

DB-II(LCD) SERVICE MANUAL

(DBB)

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1. Introductions

1.1. The Preface

Thank you for purchasing of our CAS 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 care of the DB-II(LCD)

Please keep it handy for the future references.

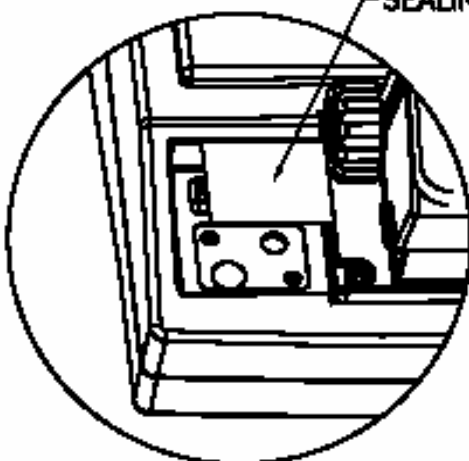
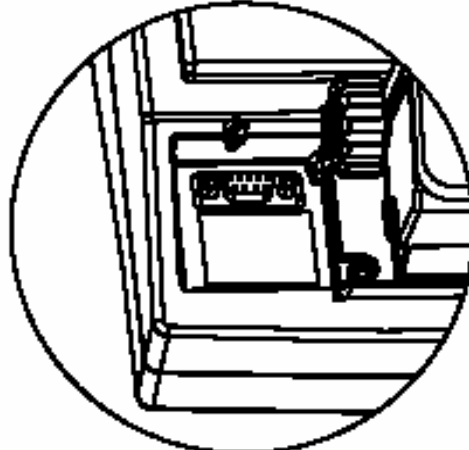


1.2. Precautions

1. Place the scale on a flat and stable surface.
2. Power on 30 minutes before operations.
3. Keep the scale away from strong EMI noises may cause incorrect weight readings.
4. This scale must be installed in a dry and liquid free environment.
5. Do not subject the scale to sudden temperature changes.
6. Do not subject the platter to sudden shocks.
7. 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.

1.3. Specifications

Model	DB-II(LCD) - 6	DB-II(LCD) -15	DB-II(LCD) ? 30	DB-II(LCD) - 60	DB-II(LCD) ? 150	DB-II(LCD) ? 300
Capacity	6 kg/ 0.002 kg	15 kg/ 0.005 kg	30 kg / 0.01 kg	60 kg/ 0.02 kg	150 kg / 0.05 kg	300 kg / 0.1 kg
Internal Resolution	1/30,000	1/30,000	1/ 30,000	1/30,000	1 / 30,000	1 / 30,000
External Resolution	1/3,000	1/3,000	1 / 3,000	1/3,000	1 / 3,000	1 / 3,000
Load Cell	BCS-10	BCS-20	BCS-50	OPT-60	OPT-150	BCD-500
Tare Subtraction	-5.998kg	-14.995kg	-29.90kg	-59.98kg	-149.95kg	-299.9kg
Display	LCD 6 digit					
Display Indicator	STABLE, ZERO, HOLD, NET, HI/OK/LO, %, PCS, SUM, kg Lack of Unit					
Interface	RS ? 232C (Printer)					
Power	DC Adaptor 9V & PB Rechargeable Battery					
Product Size	280 × 450 × 570[mm]			420 × 635 × 765 [mm]		500×725 ×765[mm]
Platter Size	280×280 × 35[mm]			420 × 510 × 110 [mm]		500×600 ×120[mm]
Operating Temperature	- 10 °C ~ + 40 °C					
Product Weight	5.3kg			14kg		23kg
Option	Back light					

1.4. Sealing Method

REVISIONS		2	3				
MODEL NO.	PART NO.	REV	BY	CONTENT	DRAWN	CHECKED	APPROVED
A	①					A	
B						B	
C	②					C	
D						D	
NO		PARTS NAME		SPECIFICATION		QTY	REMARK
TOLERANCES UNLESS OTHERWISE SPECIFIED		NAME OR TITLE				 CAS CORPORATION 678 KANGROO RD KONGSUK-MYUN YANGU-DO KANGWON-DO, KOREA	
ANGULAR ± N/A		SEALING METHOD					
E		FIRST USED IN ASSEMBLY		BENCH SCALE		MATERIAL	N/A
DEORMAL ± N/A		FIRST MADE FOR		DB-II		END FINISH N/A	
		CONTRACT OR CUSTOMER NO		WORLD WIDE		DIMENSIONS ARE IN MILLIMETER	
DRAWN		CHECKED	CHECKED	APPROVED	SCALE	DRAWING PART NO.	REV
					N/S	3005-DB2-0001	00
.20		.20		.20		.20	
1		2					
CAS FORM A4 (210mmx297mm)							

2. Calibration Mode

To go to calibration mode, press the [POWER] key while pressing the calibration switch. The display shows “Version No.” three times, and then “C-0”.

- (1) Mode selection : [MODE] key
- (2) Enter : [SET] key

MODE	Descriptions
C ? 0	You can go to normal mode
C ? 1	Span calibrated A/D value
C ? 2	Key test
C ? 3	Span calibration
C ? 4	Capacity Display and Option Setting
C ? 5	Real A/D value
C ? 6	Averaging A/D value
C ? 7	% calibration (10%~100%)
C ? 9	Gravity constant
C ? 10	Linearity compensation

2.1 How to Go to Normal mode(C ? 0)

- (1) To go to calibration mode, press the [POWER] key while pressing the calibration switch.
The display shows “Version No.” three times, and then “C-0”.
- (2) To go to Normal mode, press the [SET] key.

2.2 How to Confirm Span Calibrated A/D Value(C ? 1)

- (1) To go to calibration mode, press the [POWER] key while pressing the calibration switch.
The display shows “Version No.” three times, and then “C-0”.
- (2) Press the [MODE] key to go to “C ? 1” mode.
- (3) Press the [SET] key, span calibrated A/D value is shown on the display.
- (4) Press the [ZERO] key, “0” is shown on the display.
- (5) Place full capacity on the platter.
And then the number should be displayed as following.
DB-II(LCD) = 30,000
If the number is not correct,
press the PRINT(▼) or HOLD(*, ▲) key to have number up or down.
- (6) Press the [SET] key, “C ? 1” is shown on the display.

2.3 Key Test (C ? 2)

- (1) Press the [MODE] key until the display shows “C ? 2”.
- (2) Press the [SET] key, “K Test” is shown on the display.
- (3) Press any key, key name is shown on the display.
- (4) Press [ZERO] and [TARE] key simultaneously. “KEYEND” is shown on the display.
Press the [MODE] key to finish this mode.

2.4 Span Calibration(C ? 3)

- (1) Press the [MODE] key until the display shows “C ? 3”.
- (2) Press the [SET] key, “UnLOAD” is shown on the display.
(If you want to finish this mode, press the ZERO key)
- (3) Press the [SET] key, “StABLE” and “LOAD” is shown on the display.
(If you want to finish this mode, press the ZERO key)
- (4) Place full capacity on the platter and press the [SET] key.
- (5) Press the [MODE] key.

2.5 Capacity Display and Option Setting(C ? 4)

2.5.1 Save Setting(C?4?1)

B7	B6	B5	B4	B3	B2	B1	B0
Units	Correction Units	External Resolution		Version Setting		TARE Release	TARE
0:kg 1:lb	0:kg 1:lb	00:low 01:high		0:kg/lb/Oz Double Use 1:kg,lb Only		0:TARE 1:TARE, ZERO	0:Single 1:Continuation

**Calibration is prior to User setup in the Unit.*

2.5.2 Capacity Setting(C?4?2)

B7	B6	B5	B4	B3	B2	B1	B0
CAPACITY					INTERVAL		
		kg	Lb	oz			
00000		1	2	40			
00001		2	5	80			
00010		3	6	100			
00011		5	10	160			
00100		6	15	200			
00101		10	20	400			
00110		12	25	400			
00111		15	30	500			
01000		20	50	800			
01001		25	50	800			
01010		30	60	1000			
01011		50	100	1600			
01100		60	150	2000			
01101		100	200	4000			
01110		120	250	4000			
01111		150	300	5000			
10000		200	500	8000			
10001		250	500	8000			
10010		300	600	10000			
10011		500	1000	16000			
10100		600	1500	20000			
10101		1000	2000	40000			
10110		1200	2500	40000			
10111		1500	3000	50000			
11000		2000	5000	80000			
11001		2500	5000	80000			
11010		3000	6000	100000			
11011		5000	10000	160000			
11100		6000	15000	200000			
11101		10000	20000	400000			
11110		12000	25000	400000			
11111		15000	30000	500000			

00 : Single
01 : Dual
10 : Triple

2.5.3 Save Setting(C?4?3)

B7	B6	B5	B4	B3	B2	B1	B0
Counting Function	Hold Function	Percent Function		Tare Function		AutoHold	Initial Zero
0 : Use 1 : Non -Use	0 : Use 1 : Non -Use	0 : Use 1 : Non -Use		00: Half Tare(Dual) 01: Full Tare		0 : Non -Use 1 : Use	0:± 10% 1:± 2%

2.5.4 Save Setting(C?4?6)

B7	B6	B5	B4	B3	B2	B1	B0
Units		Stable Test	Tracking				Zero Point Range
0: dp 1: comma		0: 40 times 1: 20 times	0: ++/-- 1: at a time				0: 0.25d 1: 0.5d

2.6 How to Confirm Real A/D value(C ? 5)

- (1) Press the [MODE] key until the display shows “C ? 5”.
- (2) Press the [SET] key, real A/D value is shown on the display.
- (3) Press the [MODE] key.

2.7 How to Confirm Averaging A/D value(C – 6)

- (1) Press the [MODE] key until the display shows “C ? 6”.
- (2) Press the [SET] key, averaging A/D value is shown on the display.
- (3) Press the [MODE] key.

2.8 % Calibration(C ? 7)

- (1) Press the [MODE] key until the display shows “C ? 7”.
- (2) Press the [SET] key, “Per 10” is shown on the display.
- (3) Press the [HOLD(▲)] or [PRINT(▼)] key to have number up or down. The display shows 10, 20, 30, 40, 50, 60, 70, 80, 90 and 100 every time pressing HOLD or PRINT key. If you want to calibrate DB-II(LCD)-150 with 30kg, select 20. It means that you can calibrate the scale with 20% of full capacity.
- (4) Press the [SET] key, “UnLOAD” is shown on the display.
(If you want to finish this mode, press the ZERO key.)
- (5) Press the [SET] key, “StAbLE” and “LOAD” is shown on the display.
(If you want to finish this mode, press the ZERO key.)
- (6) Place 20% weight of full capacity that you setup on step (3).
Press the [SET] key.
- (7) Press the [MODE] key.

2.9 Gravity Constant(C ? 9)

- (1) Press the [MODE] key until the display shows “C ? 9”.
- (2) Press the [SET] key, the display shows “ G-1 “ and “ 9.7994”.
- (3) You can change gravity constant. Press the [HOLD(▲)] or [PRINT(▼)] key to have number up or down. To enter next digit, press the [SAMPLE(▶)] key.
- (4) Press the [SET] key, the display shows “ G-2 “ and “ 9.7994”.
- (5) You can change gravity constant. Press the [HOLD(▲)] or [PRINT(▼)] key to have number up or down. To enter next digit, press the [SAMPLE(▶)] key.
- (6) To save it, press the [SET] key. The display shows “C9 END” and “ C-9 “. If you do not want to save it, press the [ZERO] key.

