

# ***CL3500 Series***

*Service Manual*  
**(English)**

Rev. 2012. 05. 29

## Table of Contents

1. Proper Operation .....	5
1.1 Introduction.....	5
1.2 Model and Specificationl .....	6
1.3 Environmental Conditions & Safety .....	7
1.4 Leveling and Footer Location.....	8
1.5 Power Outlet and Requirements .....	10
2. Classification.....	11
2.1 Scale Overview.....	11
2.2 Display and Indicators.....	12
2.3 Printer .....	14
2.4 Commuication .....	15
2.5 Key Pad.....	16
3. Getting Started .....	17
3.1 Sealing Method.....	17
3.2 Installation of the Label Roll.....	18
3.3 Turning Power On/Off.....	20
3.4 Program Menu and Tree.....	21
3.4.1 How to access PROGRAM MODE.....	21
3.4.2 Program Menu Tree .....	22
3.4.3 Calibration Menu Tree .....	24
4. Calibration Mode .....	25
4.1 Calibration.....	25
4.1.1 Span Calibration (Menu Code 8110).....	26
4.1.2 Span/Zero Fine Adjust (Menu Code 8120) .....	28
4.1.3 Capacity & Units (Menu Code 8130) .....	30
4.1.4 Gravity Constant (Menu Code 8140).....	31
4.1.5 Percent Calibration (Menu Code 8150).....	32
4.1.6 Linearity Adjust (Menu Code 8160).....	33
4.1.7 Zero & Tare Setting (Menu Code 8170).....	34
4.2 Factory Setting (Menu Code 8180).....	35
4.2.3 A/D Initialize (Menu Code 8183).....	35
4.2.4 Linearity Fine Adjust (Menu Code 8184).....	36
4.2.5 <i>Hysteresys Calibration</i> (Menu Code 8185).....	37
4.3 Memory Clear.....	39
4.3.1 Clear Report (Menu Code 8211) .....	39
4.3.2 Clear All PLU (Menu Code 8212).....	39
4.3.3 Clear All Table (Menu Code 8213) .....	39

# CAS ELECTRICS CO.,LTD

4.3.4	Flash All Clear (Menu Code 8214).....	39
4.4	Scale Type.....	40
4.5	Printer Hardware.....	41
4.5.1	Print Mode (Menu Code 8310).....	41
4.5.2	Label/Ticket Size (Menu Code 8320).....	41
4.5.3	Sensor Calibration (Menu Code 8330).....	42
4.5.4	Sensor & Motor (Menu Code 8340).....	42
4.5.5	Print Intensity (Menu Code 8350).....	42
4.5.6	Adjust Feed Length (Menu Code 8360).....	42
4.5.7	Label Pre-print (Menu Code 8370).....	42
4.5.8	Printer Initialize (Menu Code 8380).....	42
4.6	Network Options.....	43
5.6.1	Enable Interface (Menu Code 8410).....	43
4.7	Self Test.....	43
4.7.1	Display Test (Menu Code 8510).....	43
4.7.2	A/D Test (Menu Code 8520).....	43
4.7.3	Keyboard Test (Menu Code 8530).....	44
4.7.4	Chess Print (Menu Code 8540).....	45
4.7.5	Printer Sensor Test (Menu Code 8550).....	45
4.7.6	Memory Information (Menu Code 8560).....	46
4.7.7	Firmware Version (Menu Code 8570).....	46
5.	Servicing & Parts Replacement.....	47
5.1	Platform Safety Overload Adjustment.....	48
5.2	Removing the Upper Case.....	49
5.3	Main board Replacement.....	50
5.4	Power Supply Replacement.....	51
5.5	Load Cell & AD Converter Replacement.....	52
5.6	Print Assembly Replacement.....	53
5.7	Display Replacement.....	54
5.8	Keyboard Replacement A,B(with/without breaking sealing).....	55
6.	Installing Options.....	56
6.1	Installing Wireless Lan Card.....	56
7.	Update.....	57
7.1	F/W update (CL3500).....	57
8.	Schematic & Diagrams.....	60
8.1	System Block Diagram.....	60
8.2	Connection Diagram.....	61
8.3	I/O Pin Connection.....	62
9.	Exploded Views.....	63

# CAS ELECTRICS CO.,LTD

9.1	Lower Body A'ssy .....	63
9.2	Upper Body A'ssy (B-type).....	64
9.3	Upper Body A'ssy (P-type).....	65
9.4	Printer A'ssy.....	66
9.5	Poll A'ssy .....	67
10.	Part List .....	68
10.1	Electronic Part .....	68
10.2	Mechanical Part.....	71
10.2.1	Upper Body Ass'y .....	71
10.2.2	Lower Body Ass'y.....	72
10.2.3	Poll Ass'y.....	73
10.2.4	Printer Mechanism Ass'y.....	74
10.2.5	Cartridge Ass'y .....	76
10.2.6	C/T Box Ass'y .....	77
10.2.7	Image Ass'y .....	77
11.	Revision.....	78

## **1. Proper Operation**

### **1.1 Introduction**

Thank you for purchasing the CAS CL3500 series price computing printer scale. We have designed this equipment with advanced features, high quality construction, and user-friendly menu driven programming. We are confident that you will find the CAS CL3500 series scale will meet all of your most demanding needs.

Sales data is easily acquired through many of the available reports which are quickly accessible through the on-screen menus. Also available: High speed printer (4 inch per second), 53 preset keys (106 using the SHIFT key or double click) per department, and several operation modes that enable you to control & access to the scale.

For larger operations, CL3200 series has in-store network that can link-up to 32 scales. RS-232 port, ethernet port, and wireless connection enable to export and import program data for time-save management. On-time operation possible because of PLU and all other data files are kept locally in each scale's memory bank; the scale's speed is the same as a stand-alone unit in a network.

The CL3500 series can use with both ticket and label. Auto measuring system enhances use any types of roll paper. (Just entering a label's length and width dimensions, you can use practically any roll) Also cartridge loading mechanism helps to refill the label roll easily. Also you can print logos, templates, Nutri-Facts panels, ingredient messages, advertisement lines, and more to promote your store.

Remember, for proper installation and maintenance please read the CL3500 series Manual before use. A wide variety of supplies, accessories, and expansion options are available through CAS Corporation for whatever your new and increasing demands may require

The CL3500 series also comes with the SP-2 software package. This software runs on any PC using the 95/98/2000/XP Windows OS. You can design your own label formats on your computer screen and save them to your hard drive. With this precise interface, the labels you see on-screen appear exactly on the printer. You can also manage all of the CL3500's programs and options like pricing, PLU programming, etc. You can upload data from a CL300 series or download data. This is ideal solution for an emergency scale backup system. All this and many more features are packed into the SP-2 software package. SP-2 software package enhances your business next level.

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## 1.2 Model and SpecificationI

<b>Model</b>	CL5000 / CL5500 Series					
<b>Capacity</b>	6Kg	15Kg	30Kg	15lb	30 lb	60lb
<b>Interval</b>	1g/2g	2g/5g	5g/10g	0.002lb/ 0.005lb	0.005lb/0.01lb	0.01lb/0.02lb
<b>Max Tare</b>	- 2.999Kg	- 5.998Kg	- 9.995Kg	- 5.998lb	- 9.995lb	- 29.99lb
<b>Display</b>	Graphic LCD (208x48)					
	Tare: 4 digit Unit Price: 6 digit		Weight: 5 digit Total Price : 6 digit		Weight: 5 digit Unit Price: 6 digit Total Price : 7 digit	
<b>Zero Pass Range</b>	1~ 50% (default 10%)					
<b>Re- Zero Range</b>	1~ 50% (default 2%)					
<b>Overload Range</b>	Max Capa. ~ Max Capa. + 255d (default Max+9d)					
<b>A/D Conversion Rate</b>	Approx. 8/sec					
<b>Measurement type</b>	Load cell					
<b>Platter type</b>	SUS					
<b>Key</b>	B- Type	PLU Key : 40 Function Key: 30		P- Type	PLU Key : 72, Function Key: 36	
<b>Speed Key</b>		PLU Key : 80			PLU Key : 144	
<b>Data Table</b>	PLU			1~ 99999	3000	
	Ingredient 510 Char			1~ 999	999	
	user defined Barcode Format			1~ 99	99	
	Department			1~ 99	99	
	Tax Type			1~ 9	9	
	Group			1~ 99	99	
	Clerk			1~ 99	99	
	Discount			-	99	
	Origin			1~ 499	499	
	Traceability			1~ 99	99	
	Slaughter House			1~ 99	99	
	Cutting Hall			1~ 99	99	
	Traceability Country			1~ 99	99	
	Label Format			Default :45, User:20		
	Bitmap			14	14	
	Customer			1~ 99	99	
	Quantity Symbol			1~ 8	8	
	Scroll Message			1~ 9	9	
	Pay Type			0~ 8	8	
	Sales Message			1~ 99	99	
Nutrifact			1~ 500	500		
Tare Table			1~ 99	99		
Currency			1~ 4	4		
<b>Report</b>	X1/X2, Z1/Z2, Scale, PLU, Misc. PLU, Group, Department, Hourly, Clerk Report					
<b>Printing Resolution</b>	202 dpi					
<b>Label Size</b>	Width: 40mm ~ 60mm, Length: 30mm ~ 120mm					
<b>Barcode Type</b>	EAN13, EAN13A5, EAN8, I2OF5, UPCA, UPC13, CODE39, CODE93, CODE128, CODABAR,					
<b>Font</b>	Offer varoius sizes of label format, e.g Small, Middle, Large Size, and on the label format, also offers varioous types of fonts, such as Italic,Bold,Underline,Throgh Line, Double through line, Reverse,shadow, outline etc.					
<b>Printer Type</b>	Direct Thermal Print					
<b>Dimensions</b>	B- Type	409 x 441 x 178.2 mm			B,P TYPE Tray : 380 x 250 mm	
	P- Type	410 x 500 x 535.8 mm				

## 1.3 Environmental Conditions & Safety

### 1) *Please avoid the following hostile conditions*

- Temperatures below or exceeding:  
- **10° C ~ 40° C (14° F ~ 104° F)**
- Excessive vibration
- Wind or fans functioning in direct contact with weighing platform.
- Direct sunlight
- High humidity
- Ungrounded electrical outlet
- Unstable or flimsy surface
- Shared electrical outlet
- Dust or dirt
- Poor ventilation

### 2) *Environmental Protection*

The scale should be installed in a dry and liquid free environment. When the scale is installed in a high humidity or wet-type environment, be sure to avoid spilling or spraying directly on any surface of the scale.

### 3) *Personal Safety*

It is very important to be aware of personal safety whenever maintaining or operating this equipment. We have tried to place warning labels and other indicators at the actual location on the equipment where the danger is most likely to occur. Warnings and cautions that are necessary for the safe operation of the scale are contained in this manual. Please, make sure to read carefully ALL warnings and cautions before operating the scale.

### 4) *Observe the following safety precautions*

- Shut the scale **OFF** and unplug the scale whenever you are changing the label roll or whenever working in the printer bay.
- The outlet that the scale is plugged into, should be properly grounded.
- Whenever connecting or disconnecting **ANY** cables from the scale, be sure to hold the cables by the end connector. Failure to do so may cause a short circuit.
- Maintain a static-free work area.
- The outlet used must have the proper voltage ratings.

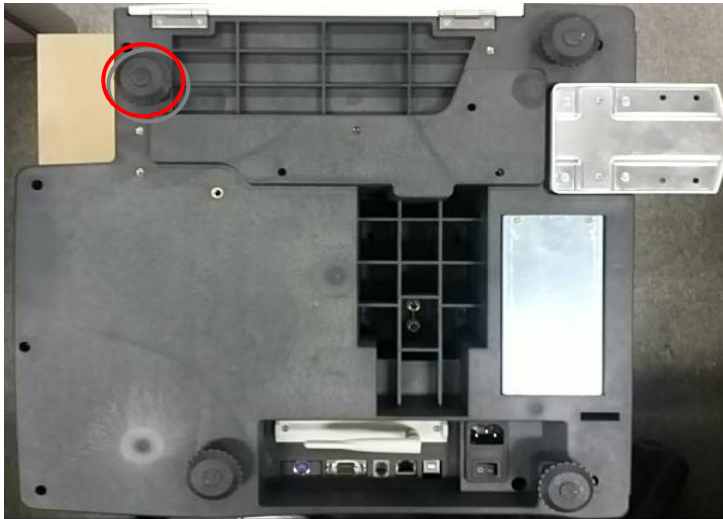
## 1.4 Leveling and Footer Location

### 1) Location

This scale must be placed on a flat and stable surface. Please keep the scale away from the direct path of oscillating fans, ventilation systems, or strong drafts as these air disturbances can be picked-up by the scale's very sensitive weighing platform and may cause incorrect weight readings.

