0
Rev
Date:
Tuesday, August 11, 1998
Sheet
0
of
1

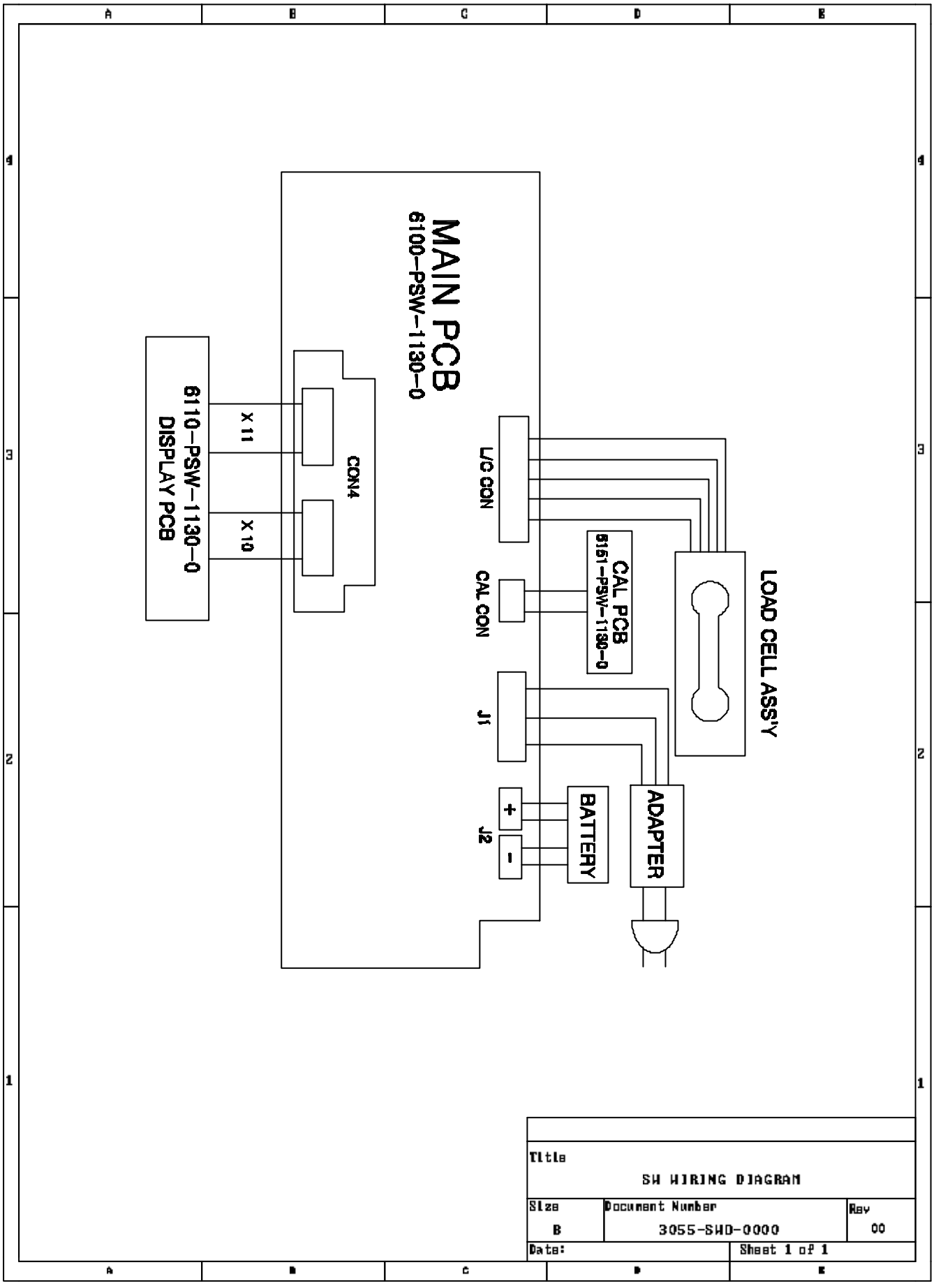
B. REAR CIRCUIT DIAGRAM

REV : 00


LCD1
C0
C1
C2
C3
S2/S3/S4/HD
1F/1G/1E/1D
1A/1B/1C/
/ /1P/1Z
2A/2B/2C/
2F/2G/2E/2D
/ /2P/2Z
3A/3B/3C/
3F/3G/3E/3D
/ /3P/3Z
4A/4B/4C/
4F/4G/4E/4D
/ /4P/4Z
5A/5B/5C/
5F/5G/5E/5D
OZ/LB/ K/ G
CN1
Title
SW-REAR CIRCUIT DIAGRAM
Size
A4
Document Number
6110-PSW-1130-0
Rev
Date:
Tuesday, August 11, 1998
Sheet
0
of
0