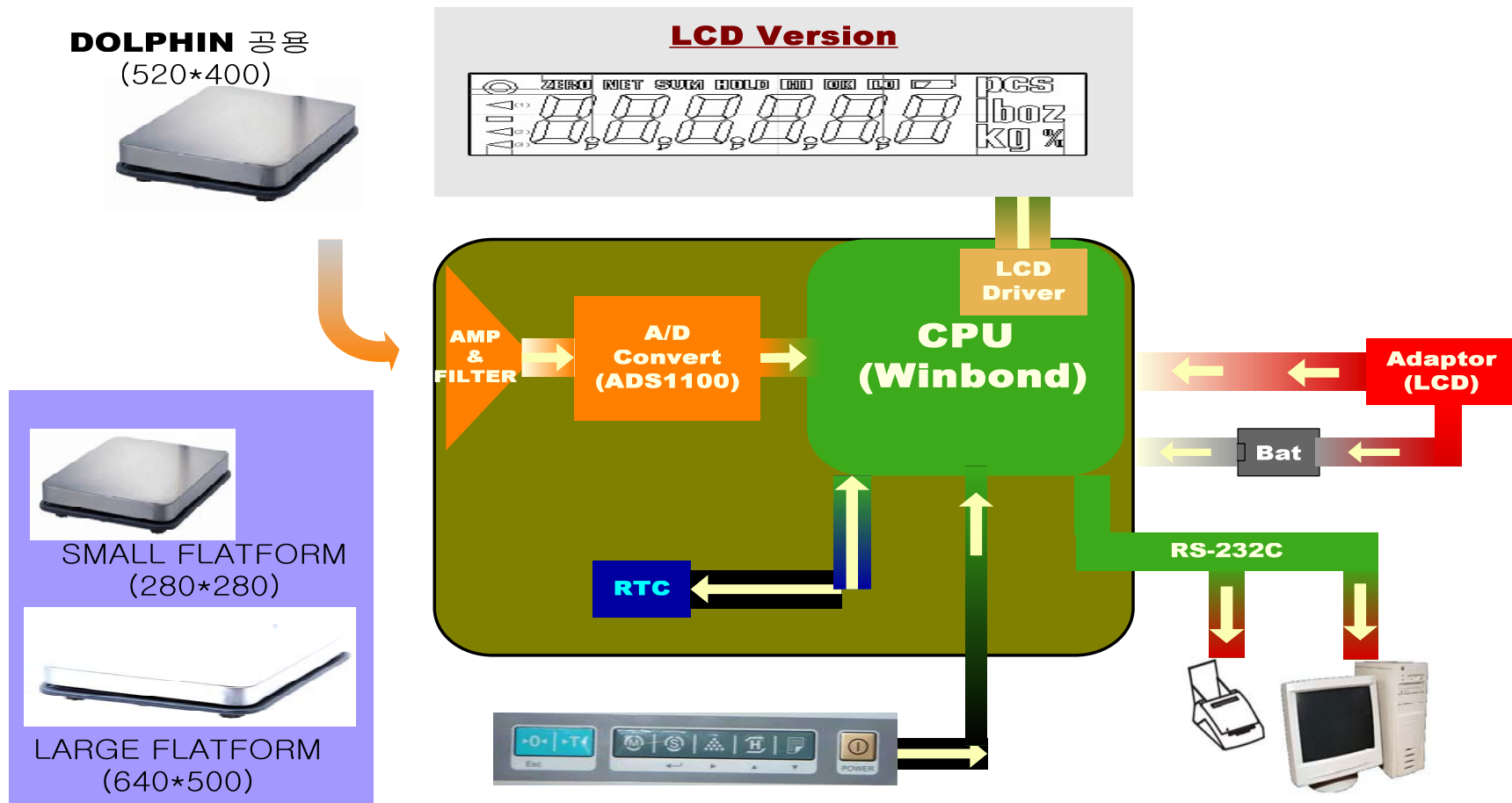
2.10 Linearity Compensation(C ? 10)

- (1) After calibration in the C-3 mode go to C-1 mode for fine adjustment. You can do the fine adjustment by loading a balance at the most distorted points on the platter and using [Sample] or [Tare] key.
- (2) Press [Set] key to save the compensated value after the fine adjustment. You may press [MODE] key not to save the value and just to exit.
- (3) You can confirm the compensated value in the C-10 mode. If you press [ZERO] key and then [SET] key the compensated value is erased and the original value remains. However, if you press [ZERO] key but press [MODE] key to exit the compensated value is not still erased and remains same.

3 The Schematics and Diagram

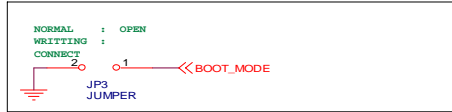
3.1 System Block Diagram

DRAWING NUMBER : 9000-DB2-0000

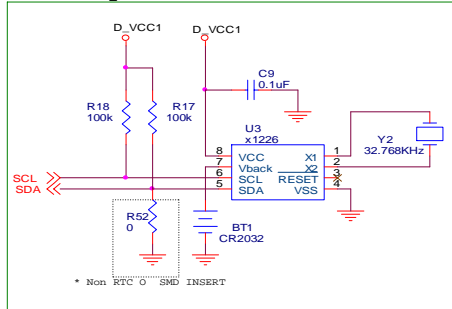


3.2 Circuit Diagram

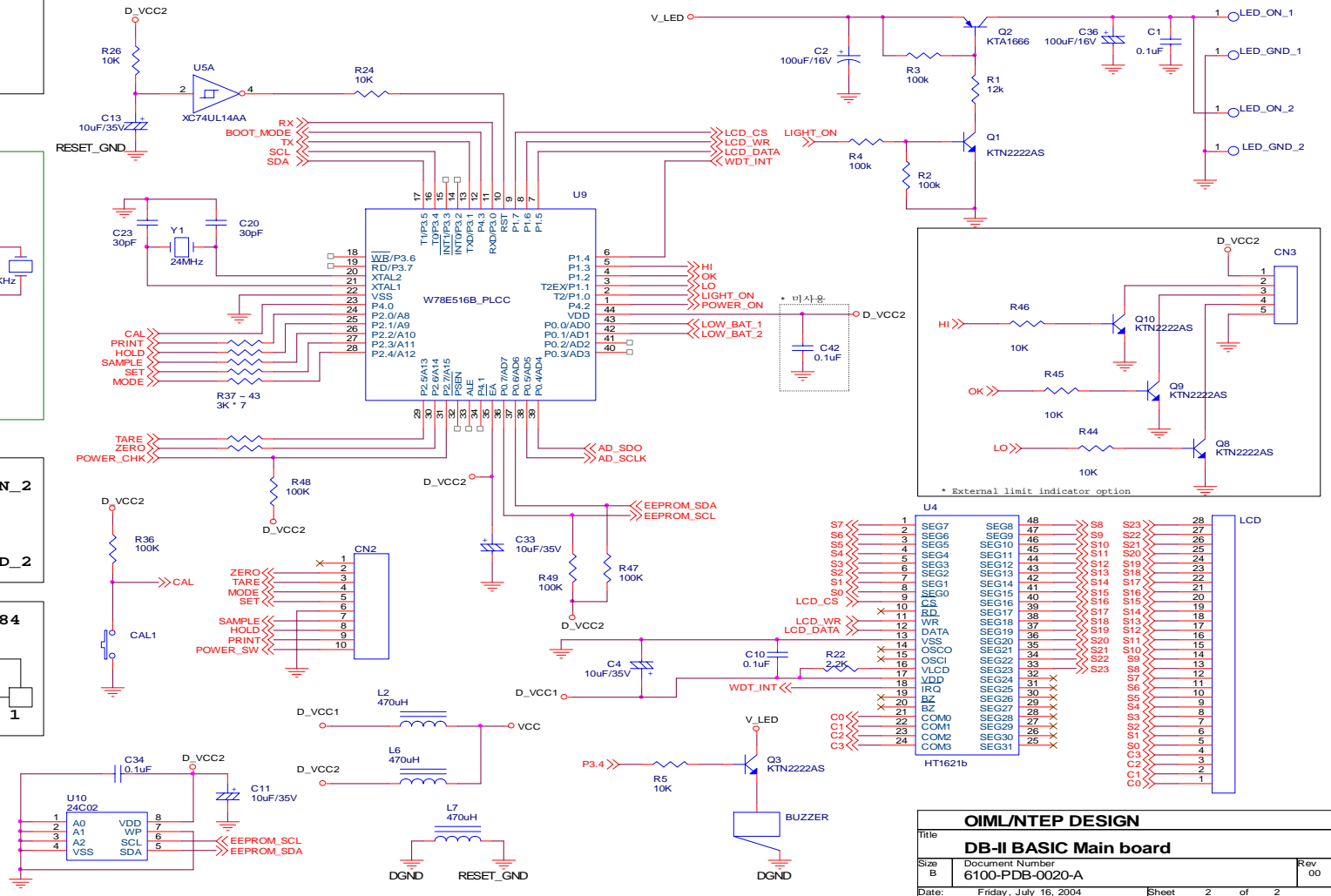
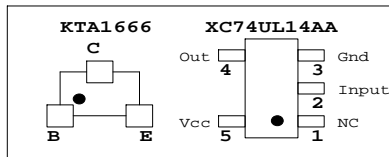
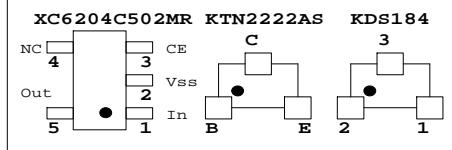
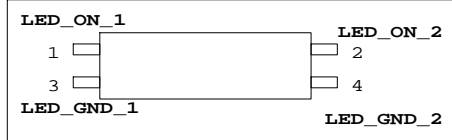
3.2.1 Main / Display