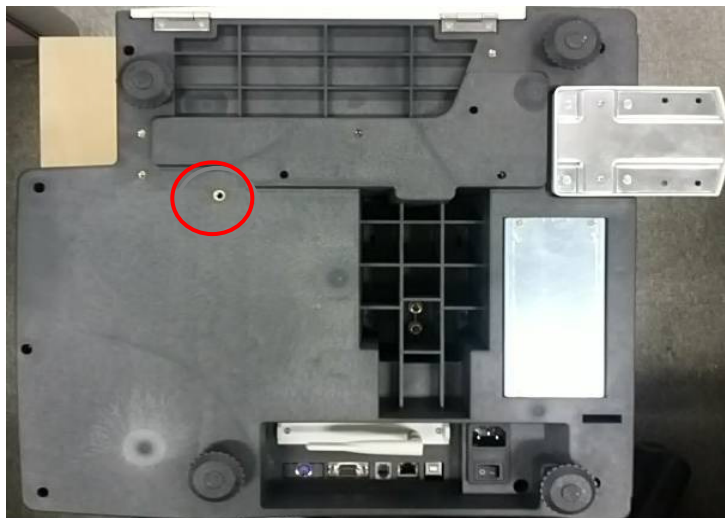
#### 1.1) General Footer

Factory setting (Footer location is following picture)



#### 1.2) Short Case Footer

Unscrow the footer and place in center hole for narrow place.

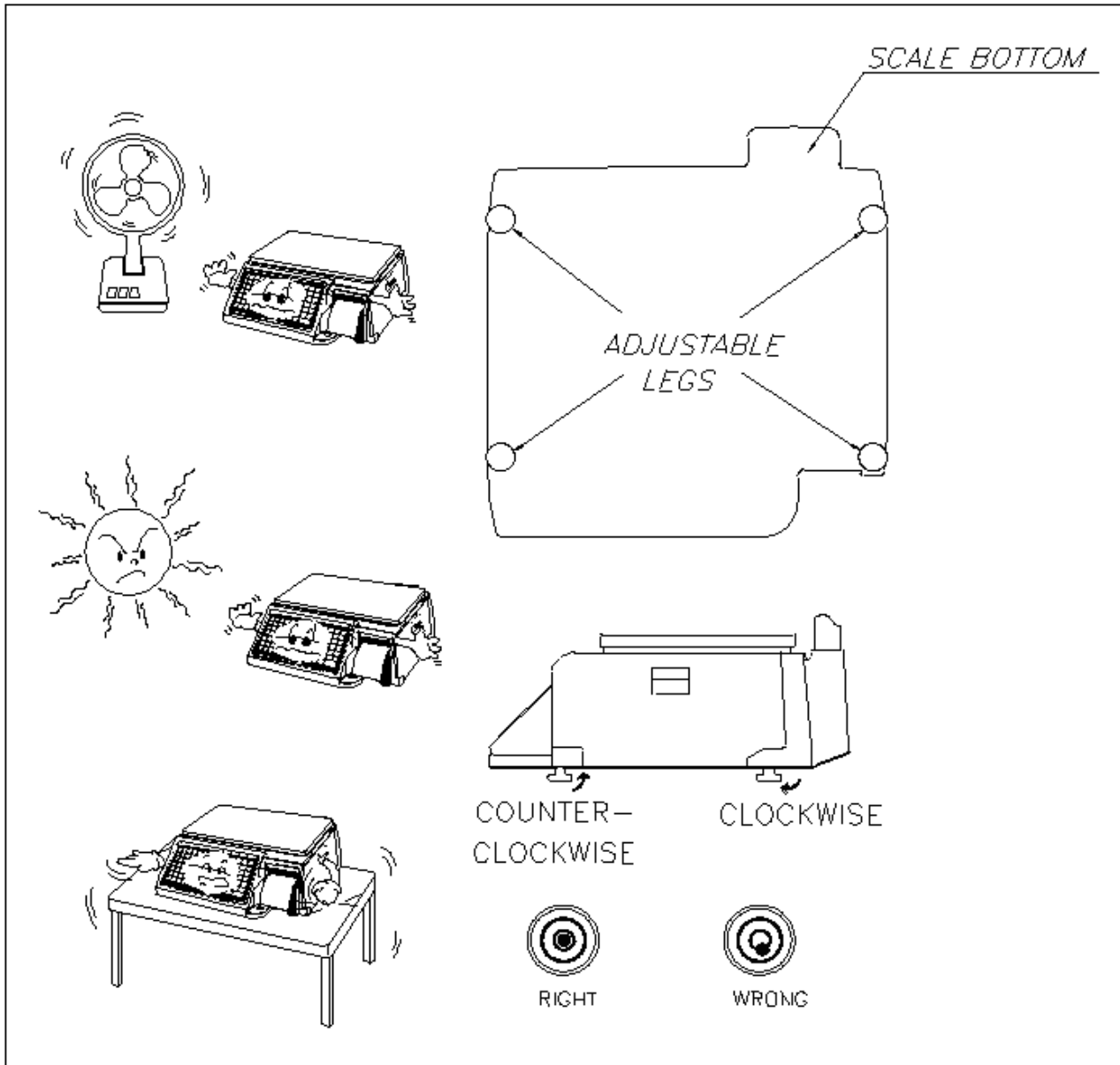




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## 2) Leveling

If the scale is not properly leveled, please adjust the 4 adjustable legs at the bottom of the scale. Turn the legs clockwise or counterclockwise so as to center the bubble of the leveling gauge inside the indicated circle. Turning the adjustable legs counter-clockwise (viewed from top of scale) will lower that part of the scale. Turning the adjustable legs clockwise (viewed from top of scale) will raise that part of the scale. (See Fig.)



## 1.5 Power Outlet and Requirements

Power Source : AC 100~240V, 50/60Hz, 1.5A

Power consumption : Max 90W

CL3500 series's outlet is on bottom of scale.



The CL3500 series is designed to be used almost anywhere in the world! Like the many appliances of today, the CL3500 series is designed with an automatically switching power supply. This allows operation when connected to an AC source from 100V to 240V at 50/60Hz with 5% tolerance.

NOTE: Please make sure that the power lines used for the CL3500 series are dedicated lines with No high- noise devices (such as compressors, motors, etc) running on it.

Also, make sure that the wiring to the electrical socket is correct.

If you are uncertain as to the state of your work' electrical lines,

please contact a certified electrician.) Once you are sure as to the safety of the electrical line, make sure to ONLY plug the scale into a 3- prong outlet. The third prong is a safety ground and an electrician should properly wire this if it is not correct or if you are unsure. Failure to this CAN result in electrical shock from use of this or any electronic scale.

- 3) Do not use any 3- prong to 2- prong adapters or break- off the third prong from the CLP power cord. The third prong is necessary and must be properly connected.
- 4) If you have any problems or questions regarding this matter, make sure to contact the CAS Service Department.

## 2. Classification

### 2.1 Scale Overview

CL3500 has 2 differmt type Standard Type, Pole Type.

#### ■ Standard Type



#### ■ Pole Type P



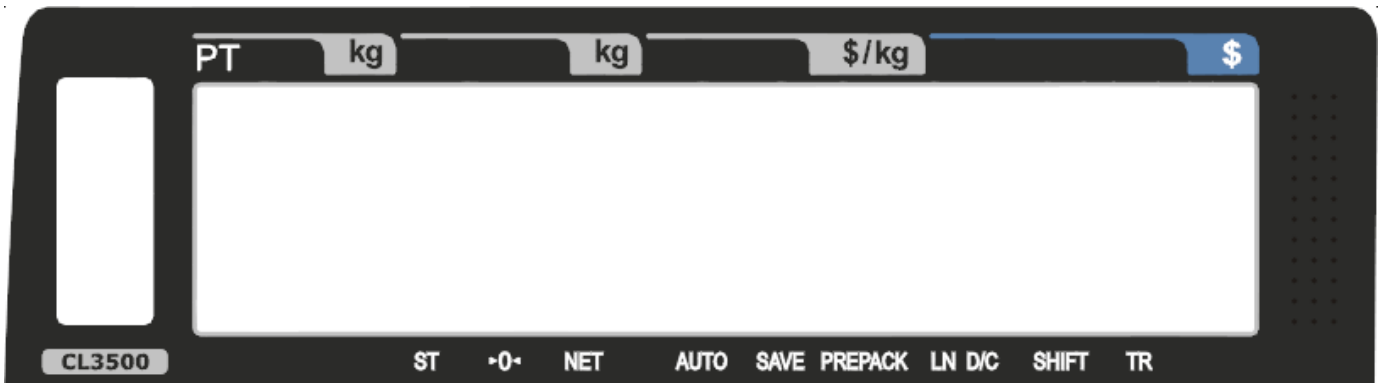
## 2.2 Display and Indicators

There is LCD(208x48) display on CL3500. LCD display indicates program tare, weight, unit price, total price. Underbar indicates stable, net, zero, auto, save, prepack, D/C, shift, data transfer.

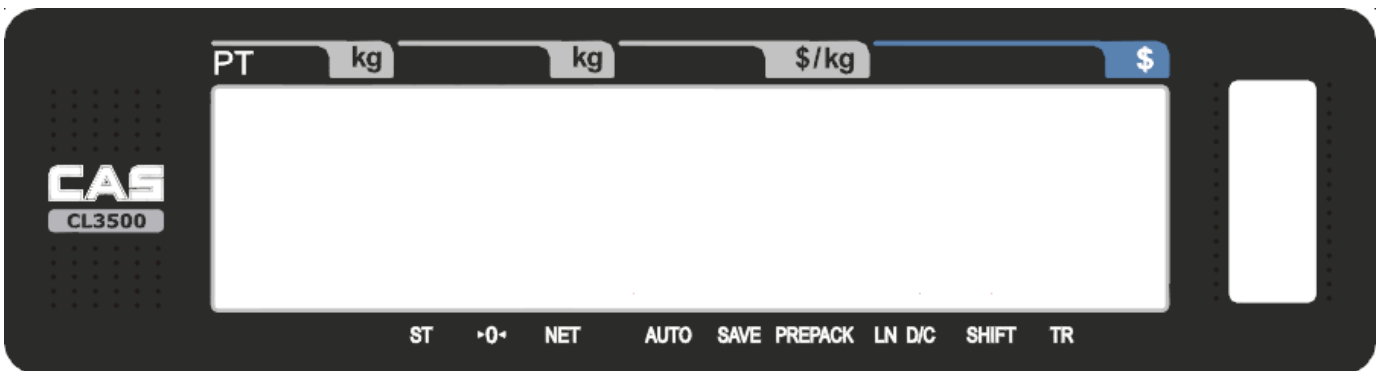
LCD display shows menu messages for program mode.