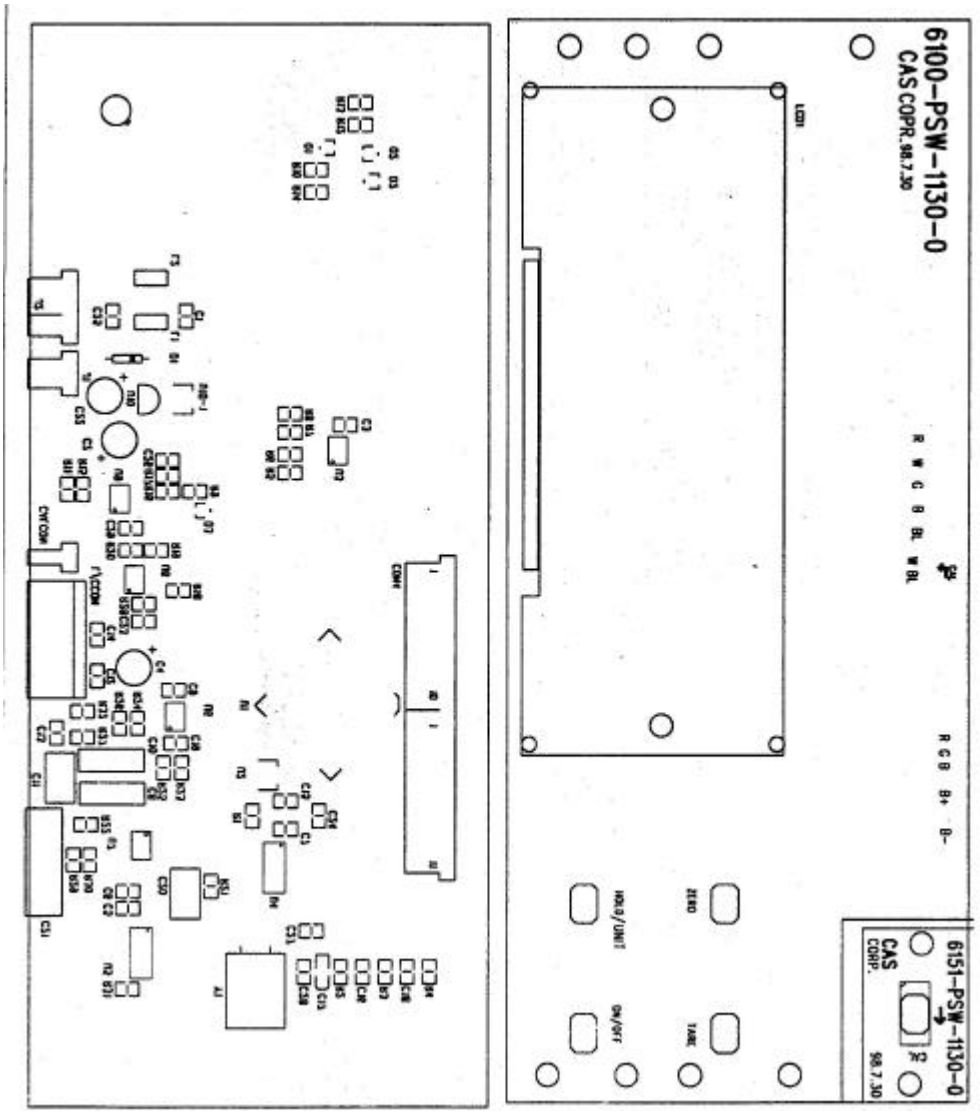
C. WIRING DIAGRAM

REV:00

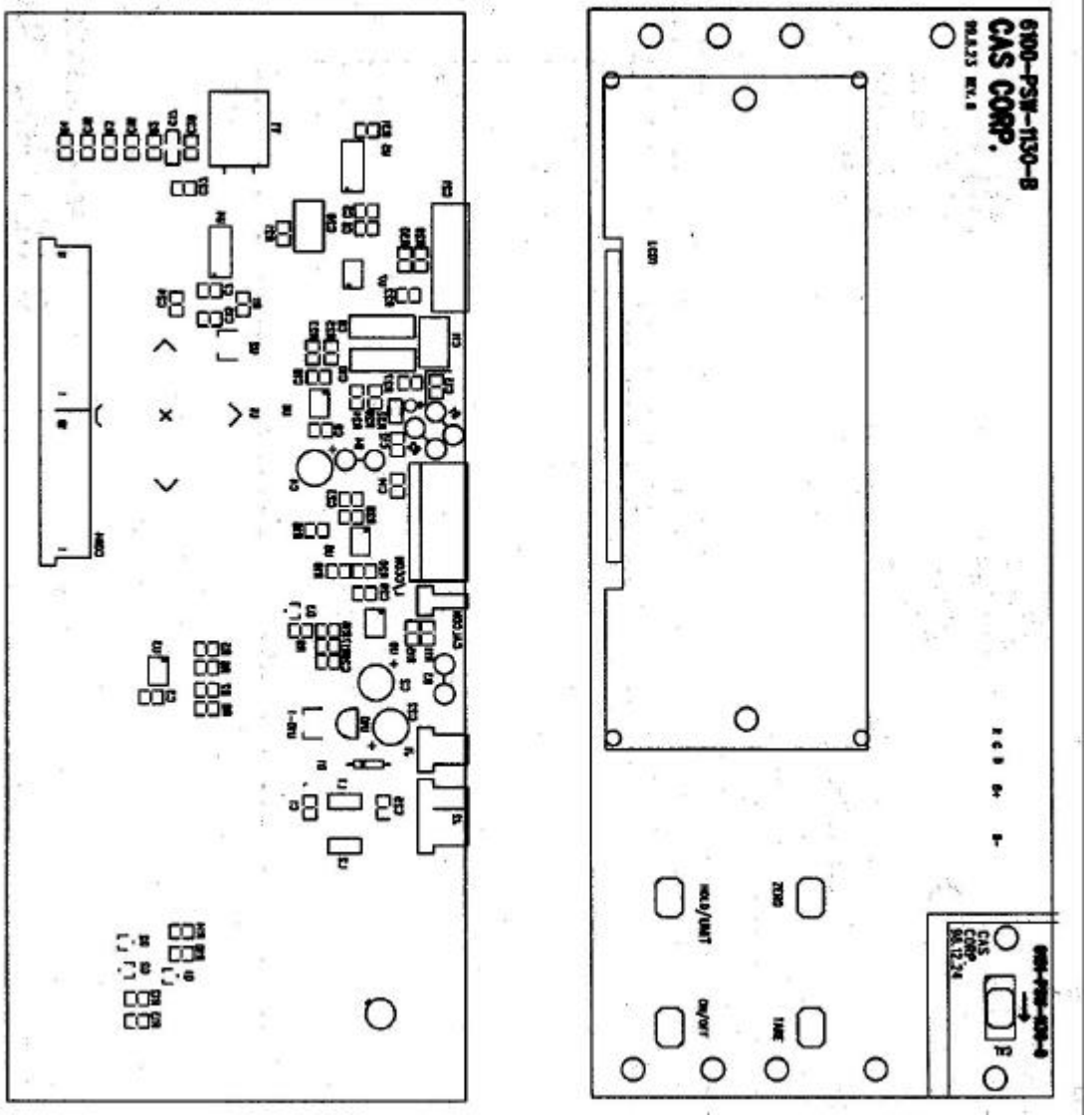

MAIN PCB
6100-PSW-1130-0
6110-PSW-1130-0
DISPLAY PCB
X11
X10
CON4
L/C CON
CAL CON
CAL PCB
6151-PSW-1130-0
J1
J2
+
-
BATTERY
ADAPTER
LOAD CELL ASS'Y
Title
SW WIRING DIAGRAM
Size
B
Document Number
3055-SWD-0000
Rev
00
Date:
Sheet 1 of 1

D. PARTS LOCATION

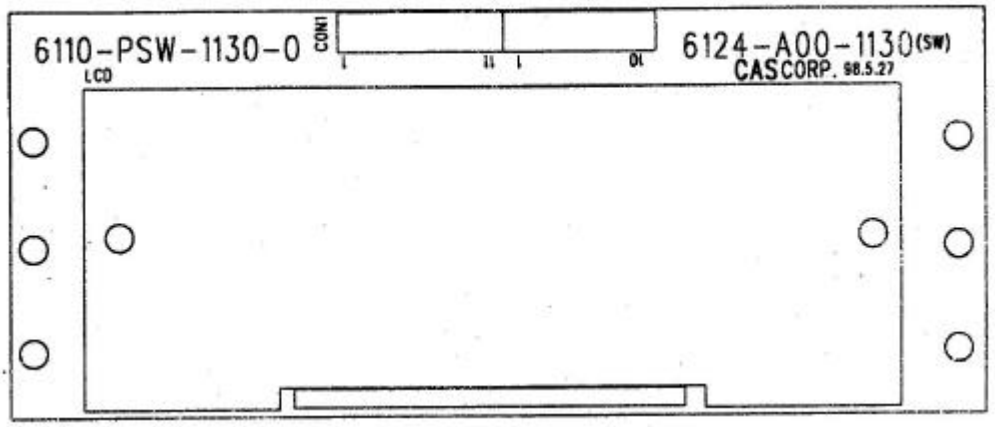
REV : 00



Title: SW-1 MAIN PCB PARTS LOCATION		
Size: B	Document Number: 3050-SW0-0000	Rev: 00
Date:		Sheet 1 of 1



Title: SW-1 MAIN PCB PARTS LOCATION		
Size: B	Document Number: 3050-SW0-0000	Rev: 01
Date:	Sheet 1 of 1	



Title: SW-1 DISPLAY PCB PARTS LOCATION		
Size: B	Document Number: 3050-SW0-0010	Rev: 00
Date:	Sheet 1 of 1	

CHAPTER-V
THE ERROR MESSAGES

A. THE ERROR MESSAGES

These error messages will guide you to do quick troubleshooting.

►"Err 1"

This is an error of the initial zero range. Please set the platter empty.