* RTC Option

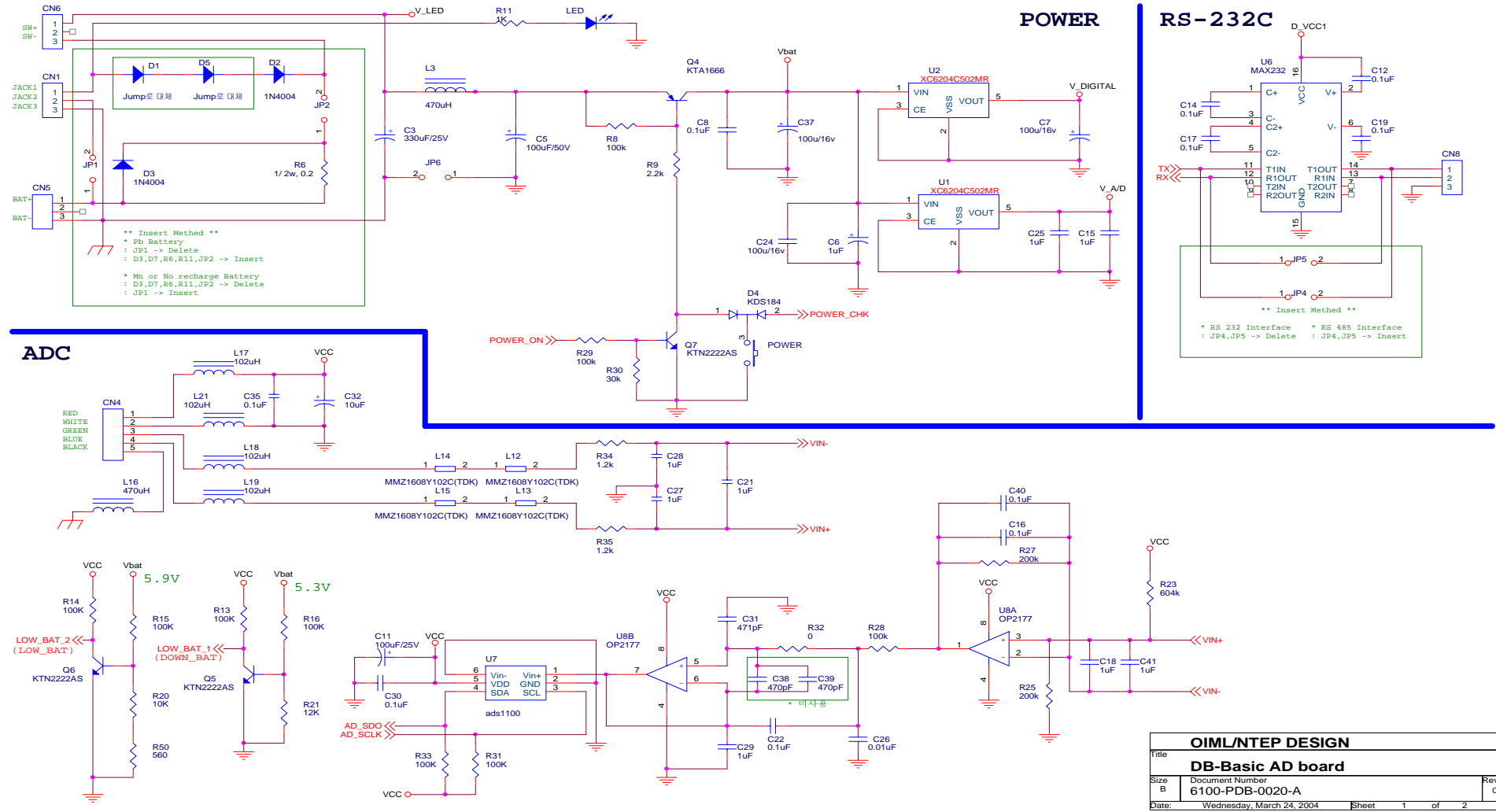


* E.L Back Light Option



OIML/NTEP DESIGN			
Title	DB-II BASIC Main board		
Size B	Document Number	Rev 00	
Date:	Friday, July 16, 2004	Sheet	2 of 2

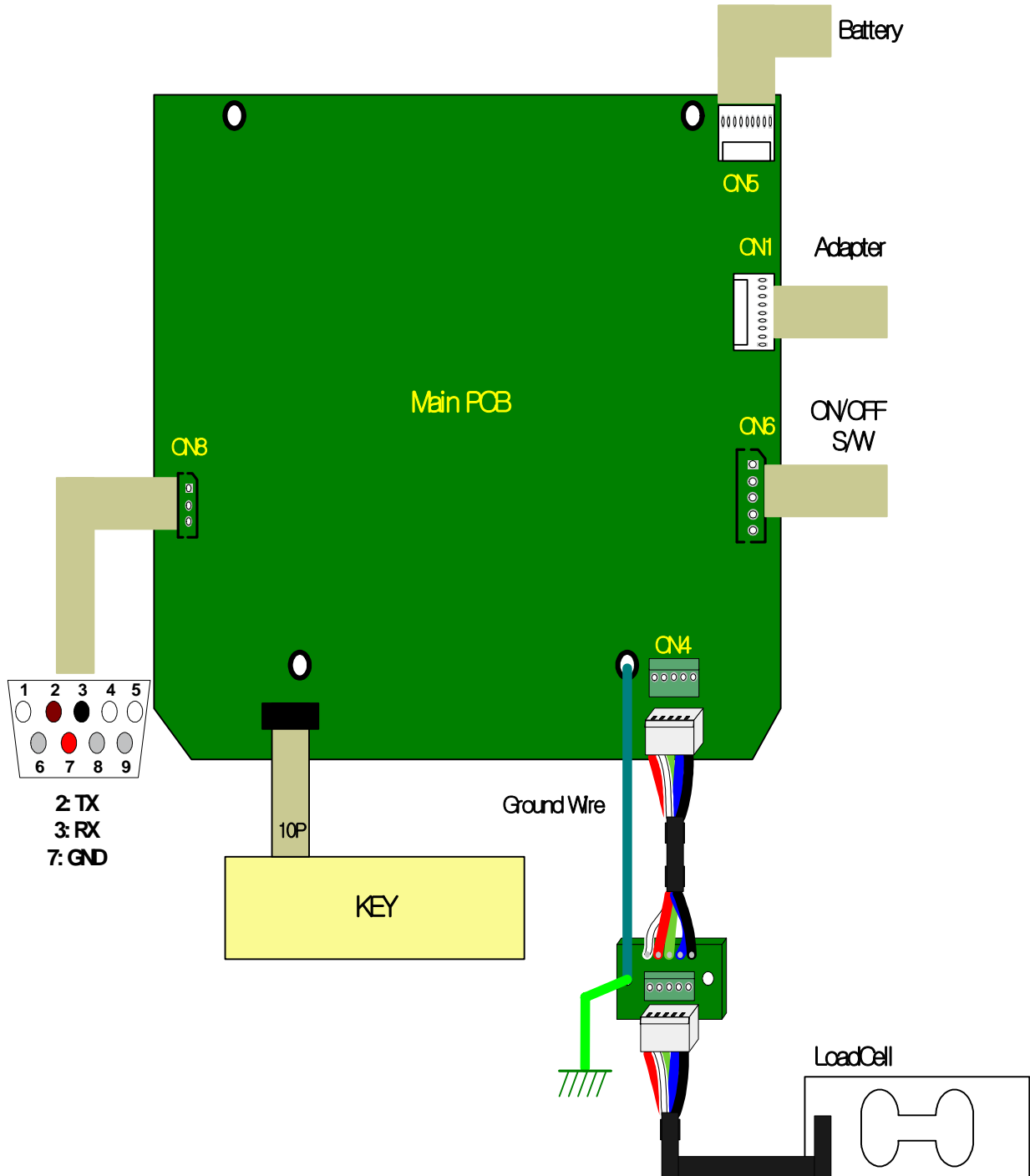
3.2.2 Power / AD Convert



OIML/NTEP DESIGN			
Title	DB-Basic AD board		
Size	Document Number	Rev	
B	6100-PDB-0020-A	00	
Date:	Wednesday, March 24, 2004	Sheet	1 of 2