### ■ CL3500-B

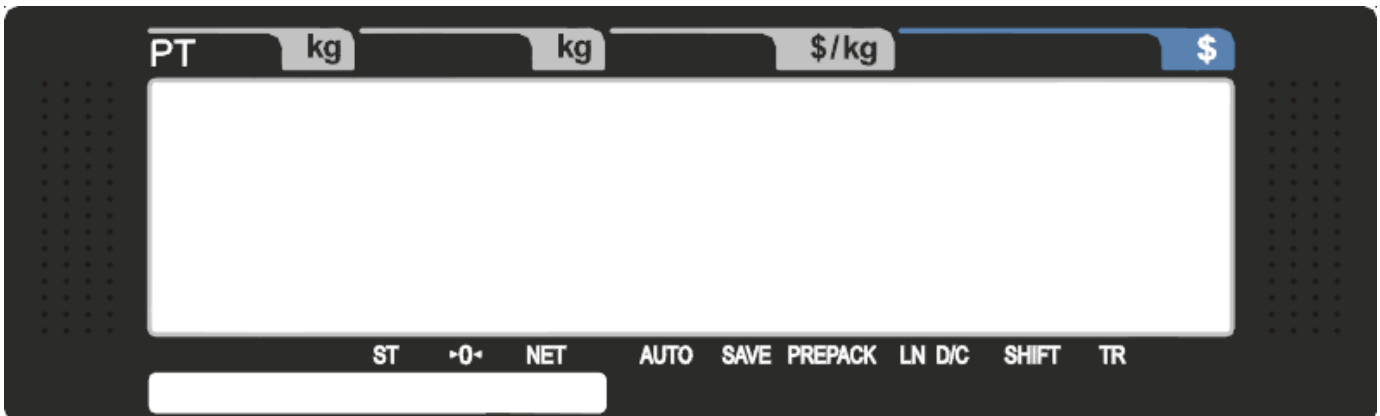
- Front



- Rear



### ■ CL3500-P

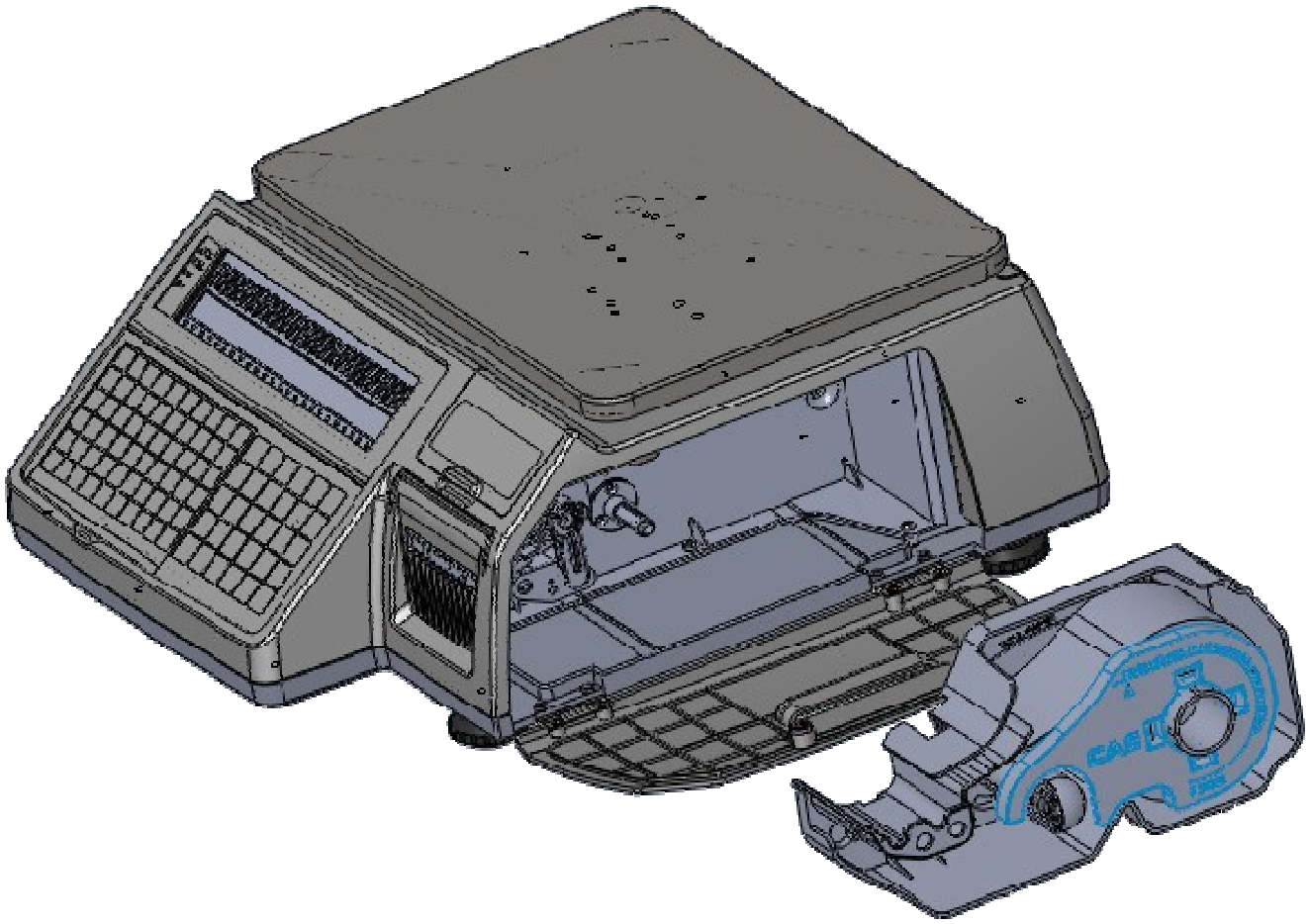


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## ■ Indicators

SYMBOLS			DESCRIPTION
B, P, R, H - TYPE	G - TYPE	D - TYPE	
ST	ST	STABLE	Stable weight indicator
▶0◀	ZR	▶0◀	Zero weight indicator
NET	NET	NET	Net weight indicator
AUTO	AT	AUTO	Print Mode indicator
SAVE	SV	SAVE	Auto clearing status indicator
PREPACK	PRK	PREPACK	Auto clearing status and Print mode indicator
D/C	DC	D/C	Discount status indicator
SHIFT	SH	SH	Speed key shift status indicator
TR	TR	Y	Data transmission status indicator
		M	Master status indicator
		S	Slave status indicator
LN			Ethernet Connection Status

## 2.3 Printer



- Cartridge type print mechanism
- High quality ROHM printer head (50km/5x10<sup>7</sup>pulses)
- Improved a rotating force by using 2 independent motors
- Large compartment for 120mm paper roll
- High speed at 100 mm/sec.
- 5 speed ranges for paper roll quality adjustment
- Supports Paper
  - Labels,
  - Continuous strip labels,
  - Lineless paper

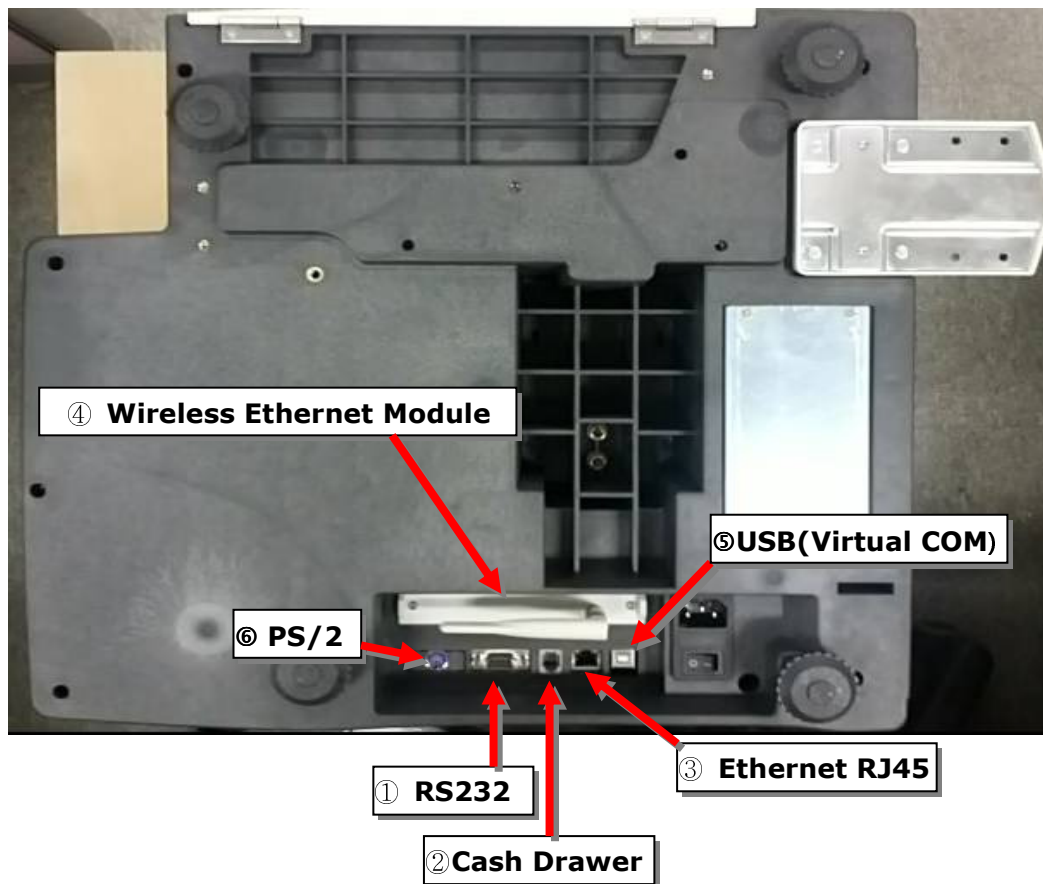
## 2.4 Commuication

### ■ Standard

- ① RS232
- ② P/S 2
- ③ Cash Drawer
- ④ Ethernet
- ⑤ USB (Virtual COM)

### ■ Options

- ⑥ Wireless Ethernet Module



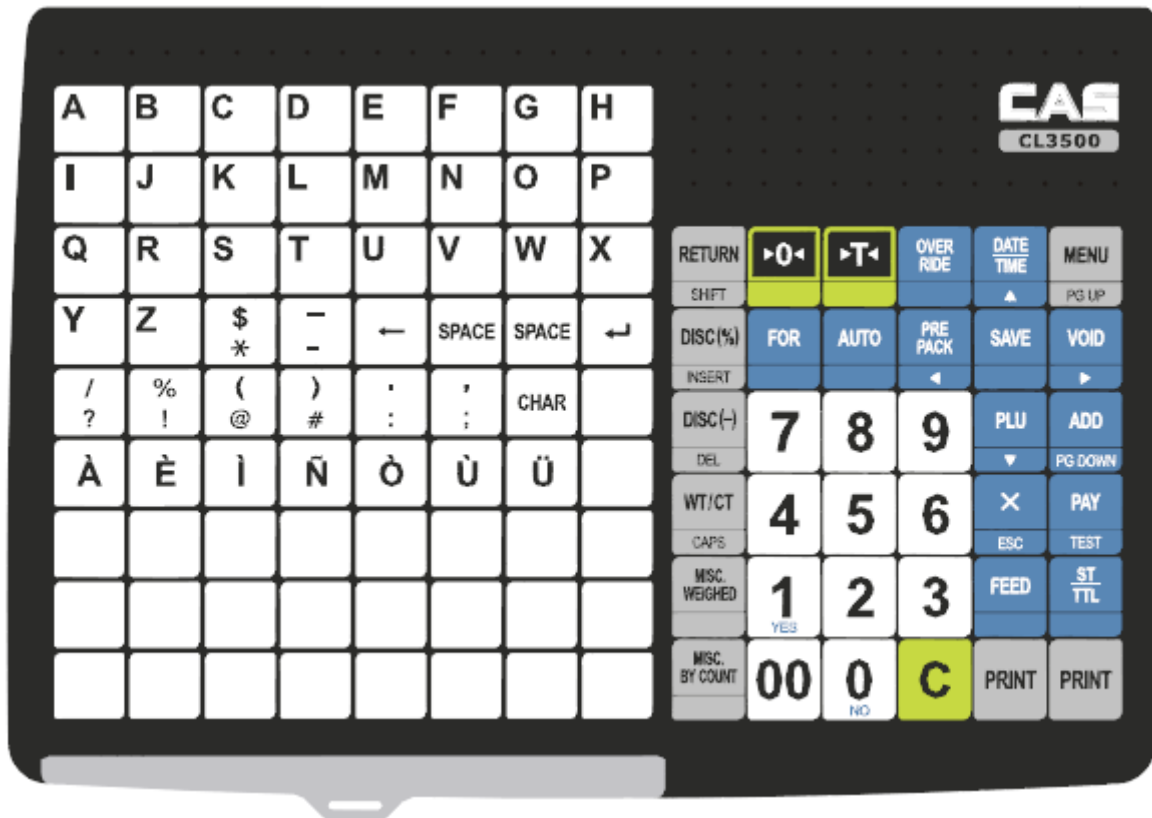
## 2.5 Key Pad

Key pad is like following picture (This may change depends on contury)

### ■ Standard Type Keypad



### ■ Pole Type Keypad



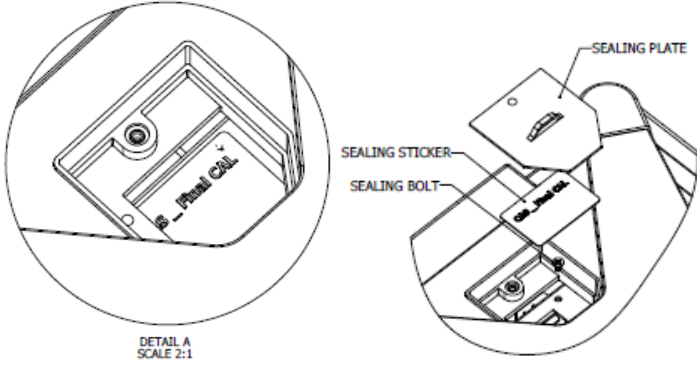
\* Hot key and Undifine key setting reference Menu **code 1880**



