

HD-I SERVICE MANUAL

(영공)

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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 HD-I

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.

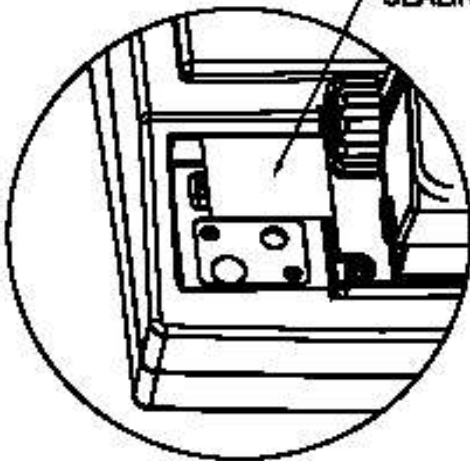
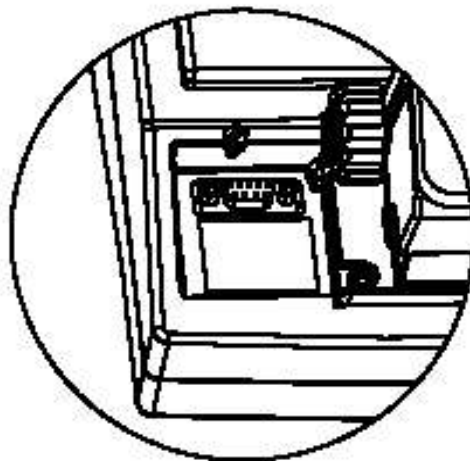
1.3. Specifications

SPECIFICATIONS

Load Cell Excitation Voltage	DC 5V
Zero Adjustment Range	0.05mV ~ 5mV
Input Sensitivity	2uV/D
A/D Internal Resolution	1/300000
A/D External Resolution	1/30000
Division	X1, x2, x5, x10 , x20 , x50
A/D Conversion Speed	10 Hz
Display Below Zero	Minus
DISPLAY	LCD 6 digits 110mm(W) X 35mm(H)
DISPLAY LAMP	STABLE, ZERO, HOLD, NET, HI/OK/LO, lb, , PCS, kg, Low Battery
INTERFACE	RS-232C(Printer)
POWER SOURCE	DC 12V 1.25A Adaptor 6V 4Ah Pb Battery
TEMPERATURE RANGE	-10°C ~ +40°C
PRODUCT SIZE (WDH)mm	220(W)X159(D)X107(H)
PRODUCT WEIGHT	1.5kg
MINIMUM VOLTAGE LEVEL OF THE BATTERY	About 5.6V
CONTINUOUS USING TIME	About 100 Hours(Back light Off) About 25 Hours(Back Light On) *The load Cell Specification can have an effect on using time.
RECHARGING	About 12 Hours