3.3 Wiring Diagram

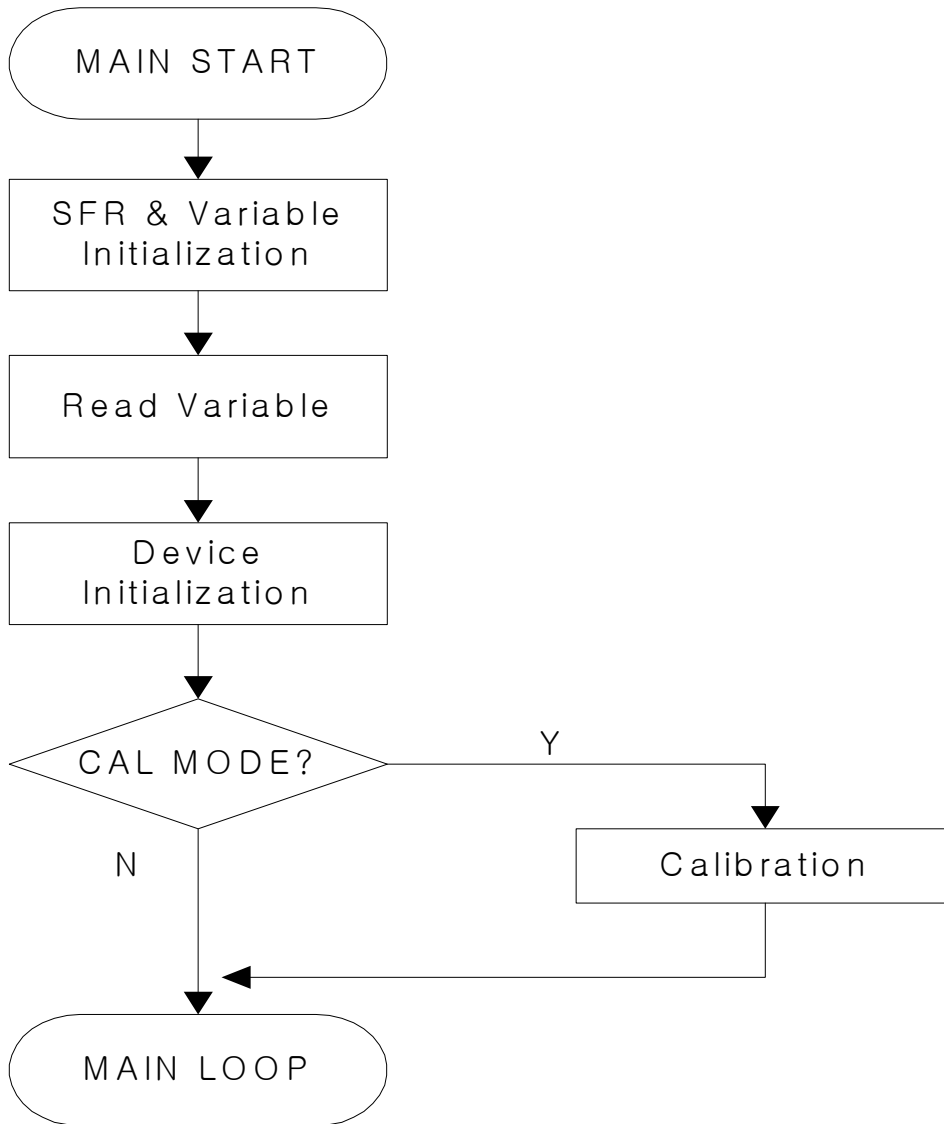
DRAWING NUMBER : 9000-DB2-0001



3.4 Block diagram of the software

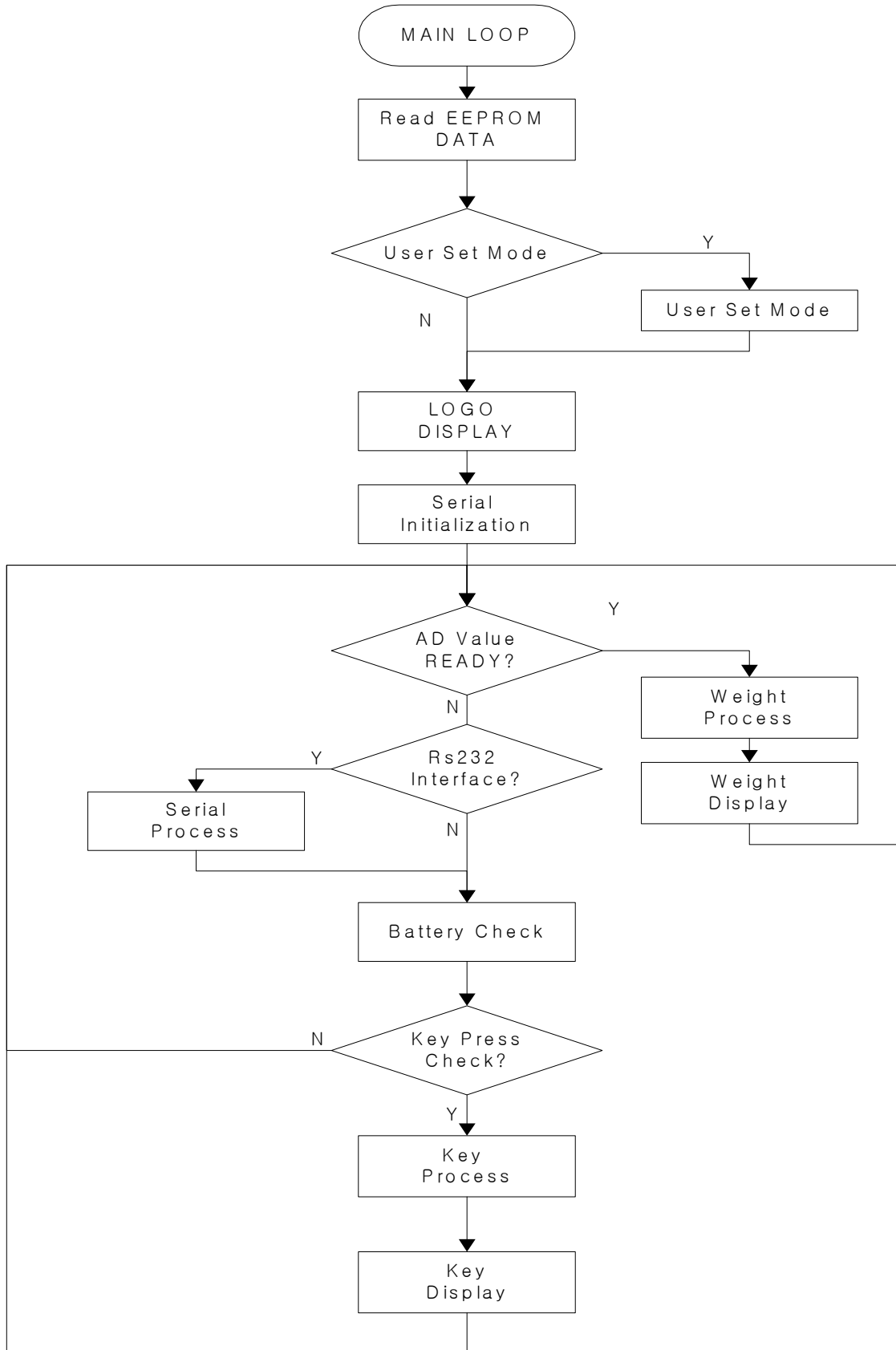
3.4.1 Main start flowchart

DRAWING NUMBER : 9000-DB2-0002



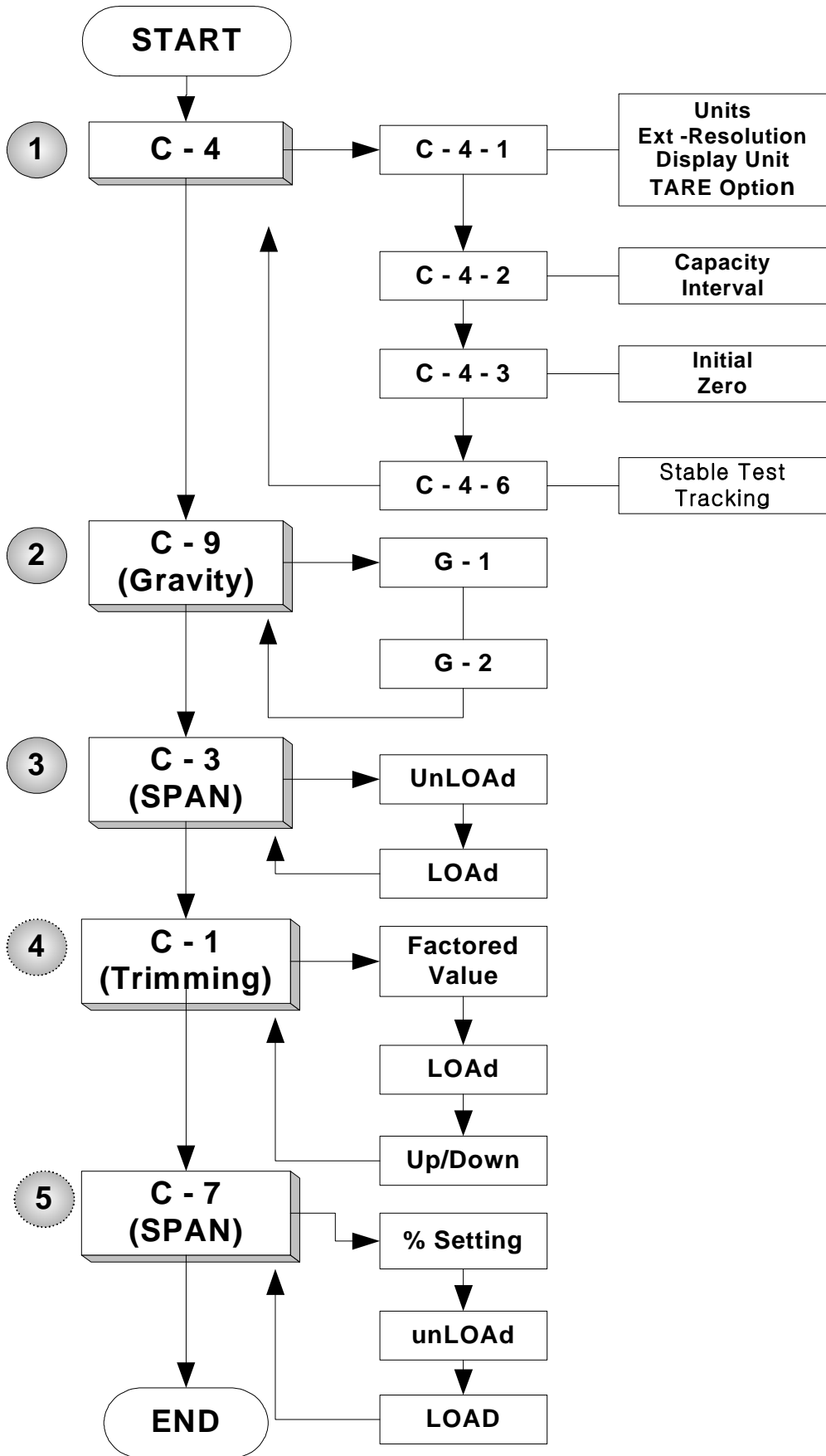
3.4.2 Main loof flowchart

DRAWING NUMBER : 9000-DB2-0003



3.4.3 Calibration mode flowchart

DRAWING NUMBER : 9000-DB2-0004

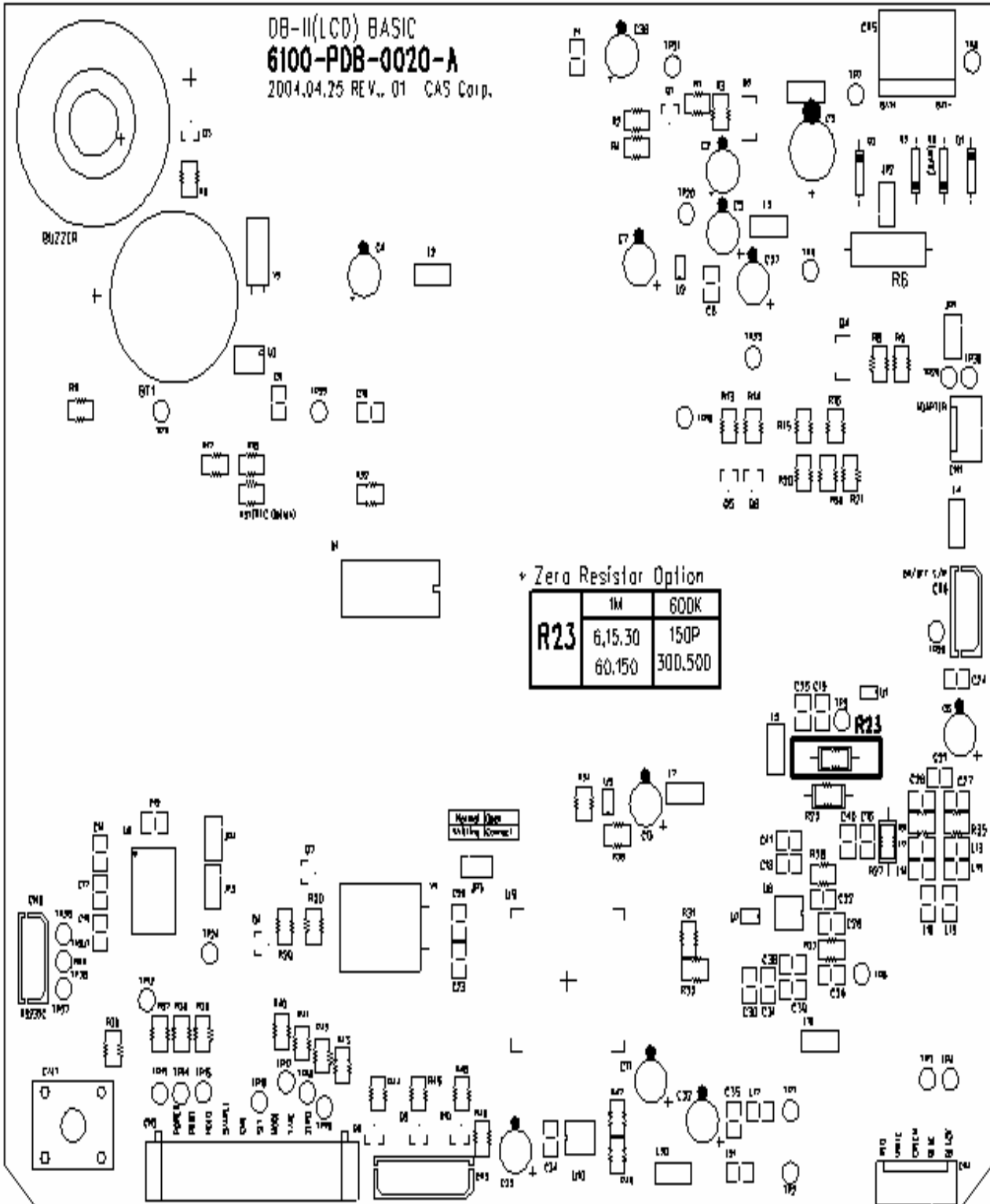


3.5 Part Location

3.5.1 Main pcb

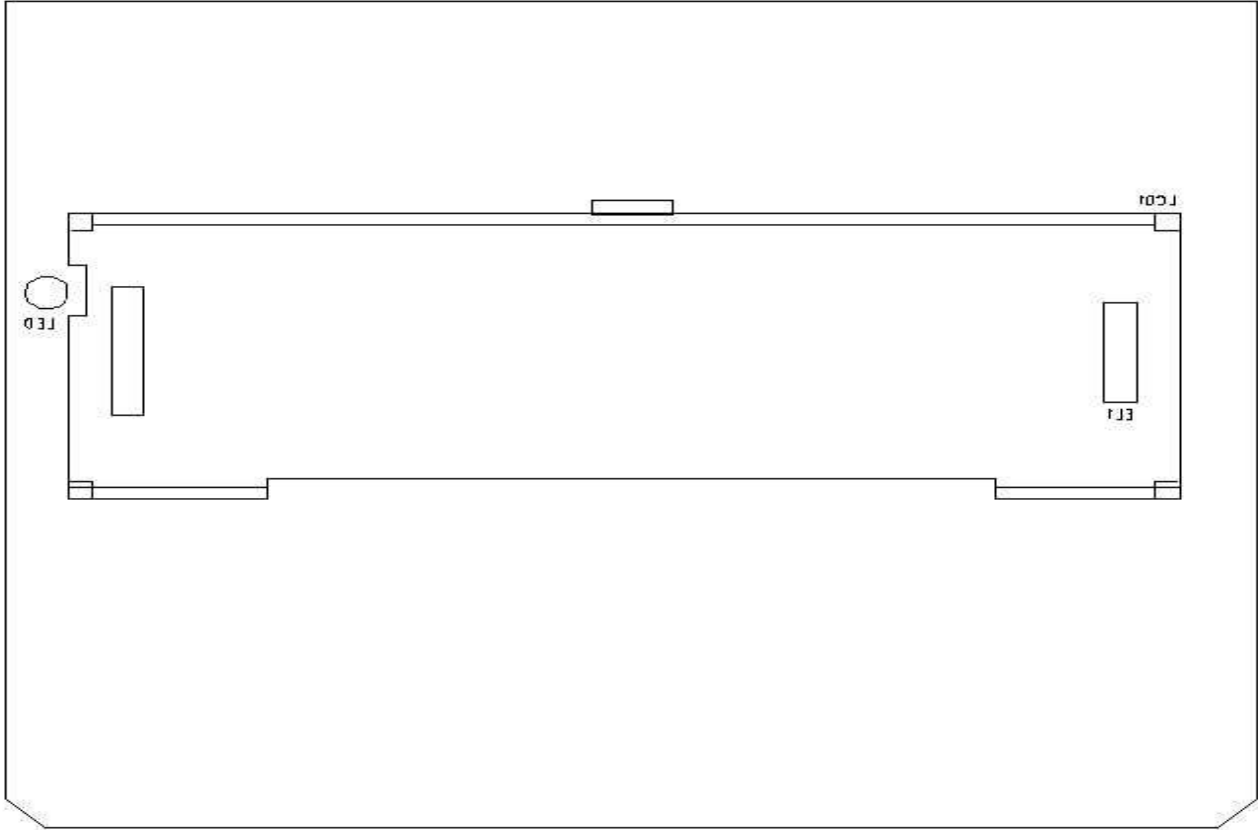
DRAWING NUMBER : 9000-DB2-0005

3.5.1.1 Top



3.5.1.2 Bottom

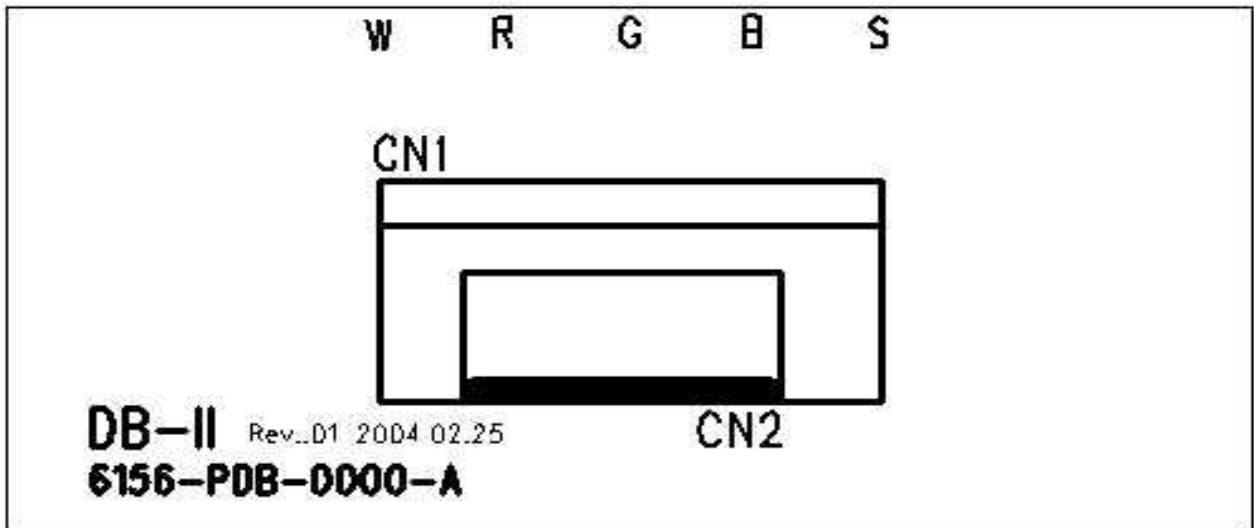
DRAWING NUMBER : 9000-DB2-0006



3.5.2 Terminal pcb

DRAWING NUMBER : 9000-DB2-0007

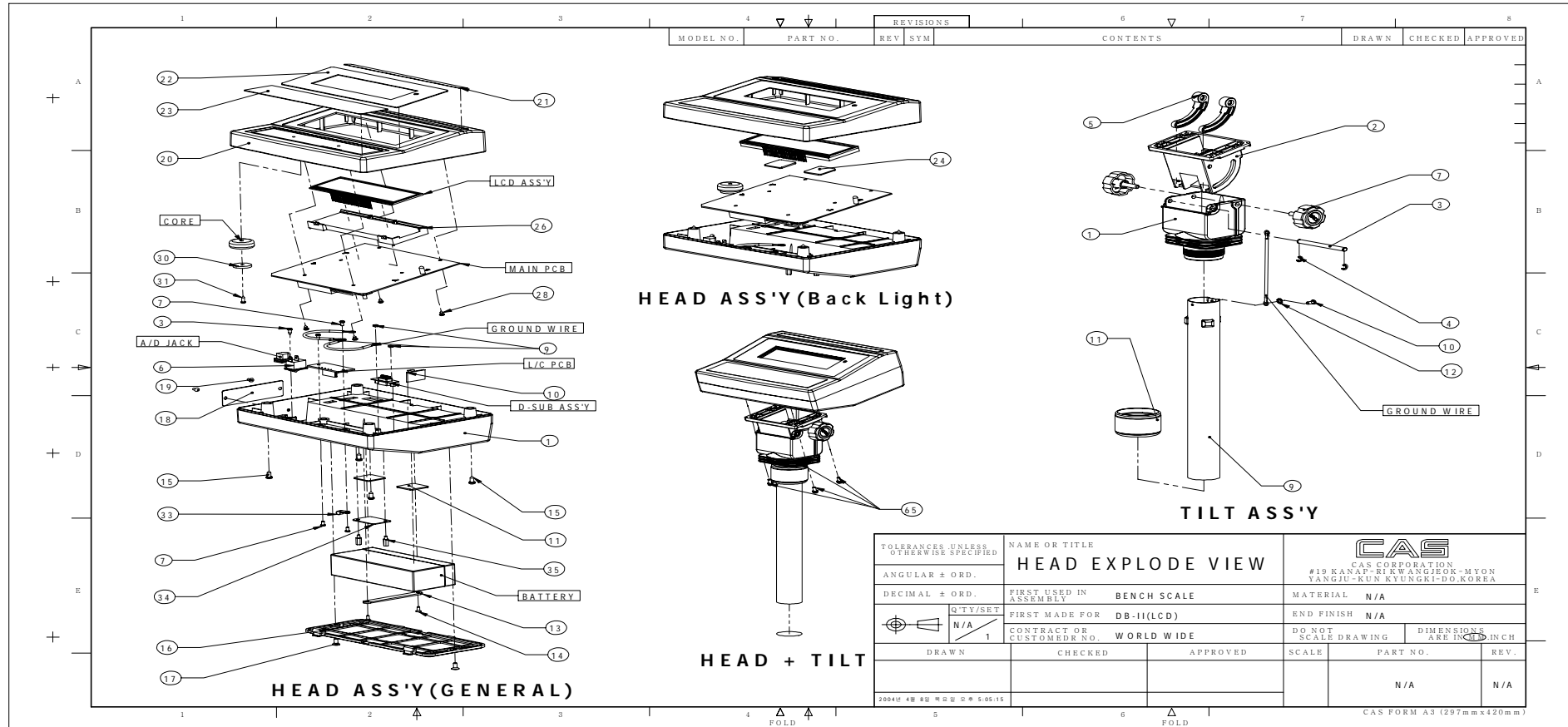
3.5.2.1 Top



3.6 Exploded View

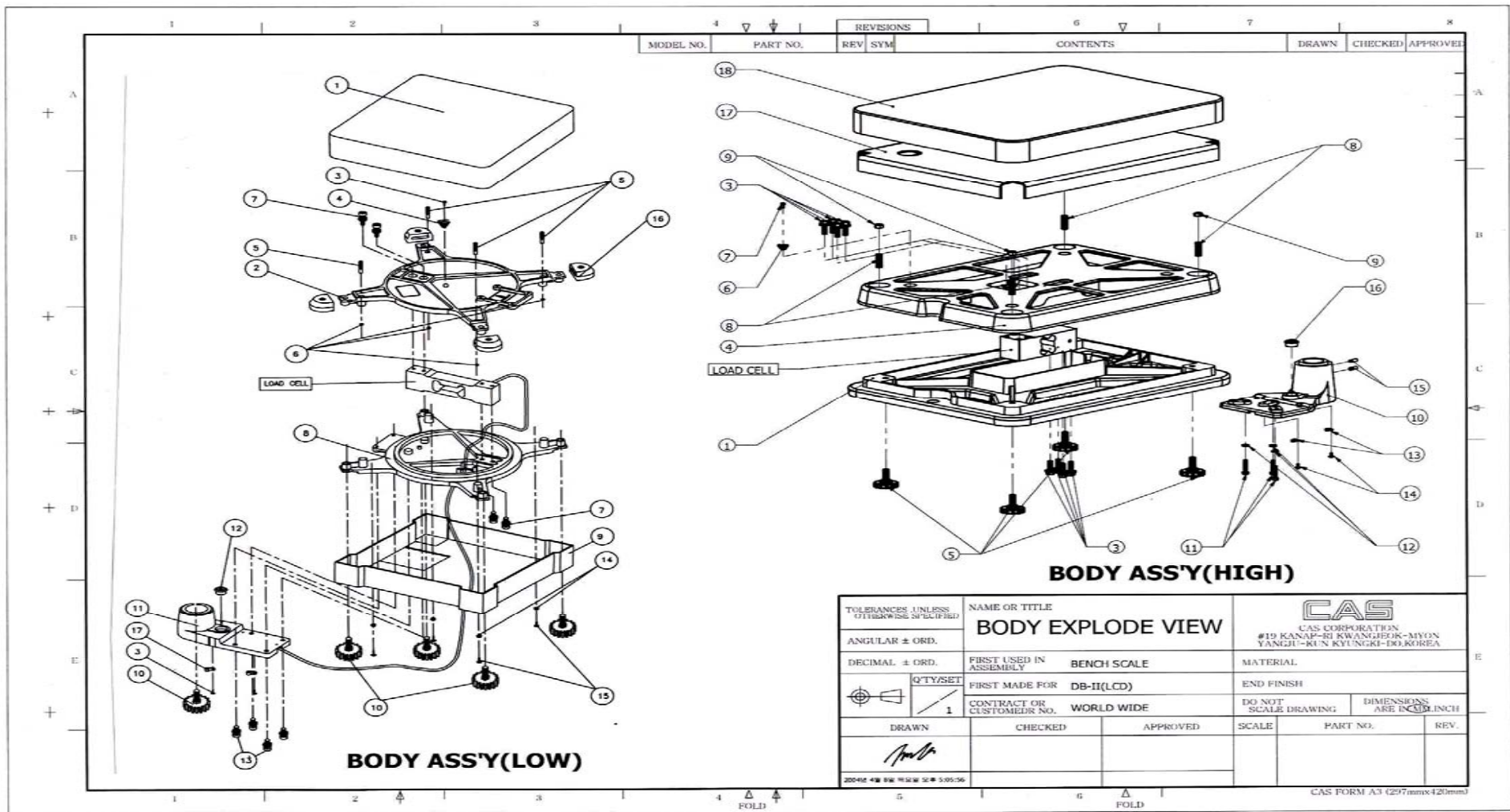
3.6.1 Head Exploded View

DRAWING NUMBER : 9000-DB2-0008



3.6.2 Body Exploded View

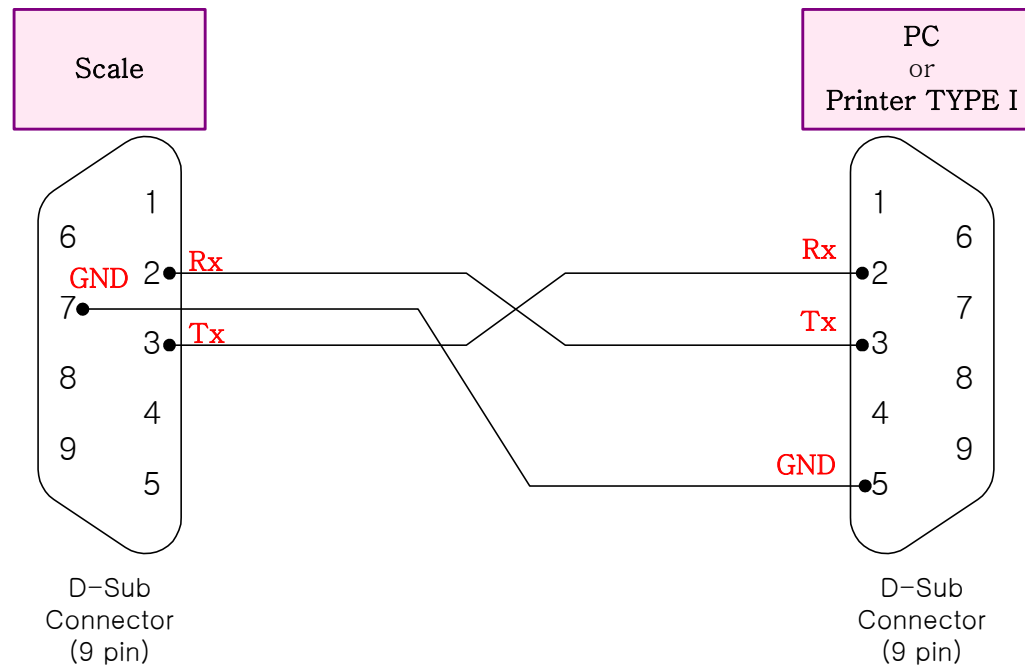
DRAWING NUMBER : 9000-DB2-0009



4 Error Message

ERROR	REASONS	SOLUTIONS
Err 1	An error of the initial zero range	Set the platter empty. Make sure there is a platter on the scale.
Err 10	Failure of analog part.	Call your CAS dealer
Err 11	An error of EEPROM	Call your CAS dealer
Err 12	Condition codes are broken	Call your CAS dealer

5 Serial Interface



6 LOW(6kg) Back Light Parts List

6.1 LCD Main PCB Ass'y

No.	Part Number	Name	Specification	Unit	Q'ty	Remark
1	2090-H00-0010-0	LED HOLDER	6*5*5mm (DB-II VFD)	EA	1	
2	2631-A00-0001-0	VFD CUSHION	30*20*2T	EA	2	
3	6100-PDB-0020-A	MAIN PCB	6100-PDB-0020A(DBII BA	EA	1	
4	6200-IS0-0516-0	IC(CPU)	W78E516BP(WINBOND)	EA	1	U9
5	6205-IS0-2402-0	IC(EEP ROM)	AT24C02-SMD(2K)	EA	1	U10
6	6214-IS0-1110-0	IC(A/D CONVERTER)	ADS1100	EA	1	U7
7	6220-IS0-C502-0	IC(REGULATOR)	XC6204C502MR(5.0V)	EA	2	U1,2