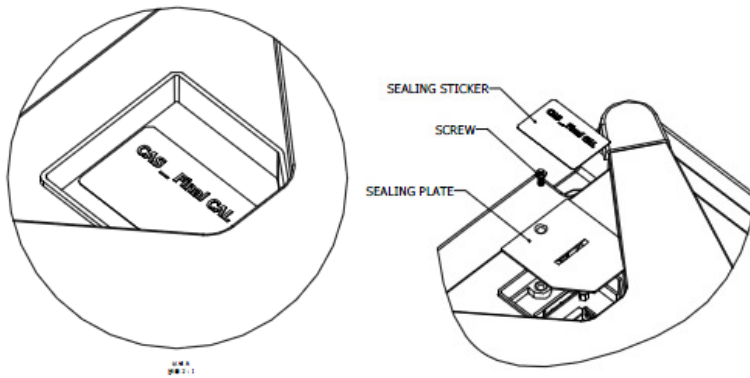
## 3. Getting Started

### 3.1 Sealing Method

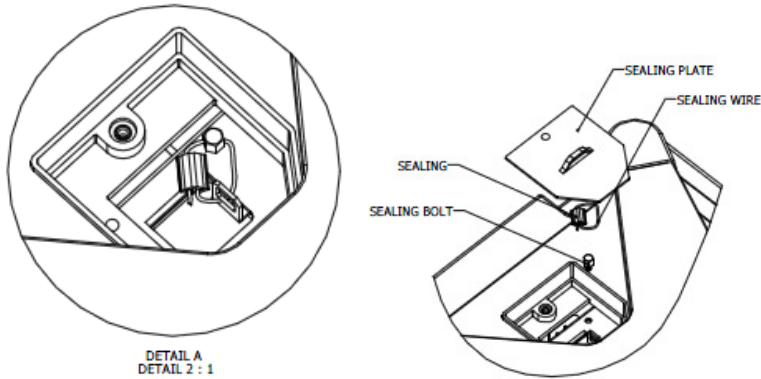
#### ■ Method 1



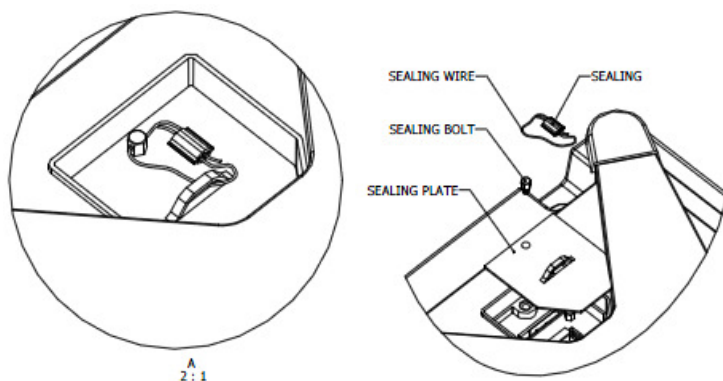
#### ■ Method 2



#### ■ Method 3



#### ■ Method 4



## 3.2 Installation of the Label Roll

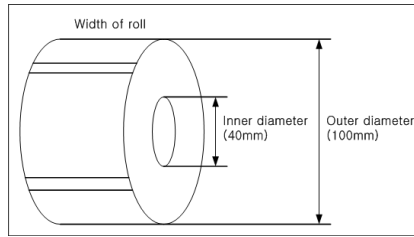
### ■ Label Specifications

Outer diameter of roll : 100mm

Inner diameter of roll : 40mm

Width of receipt roll : 40, 50, 60mm

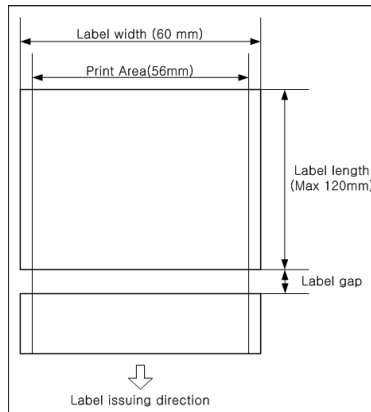
Width of label roll : 60mm(MAX)



### ■ Print Area

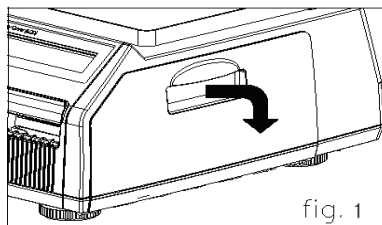
Width of label : 60mm(MAX)

Length of label : 120mm(MAX)

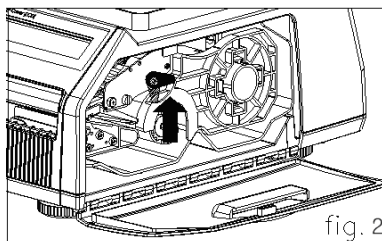


**To install the label roll at ANY time you must follow the directions in this section:**

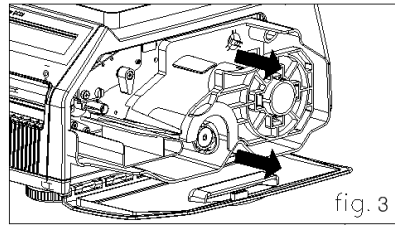
- 1) Press the **ON/OFF** key and make sure that the display is completely off. Open the printer' s side-access panel. (See fig.1)



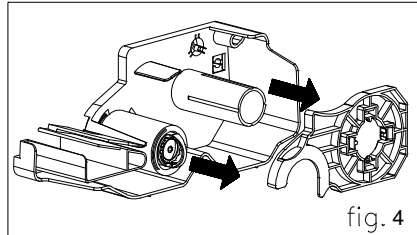
- 2) Lift up TPH lever as fig 2.



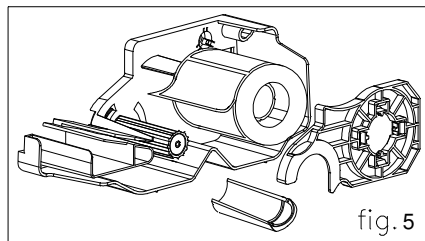
- 3) Remove cartridge as fig. 3.



- 4) Remove Pick-Up Spool assembly and paper guide from the cartridge as fig. 4.



- 5) Place the label in the scale as fig. 5



- 6) Press the FEED key.

NOTE: For auto label calibration press FEED key two or three times

**\* If label position is not correct, you have to check the followings:**

- a. Label size (Label setting menu)**
- b. Feed Adjustment (Feed adjustment menu)**
- c. Sensor calibration (Sensor Calibration menu)**

## 3.3 Turning Power On/Off

When you turn on scale, display will show 9 ~ 0 for self testing.



During each number and buzzer sound is processing following procedure.

Buzzer On Initial Port,Timer,UART(AD),CPLD,PrinterDriver,RTC

Printer Driver Start

Start Timer

Buzzer Off Flash Check,Set UART (AD) Baudrate

Initial LCD,Display,Key,PS2

LCD "999999" Init Serial, Check Caption Data

LCD "888888" Init ADM,Check Memory Map

LCD "777777" Check Network Parameter,

Load Global Parameter,Load Service Type

LCD "666666" Check Network Flag,CAL mode

LCD "555555"

LCD "444444" Init Ethernet Module

LCD "333333" Init PLU\_Data

LCD "222222" Key Error Check -> Buz,Buz : Command Queue Init

LCD "111111" Load Label Default, CheckAdInitStatus

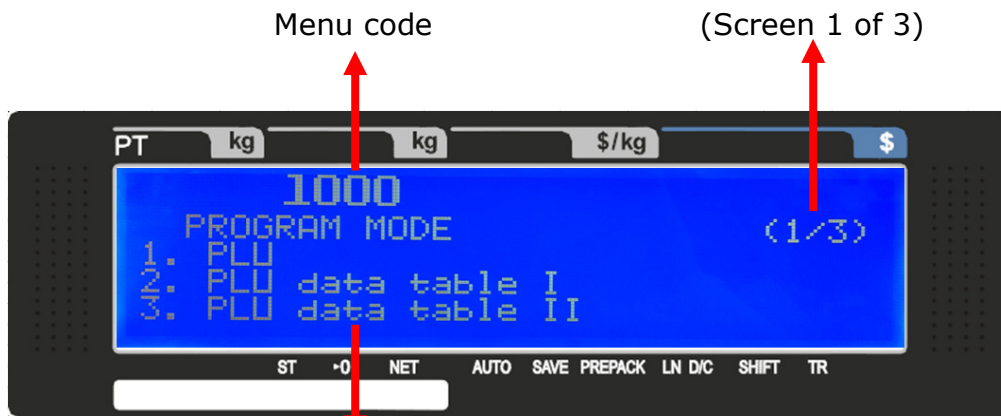
LCD "000000" Check Password,Logging BOOTTIME,NETSTART

## 3.4 Program Menu and Tree

### 3.4.1 How to access PROGRAM MODE

*You can see the Program Menu screen by pressing the MENU key.*

The 2 numbers at top left (1/3) indicate the number of pages or screens. The number to the left of the slash is the current page or screen number and the number to the right of the slash indicates the total number of pages or screens. You can use the **Page Up** and **Page Down** keys to navigate from page to page, or you can use the Arrow keys to go through each page 1 line at a time.



Selectable menu. If you want to select PLU simply press 1.

If you press "Pg Dn" key, you can see other menu screens as below.



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## 3.4.2 Program Menu Tree

CODE	Menu	CODE	Sub Menu	CODE	Sub Menu				
1100	PLU	1110	Change Price						
		1120	New/Edit	1120					
		1130	Discount	1131	New/Edit				
				1132	List				
				1133	Delete	1137	Delete by PLU(DC)		
						1138	Delete by Dept(DC)		
		1139	Delete All						
		1140	Management	1141	Copy				
				1142	Delete	1147	Delete by PLU No.		
						1148	Delete by Dept. No.		
						1149	Delete All		
				1143	Move				
		1144	Inhibit						
		1145	PLU Sale Count						
1150	List								
1160	Speed Key								
1170	Sample Printing								
1200	PLU Table1	1210	Department						
		1220	Group						
		1230	Tax Rate						
		1240	Sales Message						
		1250	Origin						
		1260	Barcode						
		1270	Tare						
		1280	Unit Symbol						
1300	PLU Table2	1310	Ingredient						
		1320	Nutrition Facts						
		1330	Traceability						
		1340	Country						
		1350	Slaughter House						
		1360	Cutting Hall						
1400	Store Data Table	1410	Store						
		1420	Customer						
		1430	Scroll Message	1431	Configuration				
				1432	Edit Scroll Message				
				1433	List Scroll Message				
		1440	Currency						
		1450	Job Batch Schedule						
		1460	Scanner						
1470	Label Format Key Table								
1500	Global Setting	1510	Label Format						
		1520	Barcode						
		1530	Discount	1531	Priority Setting				
				1532	Weight Discount				
				1533	Count Discount				
				1534	PCS Discount				
		1540	Tax	1541	Set Global Tax				
1542	Global Tax No.								

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1600	Report	1610	X1 Report	1611	Scale		
				1612	PLU		
				1613	Misc. PLU		
				1614	Group		
				1615	Department		
				1616	Hourly		
				1617	Clerk		
		1620	Z1 Report	1630	X2 Report	1631	Scale
						1632	PLU
						1633	Misc. PLU
						1634	Group
						1635	Department
						1636	Hourly
						1637	Clerk
		1640	Z2 Report				
		1650	Clear All				
1700	Printing	1710	Print inhibit				
		1720	Markdown				
		1730	H/W Setting	1731	Print Mode		
				1732	Label/Ticket Size		
				1733	Sensor Calibration		
				1734	Motor & Sensor		
				1735	Print Intensity		
				1736	Adjust Feed Length		
				1737	Label Preprint		
		1740	Serial Number Format				
		1750	Addup Total				
		1760	Ticket	1761	Select Ticket Item		
1762	Select List Item						
1763	Select Ticket Font Size						
1800	Scale Config	1810	Sale Mode				
		1820	Operation Mode				
		1830	Department				
		1840	Date/Time				
		1850	User/Security Configuration	1851	New/Edit User		
				1852	Change Password		
				1853	List User		
				1854	Delete User		
				1855	Config Permission		
				1856	Clerk Key		
				1860	Test	1861	Display
			1862	A/D			
			1863	Keypad			
			1864	Printer			
			1865	Printer Sensor			
			1866	Memory Information			
			1867	Firmware Version			
			1868	Communication			
		1870	Scale Parameter	1871	Display		
				1872	Printing Oper		
1873	Sale setup						
1874	Clerk Logout						
1880	Function Key Define						

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1900	Communication	1910	Network Setting	1911	Service Type
				1912	DHCP
				1913	IP
				1914	Remote IP
				1915	RS232C
				1916	WLAN Setting
				1917	WLAN Config
		1920	Application		
		1930	Scale Lock/Unlock		
		1940	Check Scale		
1950	Backup to scale				