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

1.4. Sealing Method

REVISIONS		2		3																																																									
MODEL NO.	PART NO.	REV	BYM	CONTENTS	DRAWN	CHECKED	APPROVED																																																						
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+ B	②					B																																																							
+ C						C																																																							
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<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">NO</th> <th style="width: 25%;">PARTS NAME</th> <th style="width: 30%;">SPECIFICATION</th> <th style="width: 10%;">QTY</th> <th style="width: 30%;">REMARK</th> </tr> </thead> <tbody> <tr> <td colspan="2">TOLERANCES UNLESS OTHERWISE SPECIFIED</td> <td colspan="3" rowspan="2">  CAS CORPORATION #118 KANGNAM-RO, KANGNAM-GU, SEOUL, KOREA YANGJIL-KUN KYUNGGI-DO, KOREA </td> </tr> <tr> <td colspan="2">ANGULAR ± N/A</td> </tr> <tr> <td style="text-align: center;">E</td> <td>DECIMAL ± N/A</td> <td>FIRST USED IN ASSEMBLY</td> <td>BENCH SCALE</td> <td>MATERIAL</td> <td>N/A</td> </tr> <tr> <td rowspan="2" style="text-align: center;">+</td> <td rowspan="2">  </td> <td>QTY/SET</td> <td>FIRST MADE FOR</td> <td>DB-II</td> <td>END FINISH</td> <td>N/A</td> </tr> <tr> <td>1/1</td> <td>CONTRACT OR CUSTOMER NO</td> <td>WORLD WIDE</td> <td>DO NOT SCALE DRAWING</td> <td>DIMENSIONS ARE IN MILLIMETER</td> </tr> <tr> <td colspan="2">DRAWN</td> <td>CHECKED</td> <td>CHECKED</td> <td>APPROVED</td> <td>SCALE</td> <td>DRAWING/PART NO.</td> <td>REV</td> </tr> <tr> <td colspan="2"></td> <td></td> <td></td> <td></td> <td>N/S</td> <td>3005-DB2-0001</td> <td>00</td> </tr> <tr> <td colspan="2">.20</td> <td>.20</td> <td>.20</td> <td>.20</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>								NO	PARTS NAME	SPECIFICATION	QTY	REMARK	TOLERANCES UNLESS OTHERWISE SPECIFIED		 CAS CORPORATION #118 KANGNAM-RO, KANGNAM-GU, SEOUL, KOREA YANGJIL-KUN KYUNGGI-DO, KOREA			ANGULAR ± N/A		E	DECIMAL ± N/A	FIRST USED IN ASSEMBLY	BENCH SCALE	MATERIAL	N/A	+		QTY/SET	FIRST MADE FOR	DB-II	END FINISH	N/A	1/1	CONTRACT OR CUSTOMER NO	WORLD WIDE	DO NOT SCALE DRAWING	DIMENSIONS ARE IN MILLIMETER	DRAWN		CHECKED	CHECKED	APPROVED	SCALE	DRAWING/PART NO.	REV						N/S	3005-DB2-0001	00	.20		.20	.20	.20			
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1	2	CAS FORM A4 (210mmx297mm)																																																											

2. Calibration Mode

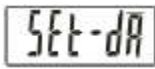
2-1. CALIBRATION (초기화 캘리브레이션)

- Product initialization

Press  key to go to Power on



When numbers on the display appears press CAL S/W.



There will be a beeping sound as the product initializes.

- General Calibration

* If the product initiation process is skipped, the #4 value will automatically be set to the previously set value and the setup process will be skipped.

1. Pressing and holding calibration switch press  key to go to calibration mode.
2. Pressing and holding   key press  key to go to calibration mode.



key : Quick value settings. "1/2/5/10/20/**50**/DUAL" (150Kg이면 50 , 300Kg이면 10)

(Dual일 경우  key : 1530 , 3060 , 6015 선택)



Select



key : Set-point digits
"00000/0.0/0.00/**0.000**/0.0000/0.00000"



Select



key : Full Capa. Setting (150Kg이면 150000, 300Kg이면 300000)



Select



Calibration mode.

Zero Calibration (Check that the scale reads zero) 





Span Calibration Input value. Note: Input values in Kg. (150Kg이면 000150, 300Kg이면 000300)

설정 후 FULL CAPA (150kg ,또는 300Kg) 분동을 집판에 올리고 키를 누를 것.



Place the previously inputted amount of weight on the scale and then press Select



Calibration complete

2-2. CALIBRATION (일반 캘리브레이션)

a. "CAL S/W" 누른 상태에서 전원을 켜다.



b. CAL MODE 진입 후 집판이 아무것도 없는 상태에서 누른다.



FULL CAPA값을 입력한다 (150Kg 이면 000150 입력) 집판에 150Kg 분동을 올린 후 누른다.



2-3. SET-UP MODE

Pressing and holding key press key to go to set-up mode.



□ □ □ □ □ □

(a) (b) (c) (d) (e) (f)

(a) Zero Tracking 0 ~9d

(b) Minimum Tracking Digit 0 ~9d

(c) Measure of weight after zero tracking 0 ~9d

(d) Initial Zero Range 0 =20% (OIML) 1 =100%

(e) Vibration Filter 0 =high 1 =middle 2 =low

(f) 0 = Colon 1 =Semicolon

Default: 123100



Zero Tracking : 1d

Minimum Tracking Digit : 2d

Measure of weight after zero tracking : 3d

Initial Zero Range : 1 = 100% , Vibration Filter : 0 = high , 0 = Colon

3. The Schematics and Diagram

2.1.