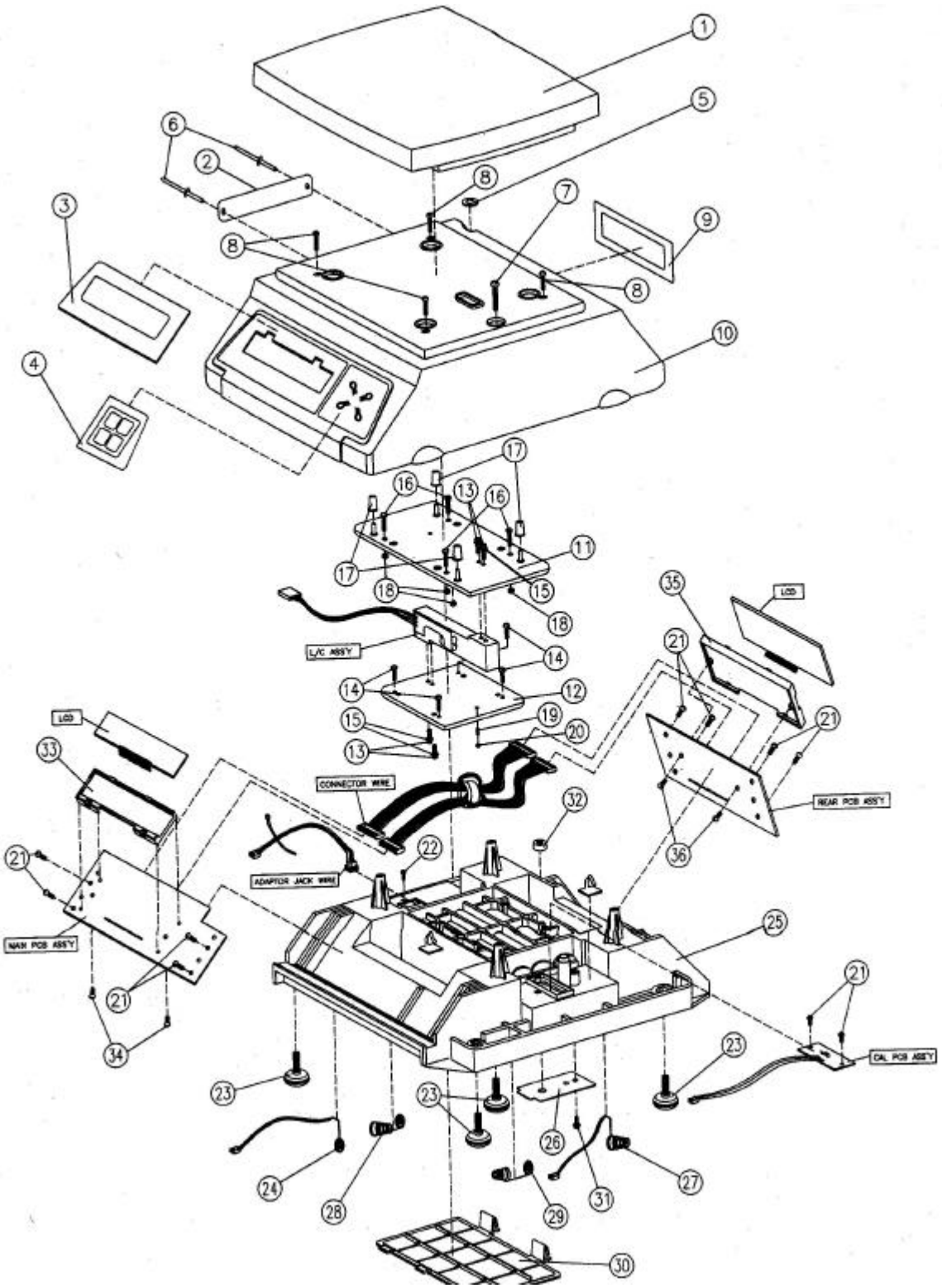
►" O-L "

This is an over load. Refer to SPECIFICATIONS.