### 3.4.3 Calibration Menu Tree

CODE	Menu	CODE	Sub Menu	CODE	Sub Menu
8100	Calibration	8110	Span Calibration		
		8120	Span/Zero Fine Adjust		
		8130	Capacity & Units		
		8140	Gravity Constant		
		8150	Percent Calibration		
		8160	Linearity Adjust		
		8170	Zero & Tare Setting		
		8180	Factory Setting	8181	Digital Filtering
				8182	A/D Hardware Setting
				8183	A/D Initialize
		8184	Linearity Fine Adjust		
		8185	Hysteresis Calibration		
8200	System Options	8210	Clear Memory	8211	Clear Report
				8212	Clear All PLU
				8213	Clear All Table
				8214	Flash All Clear
8220	Scale Type				
8300	Printer Hardware	8310	Print Mode		
		8320	Label/Ticket Size		
		8330	Sensor Calibration		
		8340	Sensor & Motor		
		8350	Printer Intensity		
		8360	Adjust Feed Length		
		8370	Label Pre-print		
		8380	Printer Initialize		
8400	Network Options	8410	Enable Interface		
8500	Self Test	8510	Display Test		
		8520	A/D Test		
		8530	Keyboard Test		
		8540	Printer Test		
		8550	Printer Sensor Test		
		8560	Memory Information		
		8570	Firmware Version		
		8580	Cash Drawer Test		
8600	Parameter Setting	8600	[Parameter Setting Mode]		



## 4. Calibration Mode

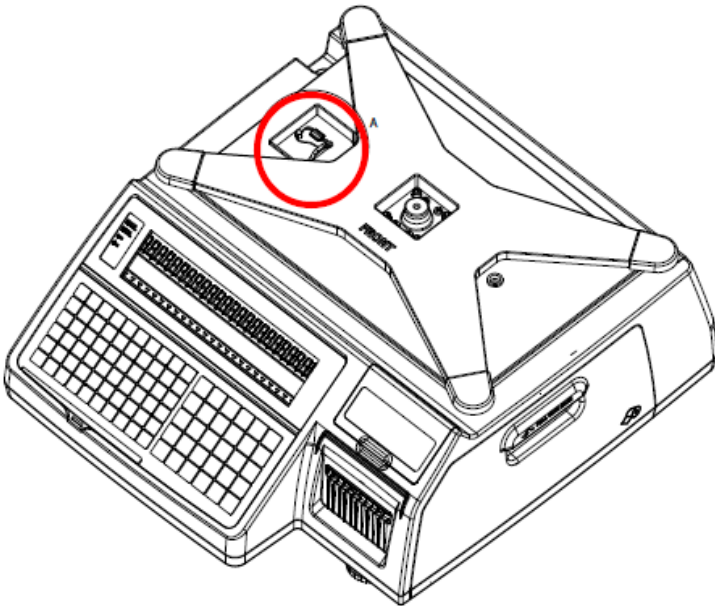
### 4.1 Calibration

(Calibration MENU -> 1. Calibration)

Execute Weight Calibration and A/D related settings

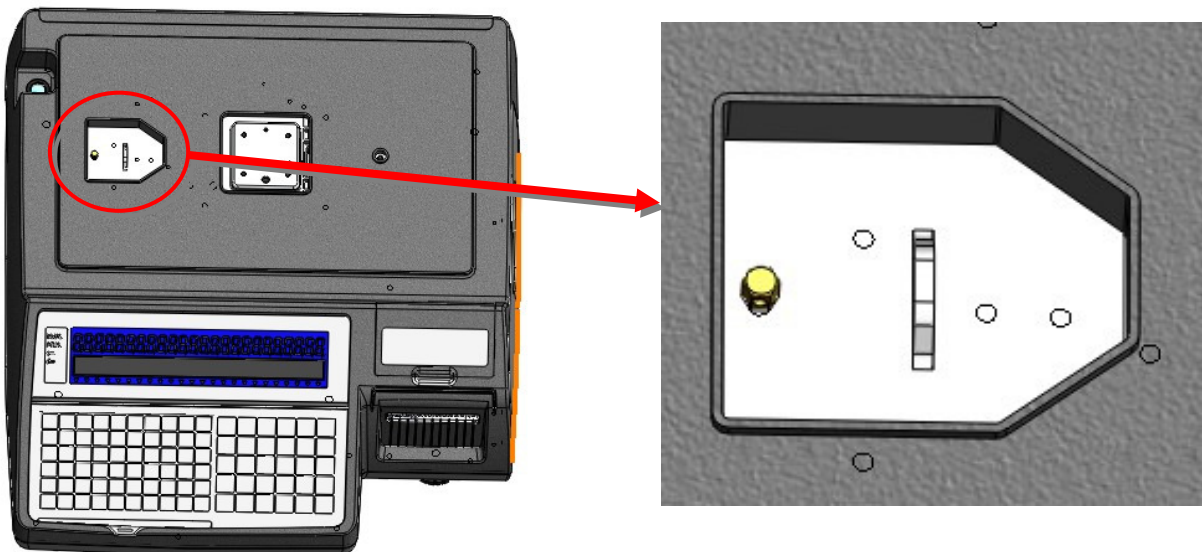
**(Access Authorized CAS Tester only)**

Open the tray and remove the calibration sealing.



Order to access calibration mode:

Insert a stick into the CAL switch. Switch power on, while pushing the CAL button.



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First page of Calibration mode

8000	CAL	ModE	<b>CALIBRATION MODE</b> (1/2) 1. Calibration 2. System Options 3. Printer Hardware
------	-----	------	---

## 4.1.1 Span Calibration (Menu Code 8110)

(Calibration MENU → 1. Calibration → 1. Span Calibration)

\*Requires set of certified weights. (For best result prepare 15kg/6kg (max) weights)

Display shows the amount of weight that you will need.

① Select "Span Calibration"

ULoad	10730	10730	<b>ZERO CALIBRATION</b> (1/2) - Remove all weight. - Press PRINT when ready.
-------	-------	-------	--

② Empty tray and press "PRINT"

WAit4	10730	10730	<b>ZERO CALIBRATION</b> (1/2) - Remove all weight. - Press PRINT when ready.
-------	-------	-------	--

While calibrating zero display shows "Wait4" ~ "Wait0" and follow next message for Span Calibration.

LoAd	0	10730	<b>SPAN CALIBRATION</b> (2/2) - Place 15.000 kg on the platter. - Press PRINT when ready.
------	---	-------	---

③ Put on the Weight for Max. Capacities then press "PRINT"

\*Menu 8130 sets the max capacity for calibration.

WAit4	77407	88137	<b>SPAN CALIBRATION</b> (2/2) - Place 15.000 kg on the platter. - Press PRINT when ready.
-------	-------	-------	---

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Display shows "Wait4" ~ "Wait0" then following message

8100	CAL	ModE	<b>CALIBRATION</b> (1/3) 1. Span Calibration 2. Span/Zero Fine Adjust 3. Capacity & Units
------	-----	------	--

## Error Message

\* When tray is unstable during calibration process, following message appear.

WAit0	2776	2776	Cal Error – Unstable (0x01) Press Any Key
-------	------	------	--

\* When calibration weight was too heavy or light, following message will appear.

- Calibration weight limits can re-adjust by menu 8182 "Cal Zero(Span) Max(Min) Range"

WAit0	1027	1027	Cal Error – Range Over (0x07) Press Any Key
-------	------	------	--

\* When A/D failure is detected during Calibration following message will appear.

Please check the connector between main board and other controller.

WAit0	1027	1027	Cal Error – Wrong ADM (0xff) Press Any Key
-------	------	------	---

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## 4.1.2 Span/Zero Fine Adjust (Menu Code 8120)

(Calibration MENU → 1. Calibration → 2. Span/Zero Fine Adjust)

This mode is for fine tuning of scale after span Cal. Please put Max weight on the tray and adjust A/D results at 60000, using the cursor key "◀ ▶." and Number key.

① Select menu "Span/Zero Fine Adjust"

8120	0	0	SPAN/ZERO FINE ADJUST (1/1) ZERO:[ 10730] SPAN:[ 88133]
------	---	---	---



Ⓐ Menu Code	Ⓑ Internal Value	Ⓒ External Value (Weight)	Ⓓ Pure setting value of Zero & Span
-------------	------------------	---------------------------	-------------------------------------

\* If Ⓒ is not set to zero press "ZERO" key. Value Ⓓ will update.

② Put Max. Capacity weight on the tray

8120	600 <u>12</u>	15005	SPAN/ZERO FINE ADJUST (1/1) ZERO:[ 10730] SPAN:[ 88133]
------	---------------	-------	---


③ Use ◀ ▶ key for fine adjust.

\* Insert setting value by cursor key (for the fine tune)

"▶" Increases Span value "Ⓓ" to decrease Internal value "Ⓑ"

"◀" Decreases Span value "Ⓓ" to increase External value "Ⓒ"

- Internal value 60012 needs to change 60000

Press  X 12 Times to decrease internal value.

8120	600 <u>00</u>	15000	SPAN/ZERO FINE ADJUST (1/1) ZERO:[ 10730] SPAN:[ 88145]
------	---------------	-------	---

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\* Insert setting value by number key pad

- Set Span value: use curser key to highlight span value.
- Type estimate value using number key then press "TEST" key for results

# This process may take several times to set 60000.

During this process Max Capacity weight is needed for best result.

Ex) Input "88145" by keypad and press "TEST" key

8120	60000	15000	SPAN/ZERO FINE ADJUST (1/1) ZERO:[ 10730] SPAN:[ 88145]
------	-------	-------	---

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## 4.1.3 Capacity & Units (Menu Code 8130)

(Calibration MENU → 1. Calibration → 3. Capacity & Units)

Set scale's Weighing unit, capacity, Interval, Cal Unit.

**Caution: Span calibration** must take place after "Capacity & Units" setting.

Do not change setting after **Span calibration**.

Option	Option	Setting Value
1	Weighing Unit	Setting Scale Unit 0 : kg 1 : lb 2 : g
2	Capacity	Setting Scale Max Capacity 0 : 6 kg / 15 lb 1 : 15 kg / 30 lb 2 : 30 kg / 60 lb
3	Interval	Setting Usage of Multi-interval 0 : Single Interval 1 : Dual Interval
4	Cal Unit	Setting Calibration Weighing unit 0 : kg 1 : lb * This setting uses in Span Calibration, Percent Calibration, Linearity Adjust.

8130	CAL	ModE	<b>CAPACITY &amp; UNITS (1/2)</b> Weighing Unit:[0] 0)kg 1)lb 2)g Capacity :[1] 1)15kg Interval :[1] 0)Single 1)Dual
------	-----	------	---

<b>CAPACITY &amp; UNITS (2/2)</b> Cal Unit :[0] 0)kg 1)lb
--

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## 4.1.4 Gravity Constant (Menu Code 8140)

(Calibration MENU → 1. Calibration → 4. Gravity Constant)

CL-5000 scale enables to calibrate in any country. You can set according to country standard gravity constant data. For case of full recalibration set the factory gravity first and then local area gravity code.

(For span calibration Local gravity value is automatically matches with Factory gravity value)

<b>8140</b>	<b>CAL</b>	<b>ModE</b>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: right;"><b>GRAVITY CONSTANT</b> (1/1)</td> </tr> <tr> <td style="width: 70%;">Factory Gravity</td> <td style="text-align: right;">:[9.8024]</td> </tr> <tr> <td>Local Gravity</td> <td style="text-align: right;">:[9.7814]</td> </tr> </table>	<b>GRAVITY CONSTANT</b> (1/1)		Factory Gravity	:[9.8024]	Local Gravity	:[9.7814]
<b>GRAVITY CONSTANT</b> (1/1)									
Factory Gravity	:[9.8024]								
Local Gravity	:[9.7814]								

Use the following table to determine the proper G-Constant for your area.