8	6224-I00-1621-0	IC(LCD DRIVER)	HOLTEX HT1621B	EA	1	U4
9	6228-I00-1226-0	IC(RTC)	X1226	EA	1	U3
10	6236-IS0-7414-0	IC (C-MOS TYPE)	XC74JL14AA (TOREX)	EA	1	U5
11	6240-IS0-0232-0	IC(LINE DRIVEER)	ICL232CBE(SMD)	EA	1	U6
12	6240-IS0-2177-0	IC(OP AMP)	OP2177	EA	1	U8
13	6281-I00-1666-0	CHIP TRANSISTOR	KTA1666	EA	2	Q2,Q4
14	6281-I00-2222-0	CHIP TRANSISTOR	2N2222AS	EA	5	Q1,3,5,6,7
15	6291-IPO-4004-0	POWER DIODE	1N4004	EA	2	D2,3
16	6294-ICP-0184-0	CHIP DIODE	KDS184	EA	1	D4
17	6512-CJ0-0002-0	RESISTOR 2W	CFR 0.2Ω (±5%)	EA	1	R6
18	6527-ID0-0000-B	RESISTOR-CHIP 1/10W	0Ω (2012)	EA	1	R32
19	6527-ID0-5600-0	CHIP RESISTOR 1/10W	RR1220P-561D(560Ω)	EA	1	R50
20	6527-ID3-0010-0	CHIP RESISTOR 1/10W	RR1220P-102D(1K)	EA	1	R11
21	6527-ID3-0012-0	RESISTOR-CHIP 1/10W	RR1220P-122D(1.2 kΩ)	EA	1	R34,35
22	6527-ID3-0022-0	CHIP RESISTOR 1/10W	RR1220P-222D(2.2K)	EA	2	R9,22
23	6527-ID3-0030-0	CHIP RESISTOR 1/10W	RR1220P-302D(3 kΩ)	EA	7	R37,38,39,40,41,42,43
24	6527-ID3-0100-0	CHIP RESISTOR 1/10W	RR1220P-103D(10K)	EA	4	R5,20,24,26
25	6527-ID3-0120-0	CHIP RESISTOR 1/10W	RR1220P-123D(12 kΩ)	EA	2	R1,21
26	6527-ID3-0300-0	CHIP RESISTOR 1/10W	RR1220P-303D(30 kΩ)	EA	1	R30
27	6527-ID3-1000-0	CHIP RESISTOR 1/10W	RR1220P-104D(100K)	EA	18	R2,3,4,8,13,14,15,16,17,18,28 29,31,33,36,47,48,49
28	6527-ID3-2000-0	RESISTOR-CHIP 1/10W	RR1220P-204D(200 kΩ)	EA	1	R25,27
29	6527-ID3-6000-0	RESISTOR-CHIP 1/10W	RR1220P-604D(600 kΩ)	EA	1	R23
30	6670-T00-0102-0	INDUCTANCE	BLM 21 102S(TPII ,LPII ,	EA	4	L17,18,19,21
31	6670-T00-0470-0	INDUCTANCE	470 μH	EA	6	L2,3,4,5,7,16
32	6704-C16-0100-0	ELECTRIC CONDENSER	100uF/16V	EA	7	C2,5,6,7,32,36,37

33	6704-C25-0330-0	ELECTRIC CONDENSER	330UF/25V	EA	1	C3
34	6704-C35-0010-0	ELECTRIC CONDENSER	10uF/35V	EA	4	C4, 11, 13, 33
35	6712-CHP-0103-0	CHIP CONDENSER	CL21F 103KBNC	EA	1	C26, 31