System Block Diagram

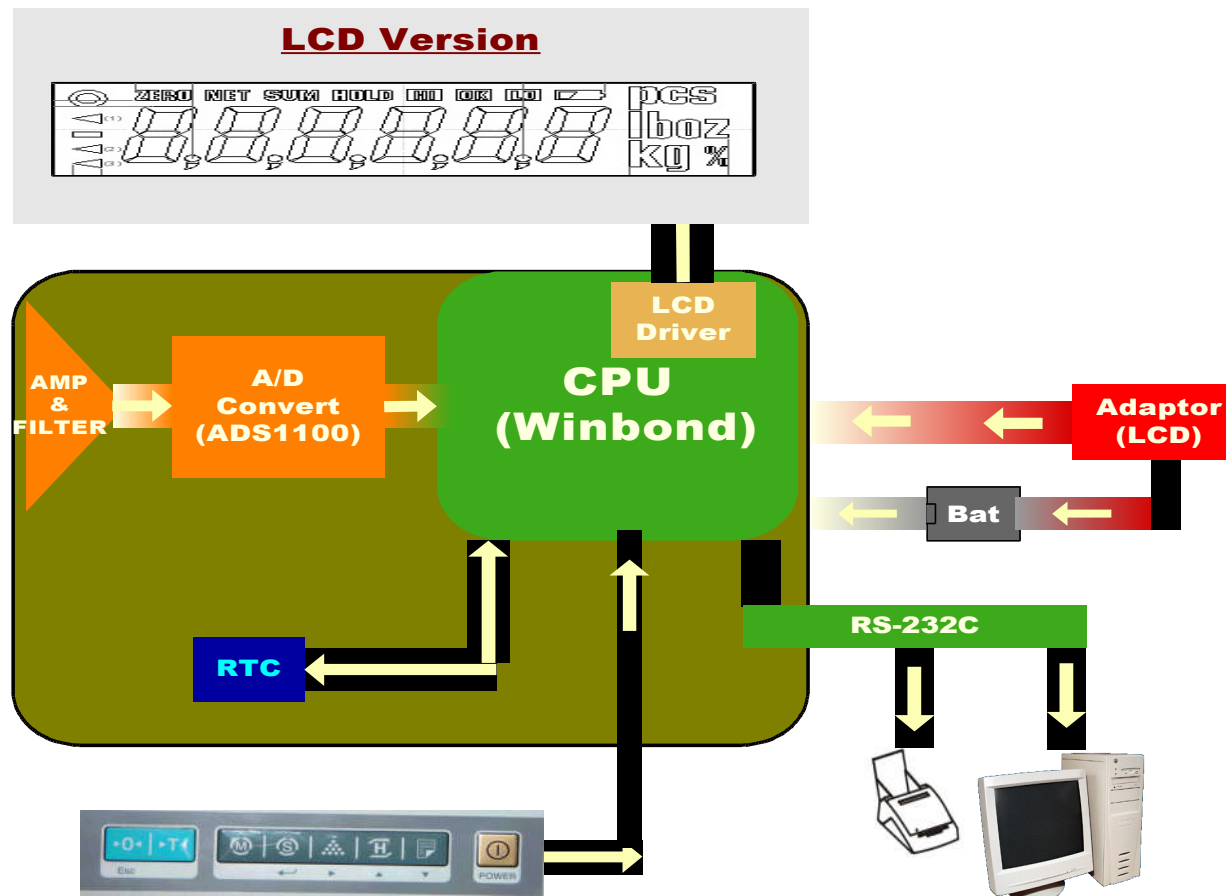
DOLPHIN 공용
(520*400)



SMALL PLATFORM
(280*280)