Country	City	G-Constant	Country	City	G-Constant
Argentina	Buenos Aires	9.7979	Mexico	Mexico City	9.7799
Australia	Sydney	9.7979	Morocco	Rabat	9.7964
Austria	Vienna	9.8099	Netherlands	Amsterdam	9.8129
Belgium	Brussels	9.8114	New Zealand	Wellington	9.8039
Belize	Manamah	9.7904	Norway	Oslo	9.8189
Bolivia	La Paz	9.7844	Panama	Panama City	9.7814
Brazil	Brasilia	9.7889	Peru	Lima	9.7829
Canada	Montreal	9.8069	Philippines	Manila	9.7844
	Ottawa	9.8069	Poland	Swider	9.8159
	Toronto	9.8054	Portugal	Lisbon	9.8009
	Vancouver	9.8099	Rumania	Bucharest	9.8054
Check Republic	Prague	9.8114	Saudi Arabia	Riyad	9.7904
Chile	Santiago	9.7979	Scotland	Stockholm	9.8189
China	Hong Kong	9.8099	Singapore	Singapore	9.7814
Colombia	Bogota	9.7799	South Africa	Johannesburg	9.7919
Costa Rica	San Jose	9.7829	Spain	Madrid	9.8024
Cypress	Nicosia	9.7979	Switzerland	Bern	9.8084
Denmark	Copenhagen	9.8159	Taiwan	Taipei	9.7904
Ecuador	Quito	9.7724	Tunisia	Tunis	9.7799
Finland	Helsinki	9.8189	Turley	Ankara	9.8024
Germany	Dusseldorf	9.8129	Uruguay	Montevideo	9.7964
Great Britain	London	9.8144	USA	Anchorage	9.8189
				Atlanta	9.7964
Greece	Athens	9.8009			

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Guatemala	Guatemala	9.7844		Boston	9.8039	
Hungary	Budapest	9.8069		Chicago	9.8024	
Indonesia	Djakarta	9.7814		Dallas	9.7949	
Iraq	Baghdad	9.7964		Detroit	9.8039	
Japan	Mishima	9.7979		Los Angeles	9.7979	
Korea	Seoul	9.7994		New York	9.8024	
Kuwait	Kuwait	9.7919		Philadelphia	9.8024	
Lebanon	Beirut	9.7964		San Francisco	9.7994	
Mauritius	Port Louis	9.7859		Venezuela	Caracas	9.7829

**NOTE:** The G-Constant is the acceleration of gravity in meters per second per second.

## 4.1.5 Percent Calibration (Menu Code 8150)

(Calibration MENU → 1. Calibration → 5. Percent Calibration)

When the case you don't have max weight for calibration. Percent Calibration enables to use lighter weight.

8150	CAL	ModE	<b>PERCENT CALIBRATION (1/1)</b> Use Weight :[15] kg Full Capa Weight:15.000 kg
------	-----	------	---

① For 5kg weight, input "5"key and press "print"

ULoad	10731	10731	<b>ZERO CALIBRATION(1/2)</b> - Remove all weight. - Press PRINT when ready.
-------	-------	-------	---

② Clear the tray and press "PRINT", then "Wait4~Wait0" will display.

LoAd	0	10731	<b>SPAN CALIBRATION (2/2)</b> - Place 5.000 kg on the platter. - Press PRINT when ready.
------	---	-------	--

③ Put 5kg on the tray the press "PRINT" after "Wait4~Wait0" exit menu.

8100	CAL	ModE	<b>CALIBRATION (2/3)</b> 4. Gravity Constant 5. Percent Calibration 6. Linearity Adjust
------	-----	------	--



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## 4.1.6 Linearity Adjust (Menu Code 8160)

(Calibration MENU → 1. Calibration → 6. Linearity Adjust)

You can re-adjust the med-range weight level for precise calibration.

ULoAd	10731	10731	<b>ZERO CALIBRATION</b> (1/3) - Remove all weight. - Press PRINT when ready.
-------	-------	-------	--

① For 5kg weight, input "5"key and press "print"

8160	CAL	ModE	<b>LINEARITY ADJUST</b> (1/1) Use Weight : [ 5] kg Full Capa Weight:15.000 kg
------	-----	------	---

② Clear the tray and press "PRINT", then "Wait4~Wait0" will display

Mid	25802	36532	<b>MID CALIBRATION</b> (2/3) - Place 5.000 kg on the platter. - Press PRINT when ready.
-----	-------	-------	---

③ Clear the tray and press "PRINT", then "Wait4~Wait0" will display

LoAd	77407	88137	<b>SPAN CALIBRATION</b> (3/3) - Place 5.000 kg on the platter. - Press PRINT when ready.
------	-------	-------	--

③ Put 5kg on the tray the press "PRINT" after "Wait4~Wait0".

8100	CAL	ModE	<b>CALIBRATION</b> (2/3) 4. Gravity Constant 5. Percent Calibration 6. Linearity Adjust
------	-----	------	--

③ Put 15kg on the tray the press "PRINT" after "Wait4~Wait0" exit menu.

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## 4.1.7 Zero & Tare Setting (Menu Code 8170)

(Calibration MENU → 1. Calibration → 7. Zero & Tare Setting)

**CAUTION: This Setting is part of (OIML, NTEP, etc) regulation must be setting by the local restriction.**

You can set the ZERO, TARE at acceptable range and maximum display range.

8170	CAL	ModE	<b>ZERO &amp; TARE SETTING (1/4)</b> Init-Zero range(%): [ 10] Rezero Range(%): [ 2] Tare Range : [ 5.998]kg
			<b>ZERO &amp; TARE SETTING (2/4)</b> Overload Range(d): [ 9] Accumulation(Y/N) : [N] Subtraction(Y/N) : [N]
			<b>ZERO &amp; TARE SETTING (3/4)</b> Gross Zero Mark(Y/N): [Y] Net Zero Mark(Y/N) : [Y] Gross Zero-Tracking(Y/N): [Y]
			<b>ZERO &amp; TARE SETTING (4/4)</b> Net Zero-Tracking(Y/N) : [Y]

### ① Init-Zero range

Before Sales mode you need to compare Calibrated A/D value and current A/D value need to be in the safe range order to function property. Scale will not function if there is a weight or any distortion on the tray.

### ② Re-zero Range (%)

During the usage, zero range might be unstable cause by tray and other condition. You can set the allowance percent (%) range for zero display. (OIML regulation restricts 2% of maximum weight range can be used)

### ③ Tare Range

You can set the maximum weights of tare up to 5.9kg  
(OIML regulation restriction is 6kg tare limits)

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## ④ Overload Range(d)

You can set the maximum overload range. For example, [9] set as 15.045g (5g×[9]=45g). If the weight is over 15.045 overload message will appear.

## ⑤ Accumulation(Y/N)

You can set Tare weights additively. This is useful additional package is used for different goods.

## ⑥ Subtraction(Y/N)

You can set Tare only if the other tare weight is less then the first value.

## ⑦ Gross Zero Mark(Y/N)

The real weight value is 0(Gross Weight=0) display will indicate "▼" on the gross weight

NOTE: \* Gross weight is display will display total weight. (Tare setting does not effect)

\* Net weight is remain value of Tare weight.

\* If Tare setting is set as "N" the gross weight and net weight value is same.

## ⑧ Net Zero Mark(Y/N)

When Tare weight is set to zero, Zero mark will display. In other words Net Weight is zero.

## ⑨ Gross Zero-Tracking(Y/N)

You can set Zero-tracking while Gross Zero is 0. Factory setting is "Y".

## ⑩ Net Zero-Tracking(Y/N)

You can set Zero-tracking while Net zero is 0. Factory setting is "N".

## 4.2 Factory Setting (Menu Code 8180)

(Calibration MENU → 1. Calibration → 8. Factory Setting)

This setting A/D's advanced setting only for factory primary setting.

### 4.2.3 A/D Initialize (Menu Code 8183)

(Calibration MENU → 1. Calibration → 8. Factory Setting → 3. A/D Initialize)

8183	CAL	ModE	A/D INITIALIZE (1/1) Are You Sure?(Y/N) :[N]
------	-----	------	---

**CAUTION: Must record setting values before Selecting [Y]. This will set the scale first default setting**

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## 4.2.4 Linearity Fine Adjust (Menu Code 8184)

(Calibration MENU → 1. Calibration → 8. Factory Setting → 4. Linearity Fine Adjust)

①

Selecting "LinearityFineAdjust"

8184	0	0	<b>LINEARITY FINE ADJUST (1/1)</b> Zero:[ 10730] Mid :[ 36532] Span:[ 88145]
↑	↑	↑	↑
a Menu Code	b Internal value	c External V.(weight)	d Real value of Zero & Span

**NOTE:** You can set 0 by pushing "ZERO" This will update new Zero value.

② MENU 8106 Put 5kg(MAX=15kg) on the tray.

8184	20005	5002	<b>LINEARITY FINE ADJUST (1/1)</b> Zero:[ 10730] Mid :[ 36537] Span:[ 88145]
------	-------	------	---

③ Using cursor key for fine adjust.

\* How to use cursor key

"▶" Increase Span value(ⓓ) to reduce internal (ⓑ)value

"◀" Decrease Span value(ⓓ) to increase internal (ⓑ)value

- Setting Mid value press "▼"key

- Internal value 20005 to change 20000 press "▶" 5times.

\* How to input setting value

- Use cursor key to change mid value.

- Insert "36537" then press "TEST"

8184	60000	15000	<b>LINEARITY FINE ADJUST (1/1)</b> Zero:[ 10730] Mid :[ 36537] Span:[ 88145]
------	-------	-------	---

④ Also change Span value with cursor key.

⑤ Press "SAVE" to save and exit.

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## 4.2.5 Hysteresys Calibration (Menu Code 8185)

(Calibration MENU → 1. Calibration → 8. Factory Setting → 5. Hysteresys Calibration)

① Selecting "Hysteresys Calibration"

8185	CAL	ModE	HYSTERESYS CALIBRATION (1/1) USE WEIGHT : [ 2 ] kg Full Capa Weight : 6.000 kg
------	-----	------	--

② For 2kg Mid-weight, input "2"key and press "print"

ULoAd	0	27770	ZERO CALIBRATION (1/4) - Remove all weight. - Press PRINT when ready.
-------	---	-------	---

③ Empty tray and press "PRINT"

WAit4	27770	27770	ZERO CALIBRATION (1/4) - Remove all weight. - Press PRINT when ready.
-------	-------	-------	---

④ While calibrating zero display shows "Wait4" ~ "Wait0" and follow next message for Mid Calibration.

Mid U	0	27770	MID CALIBRATION (2/4) - Place 2.000 kg on the platter. - Press PRINT when ready.
-------	---	-------	--

⑤ Put on the Weight for Mid-weight. Capacities then press "PRINT"

WAit4	28850	55510	MID CALIBRATION (2/4) - Place 2.000 kg on the platter. - Press PRINT when ready.
-------	-------	-------	--

⑥ While calibrating Mid-weight display shows "Wait4" ~ "Wait0" and follow next message for Span Calibration.

LoAd	28850	55510	SPAN CALIBRATION (3/4) - Place 6.000 kg on the platter. - Press PRINT when ready.
------	-------	-------	---

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⑦ Put on the Weight for Max. Capacities then press "PRINT"

\*Menu 8130 sets the max capacity for calibration.

WAit4	83752	111522	<b>SPAN CALIBRATION</b> (3/4) - Place 6.000 kg on the platter. - Press PRINT when ready.
-------	-------	--------	--

⑧ While calibrating span display shows "Wait4" ~ "Wait0" and follow next message for Mid Calibration.

Mid U	83752	111522	<b>MID CALIBRATION</b> (4/4) - Place 2.000 kg on the platter. - Press PRINT when ready.
-------	-------	--------	---

⑨ Put on the Weight for Mid-weight. Capacities then press "PRINT"

WAit4	28852	55512	<b>MID CALIBRATION</b> (4/4) - Place 2.000 kg on the platter. - Press PRINT when ready.
-------	-------	-------	---

⑩ Display shows "Wait4" ~ "Wait0" then following message

8180	CAL	ModE	<b>FACTORY SETTING</b> (1/2) 3. A/D Initialize 4. Linearity Adjust 5. Hysteresis Calibration
------	-----	------	---

## 4.3 Memory Clear

(Calibration MENU → 2. System Options → 1. Clear Memory)

You can clear memory depends on options below.

8210	CAL	ModE	<b>CLEAR MEMORY</b> (1/2) 1. Clear Report 2. Clear All PLU 3. Clear All Table
------	-----	------	--

<b>CLEAR MEMORY</b> (2/2) 4. Flash All Clear
---

### 4.3.1 Clear Report (Menu Code 8211)

(Calibration MENU → 1. Calibration → 8. Factory Setting → 1. Clear Report)

You can clear all the sales report.

### 4.3.2 Clear All PLU (Menu Code 8212)

(Calibration MENU → 1. Calibration → 8. Factory Setting → 2. Clear All PLU)

Clear all PLU data. This time discount data is will be cleared.

### 4.3.3 Clear All Table (Menu Code 8213)

(Calibration MENU → 1. Calibration → 8. Factory Setting → 3. Clear All Table)

Clear all Table date(Except PLU/discount data).

### 4.3.4 Flash All Clear (Menu Code 8214)

(Calibration MENU → 1. Calibration → 8. Factory Setting → 4. Flash All Clear)

**NOTE:** After clearing all the memory. You must install primary data.

Except the program data all the item and font data will clear at once.