CHAPTER-VI
FULL PARTS LIST

A. EXPLODED VIEW (MECHANICAL PART)

REV : 00



B. FULL PARTS LIST

ELECTRONIC PART REV: 00

NO	MAT'L CODE	PARTS NAME	SPECIFICATION	UNIT	Q'TY	LOCATION
	MAIN PCB ASS'Y	(140SW1EMAPUN0101)				
01	6100-PSW-1130-0	MAIN P.C.B	6100-PSW-1130-0	EA	1	
02	6200-1S0-0813-0	I.C(CPU)	MN150B13-QFP	EA	1	U1
03	6236-1S0-0002-0	I.C(CMOS)	74HC02	EA	1	U4
04	6236-1S0-4066-0	I.C(CMOS)	UPD4066BG	EA	1	U5
05	6240-1S0-0177-0	I.C(OP AMP)	OP177GS	EA	1	U6
06	6240-1S0-0062-0	I.C(OP AMP)	TL062	EA	1	U8
07	6241-1S0-0383-0	I.C(LINEAR)	LM383D(GL383D)	EA	1	U8
08	6205-1S0-8346-A	I.C(EEPROM)	CAT83C46S	EA	1	U3
09	6210-1S0-7045-0	I.C(RESET)	KIA7045F	EA	1	U2
10	6281-100-2222-0	CHIP-TRANSISTOR	2N2222AS	EA	2	Q2
11	6281-100-1504-0	CHIP-TRANSISTOR	KTA1504SY	EA	1	Q1
12	6220-100-1350-0	I.C(REGULATOR)	S-81350 HG	EA	1	U10
13	6284-1CP-0184-0	CHIP-DIODE	KDS184	EA	1	D2
14	6284-1CP-0186-0	CHIP-DIODE	KDS186	EA	1	D3
15	6283-1SK-5818-0	SCHOTTKY-DIODE	1N5818	EA	1	D1
16	6712-CHP-0104-0	CHIP-CONDENSER	CL21F104MBNC	EA	17	C1,3,5,6,7,8,12 13,14,15,16,18, 23,24,25,26,28
17	6712-CHP-0180-0	CHIP-CONDENSER	18PF/50V(CL21C180J)	EA	2	C27,28
18	6712-CHP-0101-0	CHIP-CONDENSER	CL21F101MBNC	EA	1	C19
19	6702-CAP-0106-0	CHIP-TANTAL	10MCS106MBTER	EA	1	C17
20	6720-CAP-0105-A	POLYESTER-CON	1uF/63V J급BOX-TY	EA	1	C20
21	6720-CAP-0474-A	POLYESTER-CON	0.47uF/63V J급BOX-TY	EA	1	C11
22	6722-CAP-0474-A	P.P-COND'(MKP-4)	0.47uF/160DVC/5%/15㎜	EA	1	C21
23	6720-CAP-0224-A	POLYESTER-CON	0.22uF/63V J급BOX	EA	2	C8,C10
24	6704-C16-0100-0	ELECTRIC-CON	100uF/16V	EA	3	C2,4,22
25	6527-ROD-0101-0	CHIP-RESISTOR 1/10W	RR1220P-101D(0.5%)	EA	2	R23,24
26	6527-ROD-0102-0	CHIP-RESISTOR 1/10W	RR1220P-102D(0.5%)	EA	1	R30
27	6527-ROD-0103-0	CHIP-RESISTOR 1/10W	RR1220P-103D(0.5%)	EA	5	R2,3,4,10,14
28	6527-ROD-0203-0	CHIP-RESISTOR 1/10W	RR1220P-203D(0.5%)	EA	1	R15
29	6527-ROD-0302-0	CHIP-RESISTOR 1/10W	RR1220P-302D(0.5%)	EA	2	R25,26
30	6527-ROD-0303-0	CHIP-RESISTOR 1/10W	RR1220P-303D(0.5%)	EA	4	R11,16,17,20
31	6527-ROD-4992-0	CHIP-RESISTOR 1/10W	RR1220P-4992D(0.5%)	EA	2	R18,21
32	6527-ROD-0104-0	CHIP-RESISTOR 1/10W	RR1220P-104D(0.5%)	EA	12	R1,5,6,7,8,9,12 13,18,28,29,31
33	6527-ROD-0683-0	CHIP-RESISTOR 1/10W	RR1220P-683D(0.5%)	EA	2	R22,27
34	7010-ZNO-0004-0	CRYSTAL	4MHz	EA	1	Y1
35	6670-T00-0470-0	INDUCTANCE	470uH	EA	2	L1,2
36	7600-STA-1105-B	TACT SWICH	KPT-1105B	EA	4	S/W
37	7212-D00-5055-0	LCD	JYTS05-055	EA	1	LCD1
38	7808-CAL-0002-0	CONNECTOR(WAFER)	LAL0640-02	EA	3	J2,J3
39	7808-CAL-0003-0	CONNECTOR(WAFER)	LAL0640-03	EA	1	J1
40	7808-CAL-0010-0	CONNECTOR(WAFER)	LAL0640-10	EA	1	J5
41	7808-CAL-0011-0	CONNECTOR(WAFER)	LAL0640-11	EA	1	
42	6240-1S0-0040-0	I.C(OP AMP)	UPC4072G2	EA	1	U7