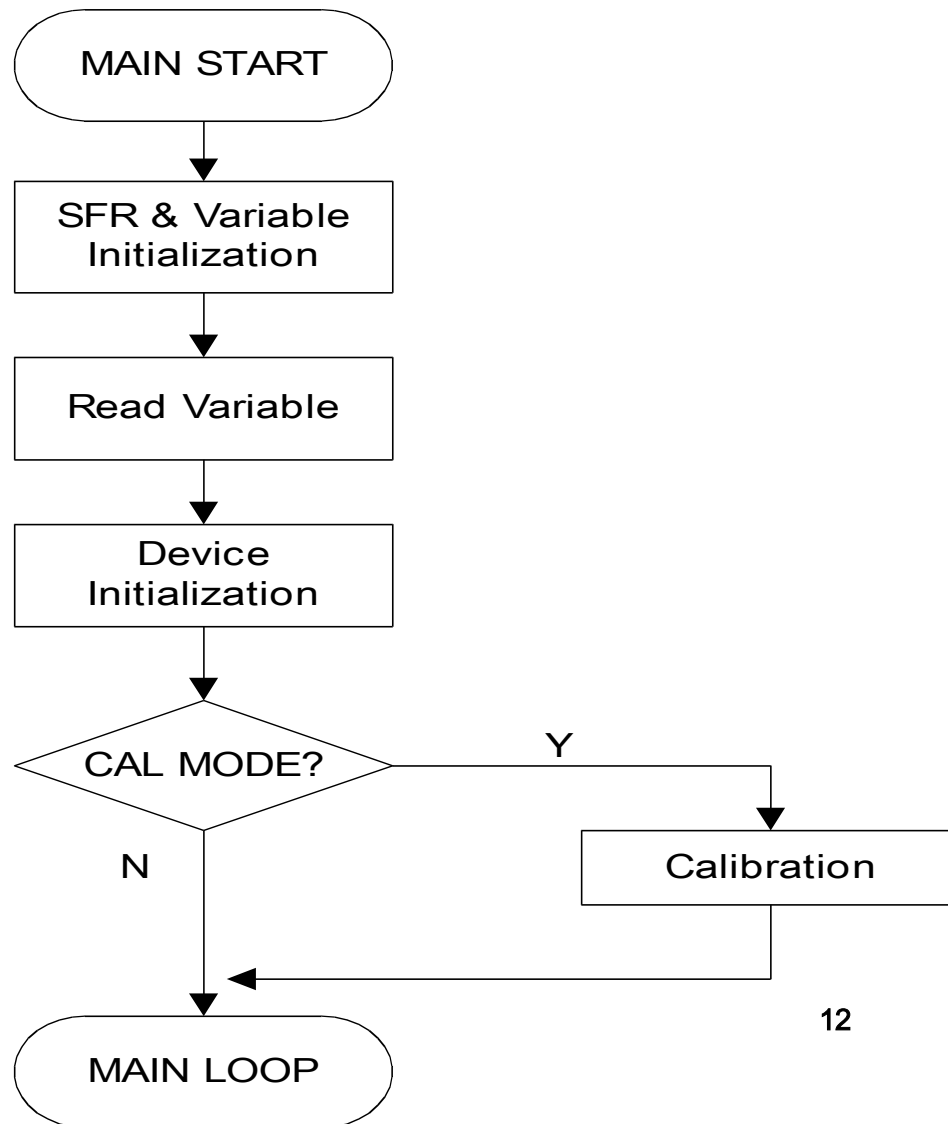
LARGE PLATFORM
(640*500)