## 4.4 Scale Type

*Menu Code 8220 (Calibration MENU -> 2. System Options -> 2. Scale Type)*

Select model: Basic type (CL3500-B), pole type, (CL3500- P)

**CAUTION:** Selecting wrong model code will effect on key function.

-1 : Basic type(CL5000-B)

-2 : Pole type(CL5000-P)



## 4.5 Printer Hardware

No.	Sub-menus	Description
1	Print Mode	Select label, ticket, continuous label mode.
2	Label / Ticket Size	Lable mode: <b>"Width(60)"</b> , <b>"Height(40)"</b> and <b>"Gap length(2)"</b> Ticket mode: <b>"Width(60)"</b> , <b>"Feed(20)"</b> and <b>"End Margin(5)"</b> Continous Label: <b>"Width(60)"</b> , <b>"Feed(40)"</b> and <b>"End Margin(2)"</b> * ( ) are default value.
3	Sensor Calibration	Enter the <b>"Gap(128)"</b> and <b>"Peel(128)"</b> values for printing sensor calibration. * The values in ( ) are default. * If you press "TEST" key, Gap and Peel values are adjusted automatically. * In case of Ticket mode, Gap value is not saved.
4	Sensor & Motor	Setting Peel-off sensor, Rewind Motor, Label Paper type.
5	Print Intensity	Set the extent of intensity of label (ticket) printed.
6	Adjust Feed Length	Set adjusting values of feed length. This value can be from -200 to +200. You can change sign(+,-) by pressing ZERO key. + value will print higher than THP. * Pressing "TEST" key automatically feeds to adjust the feed length.
7	Label Pre-print	You can set preprint length.
8	Printer Initialize	You can reset printer.

### 4.5.1 Print Mode (Menu Code 8310)

*(Calibration MENU -> 3. Printer Hardware -> 1. Print Mode)*

Press "1" to get into "PRINT MODE."

You can select "0" for Label mode, "1" for Ticket mode or "2" for Continuous Label mode.

Press "PRINT" to save current selection.

### 4.5.2 Label/Ticket Size (Menu Code 8320)

*(Calibration MENU -> 3. Printer Hardware -> 2. Label/Ticket Size)*

You can input "Width," "Height," "Gap Length" of label manually.

"TEST" key will automatically measures current label.

\* Case of ticket mode "TICKET SIZE" will display and "TEST" key will not function.

## 4.5.3 Sensor Calibration (Menu Code 8330)

*(Calibration MENU -> 3. Printer Hardware -> 3. Sensor Calibration)*

You can input "Gap," "Peel," "Out of Paper" manually.

"TEST" key will automatically feed the label several times to calculate the measurement.

\* For Ticket mode display will be same except "Gap" value. (This value will not save)

## 4.5.4 Sensor & Motor (Menu Code 8340)

*(Calibration MENU -> 3. Printer Hardware -> 4. Sensor&Motor)*

Press "4" to get into "SENSOR&MOTOR".

You can select [Y], [N] for "ACTIVE PEEL-OFF," "ACTIVE REWIND MOTER," AND "LABEL PAPER."

\* For Ticket mode display will be same. Only "ACTIVE PEEL-OFF" can be set.

\* For Ticket mode Rewind-Motor and Label paper setting will not display.

## 4.5.5 Print Intensity (Menu Code 8350)

*(Calibration MENU -> 3. Printer Hardware -> 1. Clear Memory)*

You can enter any value from "0" to "20" set the tension of label/ticket.

Press "TEST" to test printing a label.

## 4.5.6 Adjust Feed Length (Menu Code 8360)

*(Calibration MENU -> 3. Printer Hardware -> 6. Adjust Feed Length)*

User may enter any value of the feed alignment from "-200" to "+200".

Press "ZERO" to toggle sign.

Press "TEST" to test feed or "ENTER" to save current "FEED Length value.

\* 1pixel = 0.125mm , 8pixel = 1mm Ex) Value "+80" will feed 10mm more

Value "-40" will feed 5mm less

## 4.5.7 Label Pre-print (Menu Code 8370)

*(Calibration MENU -> 3. Printer Hardware -> 3. Label Pre-print)*

User may enter "Y(Yes)" or "N(No)" to select Preprint mode and any value of the preprint length from "0"mm to "10"mm.

Press "TEST" to test preprinting.

## 4.5.8 Printer Initialize (Menu Code 8380)

*(Calibration MENU -> 3. Printer Hardware -> 8. Printer Initialize)*

Initialize printer setting.

## 4.6 Network Options

### 5.6.1 Enable Interface (Menu Code 8410)

(Calibration MENU → 4. Network Options → 1. Enable Interface)

You can set usage of I/O interface.(CL5000)

8410	CAL	ModE	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: right;"><b>ENABLE INTERFACE</b> (1/2)</td> </tr> <tr> <td>Ethernet(TCP/IP) :</td> <td>[Y]</td> </tr> <tr> <td>USB :</td> <td>[N]</td> </tr> <tr> <td>RS485 :</td> <td>[N]</td> </tr> </table>	<b>ENABLE INTERFACE</b> (1/2)		Ethernet(TCP/IP) :	[Y]	USB :	[N]	RS485 :	[N]
<b>ENABLE INTERFACE</b> (1/2)											
Ethernet(TCP/IP) :	[Y]										
USB :	[N]										
RS485 :	[N]										
			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: right;"><b>ENABLE INTERFACE</b> (2/2)</td> </tr> <tr> <td>PS/2 :</td> <td>[Y]</td> </tr> </table>	<b>ENABLE INTERFACE</b> (2/2)		PS/2 :	[Y]				
<b>ENABLE INTERFACE</b> (2/2)											
PS/2 :	[Y]										

## 4.7 Self Test

### 4.7.1 Display Test (Menu Code 8510)

(Calibration MENU → 5. Self Test → 1. Display Test)

Selecting 1 will start Display test, press any key to stop and exit.

### 4.7.2 A/D Test (Menu Code 8520)

(Calibration MENU → 5. Self Test → 2. A/D Test)

8520	0	8333	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: right;"><b>A/D TEST</b> (1/1)</td> </tr> <tr> <td colspan="2">Normalized AD(AD1) – C1 value</td> </tr> </table>	<b>A/D TEST</b> (1/1)		Normalized AD(AD1) – C1 value	
<b>A/D TEST</b> (1/1)							
Normalized AD(AD1) – C1 value							

You can select A/D level "0"~"5" to test.

**NOTE:** You can set ZERO temporarily within each level. Exiting menu will not keep zero value.

Key No.	Name	Description
0	Weight – External value	kg or lb ( ◀ : kg, ▶ : lb)
1	Normalized(Zeroing) A/D	Internal count (60,000). Calibration Zero - A/D
2	Normalized A/D	Internal count (60,000)
3	Unit Factorized A/D	Unit Factor applied A/D value
4	Linearized A/D	Linear incising A/D value
5	Filtered Raw A/D	Filtered Raw A/D

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## 4.7.3 Keyboard Test (Menu Code 8530)

(Calibration MENU → 5. Self Test → 3. Keyboard Test)

You can test keyboard by pressing.

8530	CAL	ModE	KEYBOARD TEST (1/1) Raw Code:[006C] Menu Key Flag:[0] Cnv.Code:[0003] Mode:[1]
------	-----	------	--

KEYBOARD TEST (1/1) Raw Code:[006C] Menu Key Flag:[0] Cnv.Code:[0003] Mode:[1] [ESC]=Exit,[PRINT]=Mode Change
--

KEYBOARD TEST (1/1) Raw Code:[006C] Menu Key Flag:[0] Cnv.Code:[0003] Mode:[1] [0]=Sale, [1]=Program
---

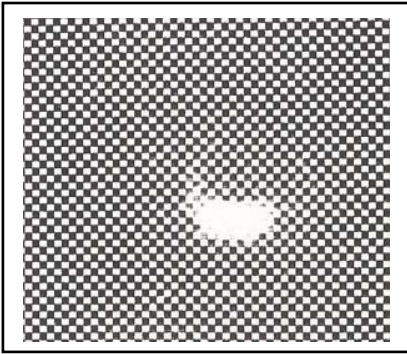
Press any keys to test Row Code and Conversion Code.

- \* Raw Code is location of key. (Upper left Connor is 1. For bench Type stars with 22)
- \* Conversion Code is function Code which has different code other then Raw Code.
- \* Menu Key Flag will set as 1 when "MENU" and other key is pushed same time.
- \* Press ESC will exit the test or change key mode.
  - ESC + ESC : End of test
  - ESC + PRINT key to change Mode
    - Mode 0 : Sale Mode
    - Mode 1 : program Mode

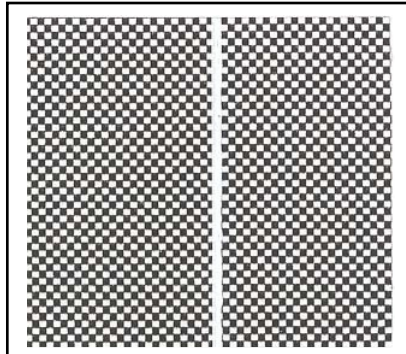
## 4.7.4 Chess Print (Menu Code 8540)

*(Calibration MENU -> 5. Self Test -> 4. Chess Print)*

Self Test Menu screen, press the 4 key for Printer Test. The scale will then print a TPH (Thermal Print Head) test label. This label print checker pattern helps to find problems with the TPH. You should clean the TPH before you try this procedure. Follow the maintenance procedure for cleaning the TPH. The following examples shows that some of problems that can occur.



1



2

There are several things that this printout sample can reveal:

1. The rubber roller may be dirty or have something stuck to it. Also, the roller may be perforated.
2. This is a clear indication that the TPH has been damaged or burned out.

If you need to replace the TPH, please contact the CAS Service Department.

## 4.7.5 Printer Sensor Test (Menu Code 8550)

*(Calibration MENU -> 5. Self Test -> 5. Printer Sensor Test)*

You can test PEEL-OFF sensor and Head up sensor in real time to check each results.

<b>8550</b>	<b>CAL</b>	<b>ModE</b>	<b>PRINTER SENSOR TEST (1/2)</b> Peel-off :[UNLOCK ] Head-up :[CLOSE ]
			<b>PRINTER SENSOR TEST (2/2)</b> Gap :[ 63] Peel:[114]

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	Test Items	Description
1	Peel-off	Cheek Peel-off sensor stops label
2	Head-up	Cheek TPH head is open or not
3	Gap	Cheek label's gap
4	Peel	Peel-off sensor value

## 4.7.6 Memory Information (Menu Code 8560)

(Calibration MENU → 5. Self Test → 6. Memory Information)

You can install expansion memory-pack up to 6MB

Current memory show as O unused memory as X (each 0 is 1MB). Total amount of O is valuable memory.

8560	CAL	ModE	<b>MEMORY INFORMATION</b> (1/1) 012345 Chip Status :[00XXXX] Total Flash Size(MB) : 2
------	-----	------	--

## 4.7.7 Firmware Version (Menu Code 8570)

(Calibration MENU → 5. Self Test → 7. Firmware Version)

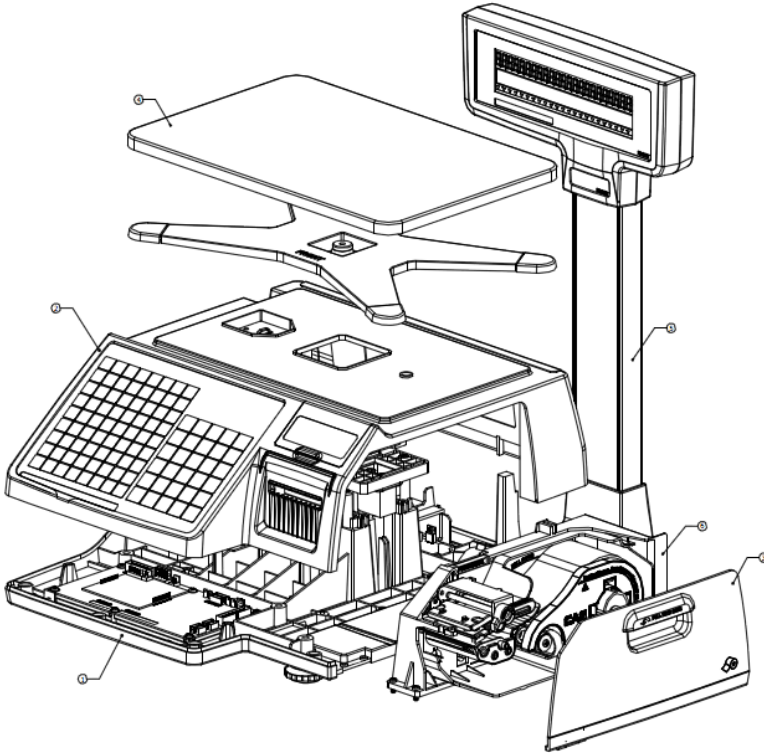
You can check scale's firmware for upgrade.