NO	MAT'L CODE	PARTS NAME	SPECIFICATION	UNIT	Q'TY	LOCATION
43	7B0B-CGD-0005-0	CONNECTOR(WAFER)	1143-05(GOLD)	EA	1	J4
	REAR DISPLAY PCB ASS'Y (140SW1ERDPUN0101)					
01	6110-PSW-1130-0	DISPLAY P.C.B	6110-PSW-1130-0	EA	1	
02	7212-D00-5055-0	LCD	JYTS05-055	EA	1	LCD
03	7B50-W00-2032-0	FLAT CABLE-CON	10P*10P*325mm	EA	1	CON1
04	7B50-W00-2232-0	FLAT CABLE-CON	11P*11P*325mm	EA	1	
	CAL PCB ASS'Y (140SW1ECAPUN0101)					
01	6151-PSW-1130-0	CAL PCB	6151-PSW-1130-0			
02	7600-STA-1B02-0	TACT S/W	1180	EA	1	CAL(PD-1공용)
03	7B40-W00-0212-B	CONNECTOR WIRE	2P*120m/m	EA	1	
	BODY ASS'Y (140SW1EBODUN0101)					
01	7B40-W00-0213-C	BATTERY WIRE(-)	2P*135m/m	EA	1	
02	7B40-W00-0216-A	BATTERY WIRE(+)	2P*165m/m	EA	1	
03	7B40-W00-0323-0	CONNECTOR WIRE	3P*230-303	EA	1	BP공용
03	7642-S00-0060-0	METAL CLAMP	SN	EA	2	
	C/T BOX ASS'Y (140SW1ECTBUN0101)					
01	7520-P00-0150-0	Mn BATTERY	R20 1.5V D SIZE	EA	6	
02	7510-P00-1122-0	ADAPTOR	110V/220V-8V 300mA	EA	1	BP공용,OPTION
	LOAD CELL ASS'Y (LLASW0103G000000)		SW-10L	EA	1	

ELECTRONIC PART REV:01

NO	MAT'L CODE	PARTS NAME	SPECIFICATION	UNIT	Q'TY	LOCATION
	MAIN PCB ASS'Y	(140SW1EMAPUN0101)				
01	6100-PSW-1130-B	MAIN P.C.B	6100-PSW-1130-B	EA	1	
02	6200-1S0-0813-0	I.C(CPU)	MN150B13-QFP	EA	1	U1
03	6236-1S0-0002-0	I.C(CMOS)	74HC02	EA	1	U4
04	6236-1S0-4066-0	I.C(CMOS)	UPD4066BG	EA	1	U5
05	6240-1S0-0177-0	I.C(OP AMP)	OP177GS	EA	1	U6
06	6240-1S0-0062-0	I.C(OP AMP)	TL062	EA	1	U8
07	6241-1S0-0383-0	I.C(LINEAR)	LM383D(GL383D)	EA	1	U8
08	6205-1S0-8346-A	I.C(EEPROM)	CAT83C46S	EA	1	U3
09	6210-1S0-7045-0	I.C(RESET)	KIA7045F	EA	1	U2
10	6281-100-2222-0	CHIP-TRANSISTOR	2N2222AS	EA	2	Q2
11	6281-100-1504-0	CHIP-TRANSISTOR	KTA1504SY	EA	1	Q1
12	6220-100-1350-0	I.C(REGULATOR)	S-81350 HG	EA	1	U10
13	6284-1CP-0184-0	CHIP-DIODE	KDS184	EA	1	D2
14	6284-1CP-0186-0	CHIP-DIODE	KDS186	EA	1	D3
15	6283-1SK-5818-0	SCHOTTKY-DIODE	1N5818	EA	1	D1
16	6712-CHP-0104-0	CHIP-CONDENSER	CL21F104MBNC	EA	17	C1,3,5,6,7,8,12 13,14,15,16,18, 23,24,25,26,28
17	6712-CHP-0180-0	CHIP-CONDENSER	18PF/50V(CL21C180J)	EA	2	C27,28
18	6712-CHP-0101-0	CHIP-CONDENSER	CL21F101MBNC	EA	1	C19
19	6702-CAP-0106-0	CHIP-TANTAL	10MCS106MBTER	EA	1	C17
20	6720-CAP-0105-A	POLYESTER-CON	1uF/63V J급BOX-TY	EA	1	C20
21	6720-CAP-0474-A	POLYESTER-CON	0.47uF/63V J급BOX-TY	EA	1	C11
22	6722-CAP-0474-A	P.P-COND'(MKP-4)	0.47uF/160DVC/5%/15mm	EA	1	C21
23	6720-CAP-0224-A	POLYESTER-CON	0.22uF/63V J급BOX	EA	2	C9,C10
24	6704-C16-0100-0	ELECTRIC-CON	100uF/16V	EA	3	C2,4,22
25	6527-ROD-0101-0	CHIP-RESISTOR 1/10W	RR1220P-101D(0.5%)	EA	2	R23,24
26	6527-ROD-0102-0	CHIP-RESISTOR 1/10W	RR1220P-102D(0.5%)	EA	1	R30
27	6527-ROD-0103-0	CHIP-RESISTOR 1/10W	RR1220P-103D(0.5%)	EA	5	R2,3,4,10,14
28	6527-ROD-0203-0	CHIP-RESISTOR 1/10W	RR1220P-203D(0.5%)	EA	1	R15
29	6527-ROD-0302-0	CHIP-RESISTOR 1/10W	RR1220P-302D(0.5%)	EA	2	R25,26
30	6527-ROD-0303-0	CHIP-RESISTOR 1/10W	RR1220P-303D(0.5%)	EA	4	R11,16,17,20
31	6527-ROD-4992-0	CHIP-RESISTOR 1/10W	RR1220P-4992D(0.5%)	EA	2	R19,21
32	6527-ROD-0104-0	CHIP-RESISTOR 1/10W	RR1220P-104D(0.5%)	EA	12	R1,5,6,7,8,9,12 13,18,28,29,31
33	6527-ROD-0683-0	CHIP-RESISTOR 1/10W	RR1220P-683D(0.5%)	EA	2	R22,27
34	7010-ZNO-0004-0	CRYSTAL	4MHz	EA	1	Y1
35	6670-T00-0470-0	INDUCTANCE	470uH	EA	2	L1,2
36	7600-STA-1105-B	TACT SWICH	KPT-1105B	EA	4	S/W
37	7212-D00-5055-0	LCD	JYTS05-055	EA	1	LCD1
38	7808-CAL-0002-0	CONNECTOR(WAFER)	LAL0640-02	EA	3	J2,J3
39	7808-CAL-0003-0	CONNECTOR(WAFER)	LAL0640-03	EA	1	J1
40	7808-CAL-0010-0	CONNECTOR(WAFER)	LAL0640-10	EA	1	J5
41	7808-CAL-0011-0	CONNECTOR(WAFER)	LAL0640-11	EA	1	
42	6240-1S0-0040-0	I.C(OP AMP)	UPC4072G2	EA	1	U7