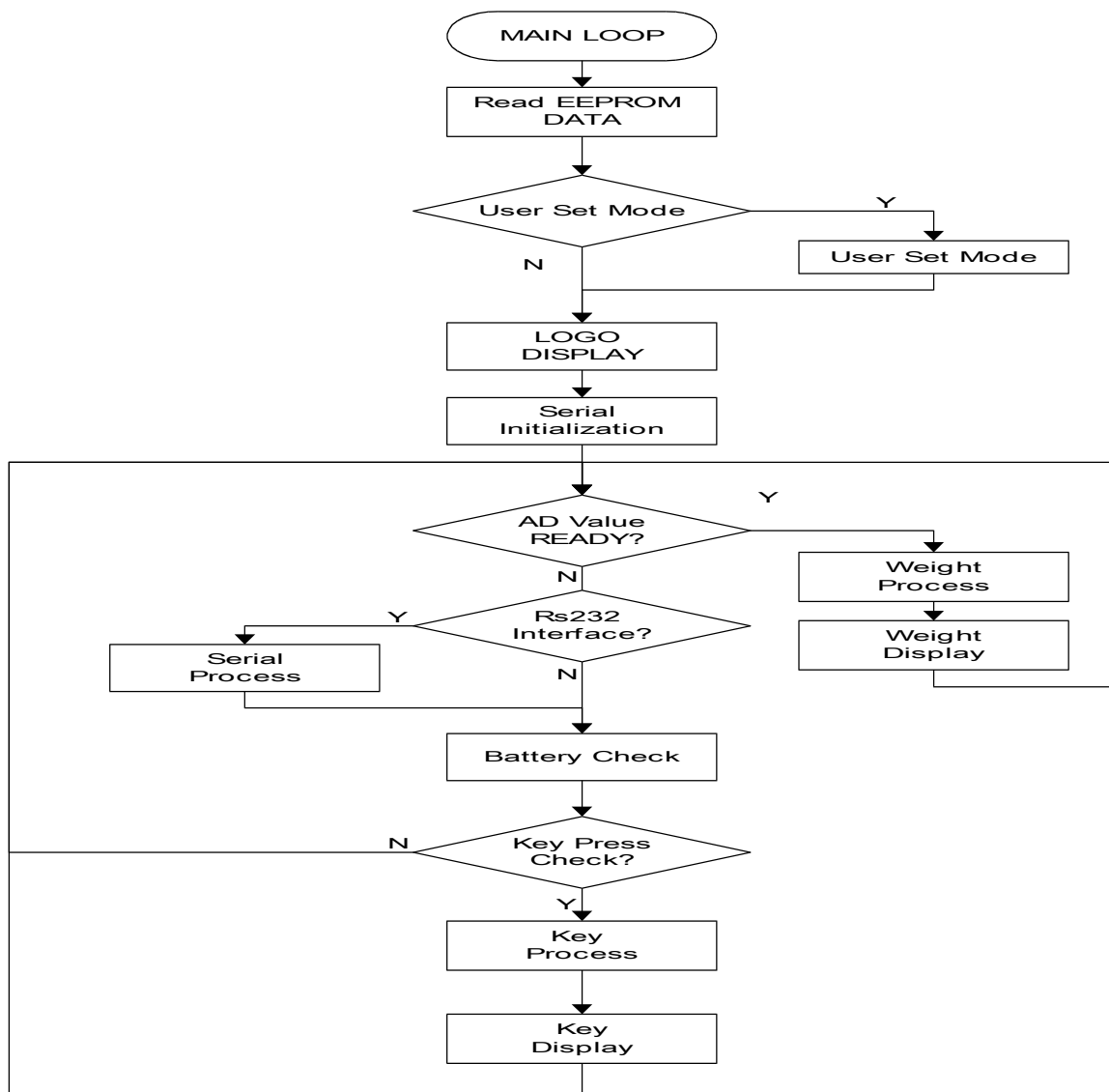
2.2. Block diagram of the software

2.2.1. Main start flowchart

DRAWING NUMBER : 9000-DB2-0002



2.2.2. Main loof flowchart





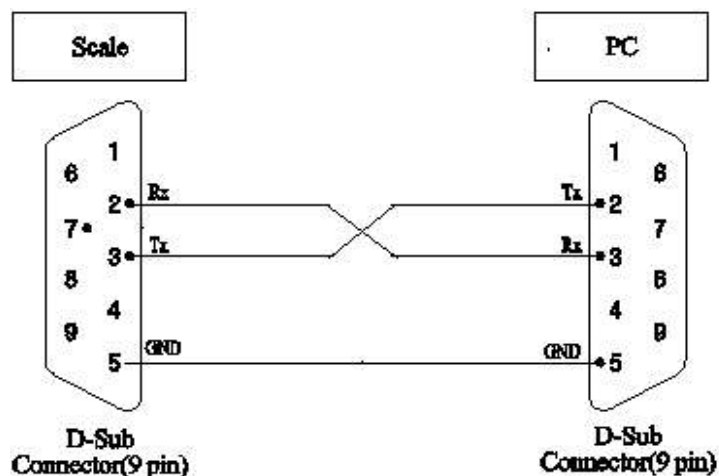
3 ERROR MESSAGES

4

Error Message on Display	Description	Solution
"Err 0"	The "Err 0" occurs when scale is not stable.	Remove unstable facts.
"Err 1"	The "Err 1" occurs when a current zero point has shifted from the last span calibration.	Please call your CAS dealer.
"Err 3"	The "Err 3" is an overload error.	Please remove the weight.
"Err 9"	The "Err 9" is no weight error. When scale is in counting mode, you must load the weight. If you have no weight on your scale, you can see this error message.	Please load the weight on your tray.
"Err 14"	The "Err 14" means calibration range is not correct.	Please call your CAS dealer.