36	6712-CHP-0104-0	CHIP CONDENSER	CL21F 104KBNC	EA	14	C1, 8, 9, 10, 12, 14, 16, 17 19, 22, 30, 34, 35, 40
37	6712-CHP-0105-0	CHIP CONDENSER	105(1uF-0805 TYPE)	EA	9	C15, 18, 21, 24, 25, 27, 28 29, 41
38	6712-CHP-0300-0	CHIP CONDENSER	CL21F 300JBNC	EA	2	C20, 23
39	6800-F00-0102-A	FERRITE BEADS SMD	MMZ 1608 Y102C	EA	4	L12, 13, 14, 15
40	7002-Z00-0110-0	PIEZO BUZZER	23C2912P(SL1I-12FsP)	EA	1	BUZZER
41	7010-ZK0-3276-0	CRYSTAL	32.768MHz	EA	1	Y2
42	7010-ZM0-2400-0	CRYSTAL	24MHz	EA	1	Y1
43	7212-D00-0020-A	LCD	DB-II BASIC (2651TF-P-A3-5.1V)	EA	1	
44	7224-D00-0001-0	BACK LIGHT	DB-II BASIC	EA	1	EL1
45	7232-DR0-0005-A	LED LAMP	ø 5-RED	EA	1	LED
46	7520-P00-2032-A	BATTERY	CR2032-3V(PIN TYPE)	EA	1	BT1
47	7600-STA-1902-0	TACT S/W	11902(DJTA-1102)	EA	1	CAL1
48	7801-CLW-0005-A	CONNECTOR(WAFER)	LW0640-05(GOLD) (LPH01)	EA	1	CN4
49	7802-CLL-0003-0	CONNECTOR(WAFER)	LWL0640-03 (LSW250-03)	EA	1	CN1
50	7804-CCN-7303-0	CONNECTOR(WAFER)	5273-03 (LPH03-03)	EA	1	CN5
51	7805-CCN-6703-0	CONNECTOR(WAFER)	03-5267	EA	2	CN6, CN8
52	7807-CFP-0010-0	FPC-CONNECTOR	FCZ254-10R	EA	1	CN2
53	7821-CJM-0002-0	JUMPER	2PIN	EA	3	JP1, 2, 3
54	7844-W00-0100-0	JUMP WIRE	ø 0.6*10m/m(채중기)	EA	2	D1, 5

6.2 TERMINAL PCB Ass'y

No.	Part Number	Name	Specification	Unit	Q'ty	Remark
1	6156-PDB-0000-A	TERMINAL PCB	6156-PDB-0000-A (DB-II, BASIC)	EA	1	
2	7801-CLW-0005-A	CONNECTOR(WAFER)	LW0640-05(GOLD) (LPH01-05A)	EA	1	
3	7834-W00-0053-0	SHIELD WIRE ASS'Y	5P*300mm (DB-II BASIC, CORE)	EA	1	

6.3 HEAD ASS'Y

No.	Part Number	Name	Specification	Unit	Q'ty	Remark
1	7832-W00-1225-0	D-SUB ASS'Y WIRE	D9P*3P*250mm(DBII)	EA	1	
2	7840-W00-0100-A	CONNECTOR WIRE	3P*200mm(SWITCH)	EA	1	
3	7840-W00-0200-0	CONNECTOR WIRE	3P*120/200(DB-II Pb)	EA	1	
4	7840-W00-0303-A	CONNECTOR WIRE	3P*220*303(CORE)	EA	1	
5	7860-GND-0100-0	GROUND WIRE	100mm(DB-II)	EA	2	
6	7520-P00-0633-0	BATTERY	6V3.3AH(DBII BASIC)	EA	1	