NO	MAT'L CODE	PARTS NAME	SPECIFICATION	UNIT	Q'TY	LOCATION
43	7B0B-CGD-0005-0	CONNECTOR(WAFER)	1143-05(GOLD)	EA	1	J4
44	6B00-F00-3565-A	EMI BEAD FILTER	BFD-3565 R2	EA	4	B1,2,3,4
	REAR DISPLAY PCB ASS'Y (140SW1ERDPUN0101)					
01	6110-PSW-1130-0	DISPLAY P.C.B	6110-PSW-1130-0	EA	1	
02	7212-D00-5055-0	LCD	JYTS05-055	EA	1	LCD
03	7B50-W00-2035-0	FLAT CABLE-CON	10P*10P*350mm	EA	1	CON1
04	7B50-W00-2235-0	FLAT CABLE-CON	11P*11P*350mm	EA	1	
	CAL PCB ASS'Y (140SW1ECAPUN0101)					
01	6151-PSW-1130-0	CAL PCB	6151-PSW-1130-0			
02	7600-STA-1B02-0	TACT S/W	11B02	EA	1	CAL(PD-1공용)
03	7B40-W00-0214-B	CONNECTOR WIRE	2P*140m/m	EA	1	
	BODY ASS'Y (140SW1EBODUN0101)					
01	7B40-W00-0213-C	BATTERY WIRE(-)	2P*135m/m	EA	1	
02	7B40-W00-0216-A	BATTERY WIRE(+)	2P*165m/m	EA	1	
03	7B40-W00-0323-0	CONNECTOR WIRE	3P*230-303	EA	1	BP공용
03	7642-S00-0060-0	METAL CLAMP	SN	EA	2	
	C/T BOX ASS'Y (140SW1ECTBUN0101)					
01	7520-P00-0150-0	Mn BATTERY	R20 1.5V D SIZE	EA	6	
02	7510-P00-1122-0	ADAPTOR	110V/220V-8V 300mA	EA	1	BP공용,OPTION
	LOAD CELL ASS'Y (LLASW0103G000000)		SW-10L	EA	1	