5

5. Serial Interface



6. Parts List

NO	PART CODE	PART NAME	SPECIFICATION	QTY	REMARK
C/T BOX ASS Y					
1	7562P1202CE0	ADAPTOR	100-240V/ 12V1.25A EU STRAI	1	
2	9100AB100010	C/T BOX	CI 200 (380*300*169)	1	
3	9204AS000210	STYROFOAM BOX (UP)	CI 200 (380*300*50)	1	
4	9204AS000220	STYROFOAM BOX (LOW)	CI 200 (380*300*125)	1	
5	9002DBLLC332	MANUAL	DBI (LCD Ver.) / DDI 통합 OneMo	1	
6	9303A000004A	POLY BAG	C/T BOX	1	
7	9301A0000030	POLY BAG	170*250*0.05T(MANUAL)	1	
8	9400A0000460	SHLICAGE	10g	1	
9	9900A0000010	봉인납	-	1	
NO	PART CODE	PART NAME	SPECIFICATION	QTY	REMARK
HEAD ASS Y (DDI)					
1	7520E0004060	BATTERY	6V 4AH 20HR(ER PLUS)	1	
2	7832V0012250	D-SUS WIRE	D9P*3P*250mm(DBI)	1	
3	7834V0006700	SHIELD WIRE ASS Y	SON-16-07R*150(CI-2001)	1	
4	7840V000100A	CONNECTOR WIRE	3P*200mm(SWITCH)	1	
5	7840V0002000	CONNECTOR WIRE	3P*120/200(DB-II Pb)	1	
6	7840V000303B	CONNECTOR WIRE	3P*220*303(CORE)	1	
7	7860GND0110A	GROUND WIRE	2P*110mm(DDI)	1	
8	1030A0002380	COVER PLATE	DB-I @6*25.6*1t	1	
9	1260A0000010	BOLT-SEALING	M*6(S-2000)	1	
10	1265A0000011	BOLT-SEALING	M*11(머리3)-황동	1	
11	1502M6D03080	SCREW MACHINE(PH)	M*8-SUS	1	
12	1510A0003060	SCREW TAPPING PH) - 1	M*6	4	
13	1512A0002660	SCREW TAPPING PH) - 2	M2.6*6	1	
14	1512A0003080	SCREW TAPPING PH) - 2	M*8	2	
15	2000A0003080	FRONT CASE	DDI 220*159*45	1	
16	2000A0003090	REAR CASE	DDI 220*159*92.2	1	
17	2000A0003100	BATTERY COVER	DDI 143.5*55.5*13.9	1	
18	2013A0000090	BATTERY HOLDER	HDP 111.7*47.5*16.7(BL, BW)	1	
19	3050D2A00330	DISPLAY COVER TOOL (F)	DDI 184*76.5*1T	1	
20	3050D2B00330	DISPLAY COVER TOOL (R)	DDI 160*51*1T	1	
21	3100DDI00330	M.B. SWITCH TOOL		1	
22	2631A0000230	CUSHION BATTERY COVER	40*26*2T(MW/L, DBB, FR)	2	
23	6D00H0000010	MAIN PCB ASS Y	HD LOWCOST	1	
24	6D56D000100	TERMINAL PCB ASS Y	DB-2 (5 PIN)		
25	6156PDB0000C	PCB TERMINAL	6156PDB0000C	1	
26	6710CAP0103B	CONDENSER CERAMIC	0.01uF/3KV	2	
27	7834V000053A	SHIELD WIRE ASS Y	5P*300mm(DB-II BASIC COR)	1	
28	7801CLW0005A	CONNECTOR (WAFER)	LW0640-05 (GOLD) (LPH01)	1	