6.4 HEAD ASS'Y

No.	Part Number	Name	Specification	Unit	Q'ty	Remark
1	2004-A00-0033-0	HEAD	DB-II(LCD)-난연	EA	1	
3	1512-A00-0308-0	TAPPING SCREW(PH)-2	M3*8	EA	1	
6	2100-DB2-0000-0	MEMBRANE S/W	DB-II(ONLY CIRCUIT)	EA	1	
7	1502-A00-0306-0	MACHINE SCREW(PH)	M3*6	EA	4	
9	1507-A00-1806-0	CONNECTOR BOLT	1/8-6 UNC	EA	2	
10	7642-S00-0060-0	METAL CLAMP	6N	EA	1	
11	2631-A00-0023-0	BATTERY COVER CUSHION	40*26*2t(MWII)	EA	2	
13	1030-A00-0212-0	BATTERY BRACKET	10*82*2.0t-SPC(DB-II)	EA	1	
14	1501-MSU-0306-0	MACHINE SCREW(FH)	M3*6-SUS	EA	2	
15	1512-A00-0410-0	TAPPING SCREW(PH)-2	M4*10	EA	4	
16	2004-A00-00350	BATTERY COVER	DB-II(난연)	EA	1	
17	1501-MSU-0408-0	MACHINE SCREW(FH)	M4*8-SUS	EA	2	
18	1810-DB2-0033-0	SPEC PLATE	DB-II,PD-II,POSCALE,ERS 공용	EA	1	
19	1563-A00-0308-0	RIVET	φ 3.2*8	EA	2	
20	2004-A00-0042-0	HEAD COVER	DB-II(LCD-CE)증착	EA	1	
21	1800-DB2-0633-1	NAME PLATE	DB-II(6kg)(영공)	EA	1	
22	2050DB20000-0	DISPLAY COVER	DB-II(LCD 영문공용)	EA	1	
24	2631-A00-0001-0	VFD CUSHION	30*20*2T	EA	2	
23	2200-DB2-0022-0	KEY BOARD PAD	DB-II(유럽공용,영공)	EA	1	
28	1512-A00-0306-0	TAPPING SCREW(PH)-2	M3*6	EA	4	
30	2012-A00-0001-0	WASHER	φ 20*3.5(EP-F)	EA	2	
31	1512-A00-0310-0	TAPPING SCREW(PH)-2	M3*10	EA	1	
33	7642-S00-0003-0	CABLE CLAMP	DA-3N	EA	1	
34	1030-A00-0203-0	SEALING PLATE	35.2*26*1t DB-II	EA	1	

35	1265-A00-0001-0	SEALING BOLT	M3*05*5(황동) BI	EA	2	
65	1503-A00-0410-0	MACHINE SCREW(WPH)	M4*10	EA	4	

6.5 BODY ASS'Y

No.	Part Number	Name	Specification	Unit	Q'ty	Remark
1	1005-A00-0002-0	DUST COVER	280*280*35(BW-LOW)	EA	1	
2	1105-A00-0003-B	PLATFORM UPPER	BW-LOW, DBB-LOW	EA	1	
3	1502-A00-04060	MACHINE SCREW(PH)	M4*6	EA	3	
4	1590-A00-00190	GROUND SPRING	φ 0.9* φ 20*20(DOLPHIN)	EA	1	
5	1532-MSU-0830-0	WRENCH BOLT(ST)	M8*30-SUS	EA	4	
6	1540-MSU-0800-0	NUT(HEX)	M8*1.25 -SUS	EA	4	
7	1535-MSU-0620-0	WRENCH BOLT(WA)	M6*20-SUS	EA	4	
8	1105-A00-0004-D	PLATFORM LOWER	BW-LOW, DBB-LOW	EA	1	
9	2005-A00-0018-0	PLATFORM COVER	264*264*55(BW)	EA	1	
10	2615-A00-0001-A	FOOT	SUS M8*25(BW-LOW)(NUT 제외)	EA	5	
11	1105-A00-0005-C	POST BRACKET	BW-LOW, DBB-LOW	EA	1	
12	2022-A00-0003-1	WATER LEVEL GAGE ASS'Y	φ 18.9*22.8*12(BLACK)상보	EA	1	
13	1535-MSU-0615-0	WRENCH BOLT(WA)	M6*15-SUS	EA	4	
14	1551-MSU-0400-0	WASHER(SPR)	φ 4* φ 6.9*1-SUS	EA	4	
15	1502-MSU-0410-0	MACHINE SCREW(PH)	M4*10-SUS	EA	4	
16	2605-A00-0005-0	PLATFORM RUBBER	BW-LOW(20*32*40)	EA	4	
17	7642-S00-0003-0	CABLE CLAMP	DA-3N	EA	2	
18	9802-A00-0012-0	GREASE	G-40M(100G)	G	0.01	

6.6 TILT Ass'y

No.	Part Number	Name	Specification	Unit	Q'ty	Remark
1	2004-A00-0037-0	HOUSING LOWER	DB-II(난연)	EA	1	
2	2004-A00-0036-0	HOUSING UPPER	DB-II(난연)	EA	1	
3	1210-A00-0091-0	TILT SHAFT	SUS303 71.4* φ 6(DB-II)	EA	1	
4	1561-MSU-0400-0	E-RING	φ 4* φ 9*0.6-SUS	EA	2	
5	2004-A00-0038-0	GUIDE NUT	DB-II(난연)	EA	2	
7	2004-A00-0040-0	STOP BOLT	DB-II(난연)	EA	2	
9	1000-A00-0204-A	POST PIPE	SUS304 34.5*500*1.5t (DB- II)	EA	1	
10	1502-A00-0408-0	MACHINE SCREW(PH)	M4*8	EA	1	
11	1155-A00-0005-0	POST KNOB	φ 49.4*37.5(BW)	EA	1	
12	1552-A00-0400-0	WASHER(OTO)	φ 4	EA	1	

13	7860-GND-0210-0	GROUND WIRE	1P*210mm(MW-Ⅱ)	EA	1	
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6.7 C/T BOX Ass'y

No.	Part Number	Name	Specification	Unit	Q'ty	Remark
1	1090-A00-0013-0	L-WRENCH	∅3	EA	1	
2	9100-DB2-0133-2	C/T BOX	640*436*308(DB2-LOW, 수출)	EA	1	
3	9100-DB2-0W30-0	C/T BOX	640*436*316(DB2-LOW-W)	EA	1	
4	9206-DB2-0001-0	STYROFORM BOX	DB-II(LOW)(UPPER)	EA	1	
5	9206-DB2-0002-0	STYROFORM BOX	DB-II(LOW)(LOWER)	EA	1	
6	9301-A00-0003-0	POLY BAG	170*250*0.05T(MANUAL)	EA	1	
7	9303-A00-0004-A	POLY BAG	350*450*0.05T(HEAD)	EA	1	
8	9305-A00-0002-B	POLY BAG	550*750*0.04T(DB, DL)(SET, HD)	EA	1	
9	9400-A00-0046-0	SILICAGEL	10g	EA	1	
10	9900-A00-0001-0	봉인납	수출용	EA	1	
11	9900-A00-0002-0	SEALING WIRE	300M/ROLL	EA	0.001	
12	9002-DB2-LC33-2	MANUAL	DB2 LCD 영문	EA	1	
13	7510-P09-1122-0	AC ADAPTOR	110/220V9V/300mA(EP, PW)	EA	1	

7 HIGH(60Kg) General Parts List

7.1 LCD Main PCB Ass'y

No.	Part Number	Name	Specification	Unit	Q'ty	Remark
1	1512-A00-0306-0	TAPPING SCREW(PH)-2	M3*6	EA	2	
2	2004-A00-0034-0	LCD BRACKET	DB-II (난연)	EA	1	
3	2090-H00-0010-0	LED HOLDER	6*5*5mm (DB-II VFD)	EA	1	
4	6100-PDB-0020-A	MAIN PCB	6100-PDB-0020A(DBII BA)	EA	1	
5	6200-ISO-0516-0	IC(CPU)	W78E516BP(WINBOND)	EA	1	U9
6	6205-ISO-2402-0	IC(EEP ROM)	AT24C02-SMD(2K)	EA	1	U10
7	6214-ISO-1110-0	IC(A/D CONVERTER)	ADS1100	EA	1	U7
8	6220-ISO-C502-0	IC(REGULATOR)	XC6204C502MR(5.0V)	EA	2	U1,2
9	6224-I00-1621-0	IC(LCD DRIVER)	HOLTEX HT1621B	EA	1	U4
10	6228-I00-1226-0	IC(RTC)	X1226	EA	1	U3
11	6236-ISO-7414-0	IC (C-MOS TYPE)	XC74JL14AA (TOREX)	EA	1	U5
12	6240-ISO-0232-0	IC(LINE DRIVEER)	ICL232CBE(SMD)	EA	1	U6
13	6240-ISO-2177-0	IC(OP AMP)	OP2177	EA	1	U8

14	6281-I00-1666-0	CHIP TRANSISTOR	KTA1666	EA	2	Q2,Q4
15	6281-I00-2222-0	CHIP TRANSISTOR	2N2222AS	EA	5	Q1,3,5,6,7
16	6291-IPO-4004-0	POWER DIODE	1N4004	EA	2	D2,3
17	6294-ICP-0184-0	CHIP DIODE	KDS184	EA	1	D4
18	6512-CJ0-0002-0	RESISTOR 2W	CFR 0.2Ω (±5%)	EA	1	R6
19	6527-ID0-0000-B	RESISTOR-CHIP 1/10W	0Ω (2012)	EA	1	R32
20	6527-ID0-5600-0	CHIP RESISTOR 1/10W	RR1220P-561D(560Ω)	EA	1	R50
21	6527-ID3-0010-0	CHIP RESISTOR 1/10W	RR1220P-102D(1K)	EA	1	R11
22	6527-ID3-0012-0	RESISTOR-CHIP 1/10W	RR1220P-122D(1.2 kΩ)	EA	1	R34, 35
23	6527-ID3-0022-0	CHIP RESISTOR 1/10W	RR1220P-222D(2.2K)	EA	2	R9,22
24	6527-ID3-0030-0	CHIP RESISTOR 1/10W	RR1220P-302D(3 kΩ)	EA	7	R37,38,39,40,41,42,43
25	6527-ID3-0100-0	CHIP RESISTOR 1/10W	RR1220P-103D(10K)	EA	4	R5,20,24,26
26	6527-ID3-0120-0	CHIP RESISTOR 1/10W	RR1220P-123D(12 kΩ)	EA	2	R1,21
27	6527-ID3-0300-0	CHIP RESISTOR 1/10W	RR1220P-303D(30 kΩ)	EA	1	R30
28	6527-ID3-1000-0	CHIP RESISTOR 1/10W	RR1220P-104D(100K)	EA	18	R2,3,4,8,13,14,15,16,17,18,28 29,31,33,36,47,48,49
29	6527-ID3-2000-0	RESISTOR-CHIP 1/10W	RR1220P-204D(200 kΩ)	EA	1	R25,27
30	6527-ID3-6000-0	RESISTOR-CHIP 1/10W	RR1220P-604D(600 kΩ)	EA	1	R23
31	6670-T00-0102-0	INDUCTANCE	BLM 21 102S(TPII,LP11,	EA	4	L17,18,19,21
32	6670-T00-0470-0	INDUCTANCE	470 μH	EA	6	L2,3,4,5,7,16
33	6704-C16-0100-0	ELECTRIC CONDENSER	100uF/16V	EA	7	C2,5,6,7,32,36,37
34	6704-C25-0330-0	ELECTRIC CONDENSER	330UF/25V	EA	1	C3
35	6704-C35-0010-0	ELECTRIC CONDENSER	10uF/35V	EA	4	C4,11,13,33
36	6712-CHP-0103-0	CHIP CONDENSER	CL21F 103KBNC	EA	1	C26,31
37	6712-CHP-0104-0	CHIP CONDENSER	CL21F 104KBNC	EA	14	C1,8,9,10,12,14,16,17 19,22,30,34,35,40
37	6712-CHP-0105-0	CHIP CONDENSER	105(1uF-0805 TYPE)	EA	9	C15,18,21,24,25,27,28 29,41
39	6712-CHP-0300-0	CHIP CONDENSER	CL21F 300JBNC	EA	2	C20,23
40	6800-F00-0102-A	FERRITE BEADS SMD	MMZ 1608 Y102C	EA	4	L12,13,14,15
41	7002-Z00-0110-0	PIEZO BUZZER	23C2912P(SL1I-12FsP)	EA	1	BUZZER
42	7010-ZK0-3276-0	CRYSTAL	32.768MHz	EA	1	Y2
43	7010-ZM0-2400-0	CRYSTAL	24MHz	EA	1	Y1
44	7212-D00-0010-0	LCD	BT-M1306FN-144UP(DB-II	EA	1	
45	7224-D00-0001-0	BACK LIGHT	DB-II BASIC	EA	1	EL1
46	7232-DR0-0005-A	LED LAMP	∅ 5-RED	EA	1	LED
47	7520-P00-2032-A	BATTERY	CR2032-3V(PIN TYPE)	EA	1	BT1