NO	MAT'L NEW CODE	PART NAME	SPECIFICATION	UNIT	Q'TY	LOCATION
	ASS'Y UPPER COVER (140SW1MUPCUN0101)					
1	2000-A00-0017-0	TRAY	ABS 750 241*182*22*2.5t	EA	1	
2	1B10-A00-0016-0	SPEC PLATE	AL 0.3t*107.6*27.6	EA	1	
3	2050-A00-04B7-0	DISPLAY FILTER(FRONT)	PC 1t*138.4*57.8	EA	1	
4	2200-A00-0102-0	KEY PAD	LEXAN 0.2t*62.25*58.07	EA	1	
5	2010-A00-000B-0	W/G COVER	LEXAN 0.5t*ϕ24.8	EA	1	
6	1563-A00-030B-0	RIVET	ϕ3.2*8	EA	2	
7	1260-A00-000B-0	SEALING BOLT	M4*40-(NI)	EA	1	
8	1512-A00-0420-0	TAPPING SCREW (PH)-2	4*20	EA	4	
9	2050-A00-0563-0	DISPLAY COVER (REAR)	PC 1t*124.7*53.7(GRAY)	EA	1	
	2050-A00-04B8-0	DISPLAY FILTER (REAR)	PC 1t*124.7*53.7	EA	1	OPTION
10	2000-A00-0011-0	UPPER COVER	ABS 750 264.7*286.75*3t	EA	1	
	ASS'Y L/C BRACKET (140SW1MLCBUN0101)					
11	1030-A00-0040-0	L/C BRACKET TOP	SPC 3.2t*160*110 (Zn)	EA	1	5,10kg
	1050-A00-0021-0	L/C BRACKET TOP	AL 4t*160*110	EA	1	2kg
	1030-A00-00B0-0	L/C BRACKET TOP	SPC 4t*160*110 (Zn)	EA	1	20kg
12	1030-A00-003B-0	L/C BRACKET LOWER	SPC 4t*120*100 (Zn)	EA	1	
13	1530-MSU-0512-0	WRENCH BOLT	M5*12-SUS	EA	4	
14	1512-A00-0412-0	TAPPING SCREW (PH)-2	4*12	EA	4	
15	1551-MSU-0500-0	WASHER (SPR)	ϕ5-SUS	EA	4	
16	1261-A00-0005-0	LIMIT BOLT	M5*33.8(Zn)	EA	4	20kg ,10kg:2
	1261-A00-0006-0	LIMIT BOLT	M5*34.8 (Zn)	EA	4	2,5kg,10kg:2
17	2600-A00-0017-0	TRAY RUBBER-A	NBR ϕ17.4*21-BLACK	EA	4	20kg
	2600-A00-0051-0	TRAY RUBBER-B	NBR ϕ17.4*21-GRAY	EA	4	2,5,10kg
18	1540-A00-0500-0	NUT (HEX)	M5	EA	4	
19	1532-A00-0412-0	WRENCH BOLT (ST)	M4*12	EA	1	
20	1540-MSU-0400-0	NUT (HEX)	M4-SUS	EA	1	
	ASS'Y BODY (140SW1MBODUN0101)					
21	1512-A00-030B-0	TAPPING SCREW (PH)-2	3*8	EA	6	
	1512-A00-030B-0	TAPPING SCREW (PH)-2	3*8	EA	10	OPTION
22	1512-A00-0306-0	TAPPING SCREW (PH)-2	3*6	EA	1	
23	2610-A00-0010-0	FOOT	PVC 40° ,ϕ40*42	EA	4	
24	1580-A00-0007-0	BATTERY SPRING C	SWP ϕ0.8*ϕ16*37*11(NI)	EA	1	
25	2000-A00-0016-0	BODY	ABS 750 240.4*268.7*87.5*3t	EA	1	
26	1000-A00-007B-0	SEALING PLATE	SUS304 1t, 28*68.8(HAIR LINE)	EA	1	
27	1580-A00-0024-0	BATTERY SPRING D	SWP ϕ0.8*ϕ16*37*26(NI)	EA	1	
28	1580-A00-0014-0	BATTERY SPRING A	SUS304, ϕ0.8*50*18	EA	1	
29	1580-A00-0006-0	BATTERY SPRING B	SUS304,ϕ0.8*50*18	EA	1	
30	2000-A00-0067-0	BATTERY COVER	ABS 750 137.6*107.2*14*2t	EA	1	
31	1503-A00-040B-0	MACHINE SCREW (WPH)	M4*8	EA	1	

NO	MAT'L NEW CODE	PART NAME	SPECIFICATION	UNIT	Q'TY	LOCATION
32	2022-A00-0004-0	W/L GAUGE	⌀15*B-BLACK	EA	1	
	ASS'Y MAIN PCB (140SW1MMAPUN0101)					
33	2000-A00-0066-0	LCD BRACKET	ABS 2.5t*114.8*44.8*8.5(BLACK)	EA	1	
34	1512-A00-0306-0	TAPPING SCREW (PH)-2	3*6	EA	2	
	ASS'Y REAR PCB (140SW1MRDPUN0101)					
35	2000-A00-0066-0	LCD BRACKET	ABS 2.5t*114.8*44.8*8.5(BLACK)	EA	1	OPTION
36	1512-A00-0306-0	TAPPING SCREW (PH)-2	3*6	EA	2	OPTION
	ASS'Y OTHER (140SW1METCUN0101)					
1	1250-A00-0002-0	INSERT-A	BSBM,M4*12*⌀8	EA	1	
2	1250-A00-0008-0	INSERT-B	BSBM,M6*22*⌀10	EA	4	
3	1520-MSU-0635-0	HEXAGON BOLT	M6*35-SUS	EA	4	
	ASS'Y C/T BOX (140SW1MCTBUN0101)					
1	2014-A00-0004-0	CAP	P.P ⌀36*16.5	EA	4	
2	B106-AC3-0001-0	C/T BOX-4	615*375*435	EA	0.25	
3	B103-AC1-0004-0	C/T BOX-1	356*286*200	EA	1	
4	B203-AS0-0007-0	STYRDFOAM BOX (L)	352.5*181*146	EA	1	
5	B203-AS0-0008-0	STYRDFOAM BOX (R)	352.5*181*146	EA	1	
6	B002-A00-0106-0	MANUAL	SW-1	EA	1	
7	B304-A00-0005-0	SET POLY BAG	450*580*0.05t	EA	1	
8	B303-A00-0002-0	TRAY POLY BAG	320*320*0.05t	EA	1	
9	B301-A00-0003-0	MANUAL POLY BAG	170*250*0.05t	EA	1	
10	B400-A00-0040-0	SILICAGEL	10g	EA	2	

APPENDIX
DEVICE SPECIFICATION