48	7600-STA-1902-0	TACT S/W	11902(DJTA-1102)	EA	1	CAL1
49	7801-CLW-0005-A	CONNECTOR(WAFER)	LW0640-05(GOLD) (LPH01)	EA	1	CN4
50	7802-CLL-0003-0	CONNECTOR(WAFER)	LWL0640-03 (LSW250-03)	EA	1	CN1
51	7804-CCN-7303-0	CONNECTOR(WAFER)	5273-03 (LPH03-03)	EA	1	CN5
52	7805-CCN-6703-0	CONNECTOR(WAFER)	03-5267	EA	2	CN6,CN8
53	7807-CFP-0010-0	FPC-CONNECTOR	FCZ254-10R	EA	1	CN2
54	7821-CJM-0002-0	JUMPER	2PIN	EA	3	JP1,2,3
55	7844-W00-0100-0	JUMP WIRE	ø 0.6*10m/m(채중기)	EA	2	D1,5

7.2 TERMINAL PCB Ass'y

No.	Part Number	Name	Specification	Unit	Q'ty	Remark
1	6156-PDB-0000-A	TERMINAL PCB	6156-PDB-0000-A (DB-II, BASIC)	EA	1	
2	7801-CLW-0005-A	CONNECTOR(WAFER)	LW0640-05(GOLD) (LPH01-05A)	EA	1	
3	7834-W00-0053-0	SHIELD WIRE ASS'Y	5P*300mm (DB-II BASIC, CORE)	EA	1	

7.3 HEAD ASS'Y

No.	Part Number	Name	Specification	Unit	Q'ty	Remark
1	7832-W00-1225-0	D-SUB ASS'Y WIRE	D9P*3P*250mm(DBII)	EA	1	
2	7840-W00-0100-A	CONNECTOR WIRE	3P*200mm(SWITCH)	EA	1	
3	7840-W00-0200-0	CONNECTOR WIRE	3P*120/200(DB-II Pb)	EA	1	
4	7840-W00-0303-A	CONNECTOR WIRE	3P*220*303(CORE)	EA	1	
5	7860-GND-0100-0	GROUND WIRE	100mm(DB-II)	EA	2	
6	7520-P00-0633-0	BATTERY	6V3.3AH(DBII BASIC)	EA	1	

7.4 HEAD ASS'Y

No.	Part Number	Name	Specification	Unit	Q'ty	Remark
1	2004-A00-0033-0	HEAD	DB-II(LCD)-난연	EA	1	
3	1512-A00-0308-0	TAPPING SCREW(PH)-2	M3*8	EA	1	
6	2100-DB2-0000-0	MEMBRANE S/W	DB-II(ONLY CIRCUIT)	EA	1	
7	1502-A00-0306-0	MACHINE SCREW(PH)	M3*6	EA	4	
9	1507-A00-1806-0	CONNECTOR BOLT	1/8-6 UNC	EA	2	
10	7642-S00-0060-0	METAL CLAMP	6N	EA	1	

11	2631-A00-0023-0	BATTERY COVER CUSHION	40*26*2t (MWII)	EA	2	
13	1030-A00-0212-0	BATTERY BRACKET	10*82*2.0t-SPC(DB-II)	EA	1	
14	1501-MSU-0306-0	MACHINE SCREW(FH)	M3*6-SUS	EA	2	
15	1512-A00-0410-0	TAPPING SCREW(PH)-2	M4*10	EA	4	
16	2004-A00-0035-0	BATTERY COVER	DB-II(난연)	EA	1	
17	1501-MSU-0408-0	MACHINE SCREW(FH)	M4*8-SUS	EA	2	
18	1810-DB2-0033-0	SPEC PLATE	DB-II, PD-II, POSCALE, ERS 공용	EA	1	
19	1563-A00-0308-0	RIVET	φ 3.2*8	EA	2	
20	2004-A00-0042-0	HEAD COVER	DB-II(LCD-CE) 증착	EA	1	
21	1800-DB2-6033-1	NAME PLATE	DB-II(60kg)(영공)	EA	1	
22	2050-DB2-0000-0	DISPLAY COVER	DB-II(LCD 영문공용)	EA	1	
23	2200-DB2-0022-0	KEY BOARD PAD	DB-II(유럽공용, 영공)	EA	1	
28	1512-A00-0306-0	TAPPING SCREW(PH)-2	M3*6	EA	4	
30	2012-A00-0001-0	WASHER	φ 20*3.5(EP-F)	EA	2	
31	1512-A00-0310-0	TAPPING SCREW(PH)-2	M3*10	EA	1	
33	7642-S00-0003-0	CABLE CLAMP	DA-3N	EA	1	
34	1030-A00-0203-0	SEALING PLATE	35.2*26*1t DB-II	EA	1	
35	1265-A00-0001-0	SEALING BOLT	M3*05*5(황동) BI	EA	2	
65	1503-A00-0410-0	MACHINE SCREW(WPH)	M4*10	EA	4	

7.5 BODY ASS'Y

No.	Part Number	Name	Specification	Unit	Q'ty	Remark
1	1110-MS0-0011-0	BODY	OPTL 60kg/150kg(CHINA)	EA	1	
3	1521-A00-0825-0	HEXAGON BOLT(WA)	M8*25(8.8T)	EA	8	
4	1110-MS0-0008-0	PLATFORM	OPTL 60kg/150kg(CHINA)	EA	1	
5	2610-A00-0007-1	FOOT	M10.0*1.5*42(DOLPHIN)	EA	4	
6	1590-A00-0019-0	GROUND SPRING	φ 0.9* φ 20*20(DOLPHIN)	EA	1	
7	1502-A00-0408-0	MACHINE SCREW(PH)	M4*8	EA	1	
8	1532-MSU-0830-0	WRENCH BOLT(ST)	M8*30-SUS	EA	4	
9	1540-MSU-0800-0	NUT(HEX)	M8*1.25 -SUS	EA	4	
10	1140-A00-0008-0	POST BRACKET	OPTL(CHINA)	EA	1	
11	1521-MSU-0627-A	HEXAGON BOLT(WA)	M6*27.5-SUS	EA	3	
12	1551-MSU-0600-0	WASHER(SPR)	φ 6-SUS	EA	3	
13	7642-S00-0003-0	CABLE CLAMP	DA-3N	EA	2	
14	1508-A00-0408-0	MACHINE SCREW(RH)	M4*8	EA	2	
15	1532-A00-0615-0	WRENCH BOLT(ST)	M6*15	EA	2	

16	2022-A00-0003-1	WATER LEVEL GAGE ASS'Y	φ 18.9*22.8*12(BLACK)상보	EA	1	
17	9304-A00-0008-A	P.E CUSHION	440*560*3T(DOLPHIN)	EA	1	
18	1000-A00-0004-0	DUST COVER	BW(HIGH),HOBART	EA	1	
19	9802-A00-0012-0	GREASE	G-40M(100G)	G	0.01	

7.6 TILT ASS'Y

No.	Part Number	Name	Specification	Unit	Q'ty	Remark
1	2004-A00-0037-0	HOUSING LOWER	DB-II(난연)	EA	1	
2	2004-A00-0036-0	HOUSING UPPER	DB-II(난연)	EA	1	
3	1210-A00-0091-0	TILT SHAFT	SUS303 71.4* φ 6(DB-II)	EA	1	
4	1561-MSU-0400-0	E-RING	φ 4* φ 9*0.6-SUS	EA	2	
5	2004-A00-0038-0	GUIDE NUT	DB-II(난연)	EA	2	
7	2004-A00-0040-0	STOP BOLT	DB-II(난연)	EA	2	
9	1000-A00-0204-A	POST PIPE	SUS304 34.5*500*1.5t(DB-II)	EA	1	
10	1502-A00-0408-0	MACHINE SCREW(PH)	M4*8	EA	1	
11	1155-A00-0005-0	POST KNOB	φ 49.4*37.5(BW)	EA	1	
12	1552-A00-0400-0	WASHER(OTO)	φ 4	EA	1	
13	7860-GND-0210-0	GROUND WIRE	1P*210mm(MW-II)	EA	1	

7.7 C/T BOX ASS'Y

No.	Part Number	Name	Specification	Unit	Q'ty	Remark
1	1090-A00-0013-0	L-WRENCH	φ 3	EA	1	
2	9100-DB2-0133-0	C/T BOX	795*505*335(DB2-60, 150kg, 수출)	EA	1	
3	9100-DB2-W133-0	C/T BOX	815*525*355(DB-2:520*400)W	EA	1	
4	9207-DB2-0001-0	STYROFORM BOX	DB-II(60, 150kg)(UPPER)	EA	1	
5	9207-DB2-0002-0	STYROFORM BOX	DB-II(60, 150kg)(LOWER)	EA	1	
6	9301-A00-0003-0	POLY BAG	170*250*0.05T(MANUAL)	EA	1	
7	9303-A00-0004-A	POLY BAG	350*450*0.05T(HEAD)	EA	1	
8	9305-A00-0002-B	POLY BAG	550*750*0.04T(DB,DL)(SET,HD)	EA	1	
9	9400-A00-0046-0	SILICAGEL	10g	EA	1	
10	9900-A00-0001-0	봉인납	수출용	EA	1	
11	9900-A00-0002-0	SEALING WIRE	300M/ROLL	EA	0.001	
12	9002-DB2-LC33-2	MANUAL	DB2 LCD 영문	EA	1	
13	7510-P09-1122-0	AC ADAPTOR	110/220V9V/300mA(EP,PW)	EA	1	