This information defines main feature and debugging.

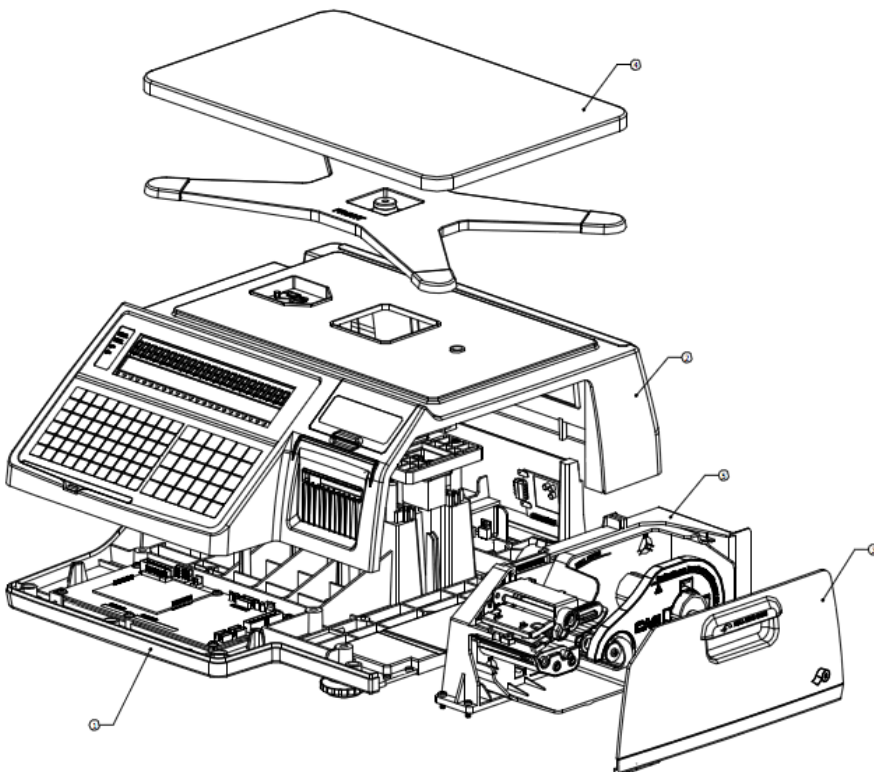
- #1 Scale Main Firmware Version
- #2 AD Module Firmware Version
- #3 Ethernet Version
- #4 Data Version

## 5. Servicing & Parts Replacement

### ■ CL3500-P



### ■ CL3500-B

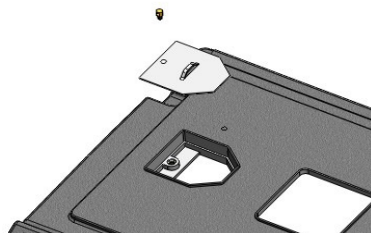
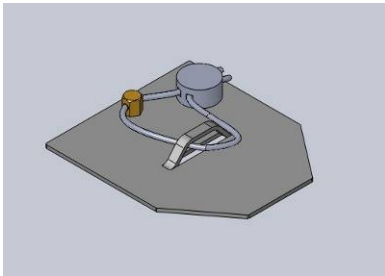


## 5.1 Platform Safety Overload Adjustment

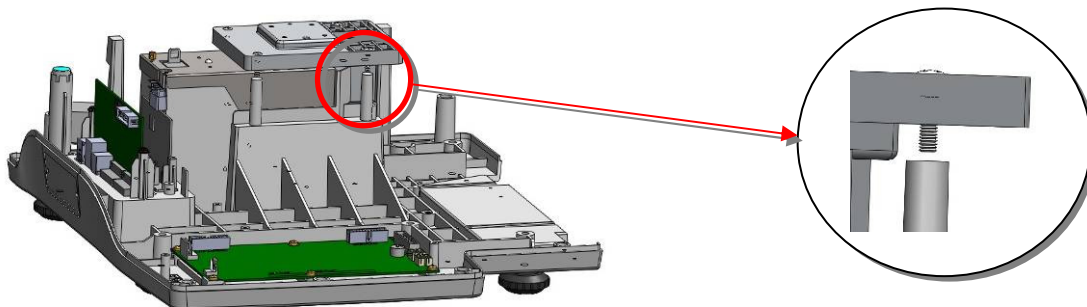
- 1) Turn power off and remove power cord
- 2) Remove tray from scale



- 3) Remove calibration cealing



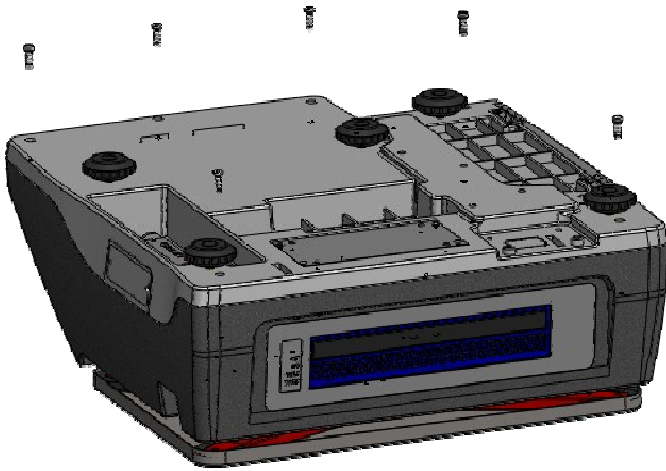
- 4) Remove the upper case
- 5) Put 150% of max weight on platform rear right. This point Allen-bolt should not be touched
- 6) Adjust Allen- bolt just about to touch the bottom frame
- 7) Continue the procedure on each corner



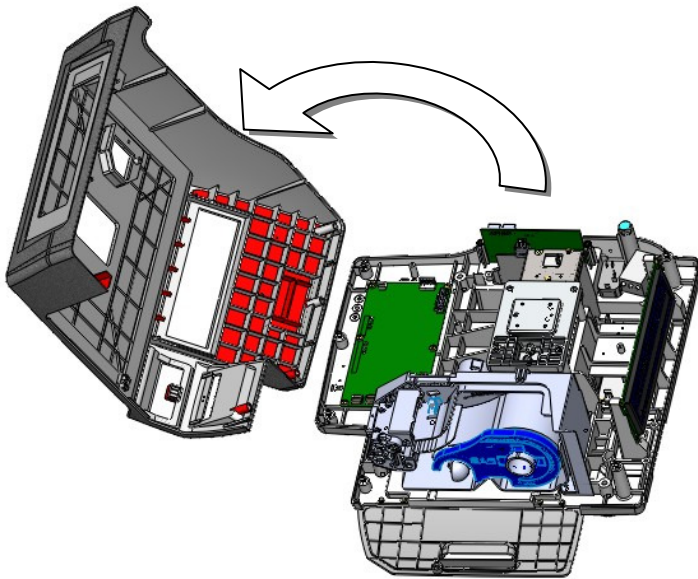


## 5.2 Removing the Upper Case

- 1) Turn power off and remove power cord
- 2) Remove tray from scale (make sure lift right side first and unlock the left hook)
- 3) Remove printer cartridge
- 4) Remove 6 bolt from bottom case (for pole type: remove pole mount bolt first)



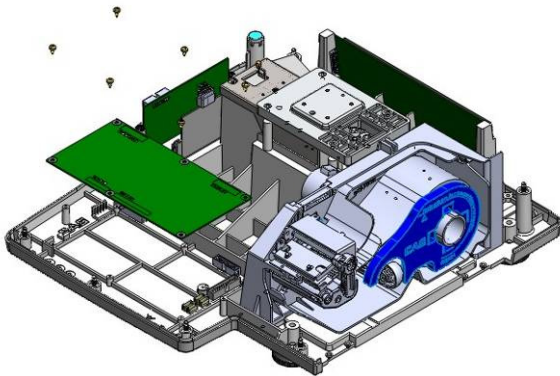
- 5) Remove 4 bolt from upper case



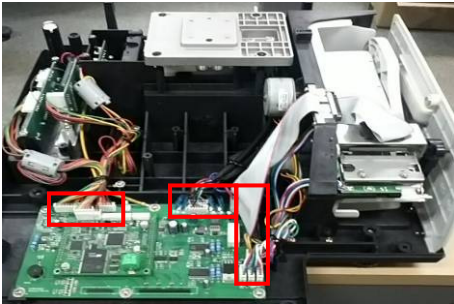
- 6) Remove keyboard and display cable to remove upper case  
\* Carefull with front key pad connector

## 5.3 Main board Replacement

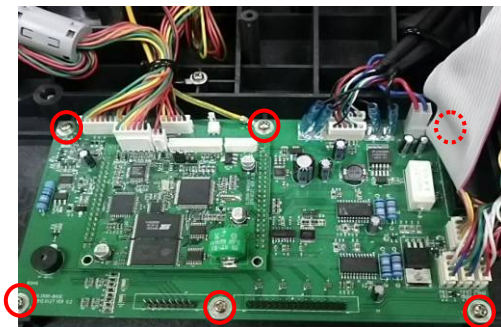
- 1) Turn power off and remove power cord
- 2) Remove following cables
  - SMPS Line
  - Key Board Line
  - Display Board Line
  - Printer Lines
  - A/D Board Line
  - I/O Line
- 3) Remove following bolt to remove main board



1. remove cables and ground wire.



2. Remove 6 bolts and replace main board



## 5.4 Power Supply Replacement

- 1) Turn power off and remove power cord
- 2) Remove upper case(following 5.2)
- 3) Remove power lines (2PIN & 5PIN cables)



- 4) Remove bottom Power module(SMPS) bolt(4)

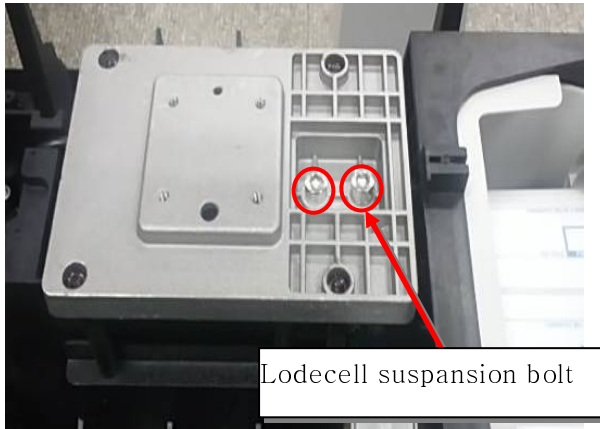


- 5) Full forward power module



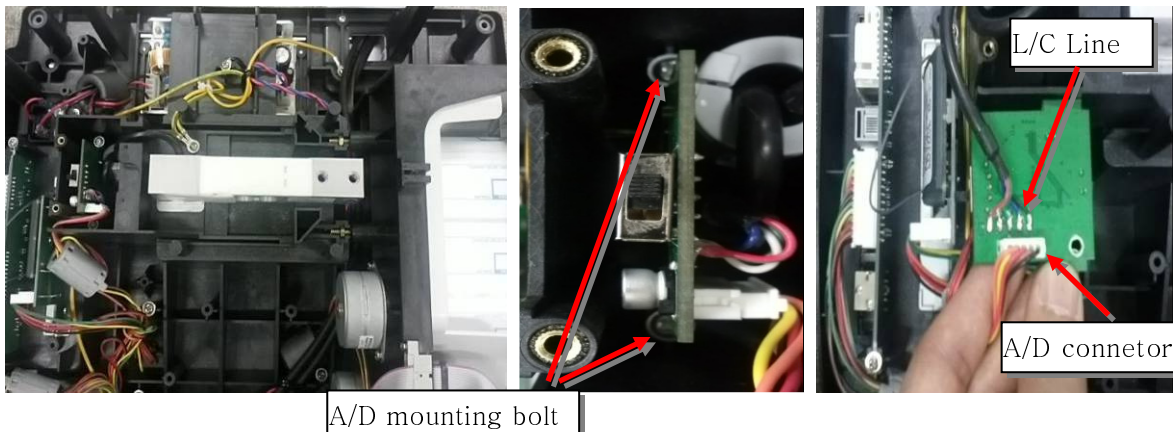
## 5.5 Load Cell & AD Converter Replacement

- 1) Turn power off and remove power cord
- 2) Remove upper case(5.2)
- 3) Remove upper frame(Load cell moul) bolt



- 4) Remove bottom frame bolt

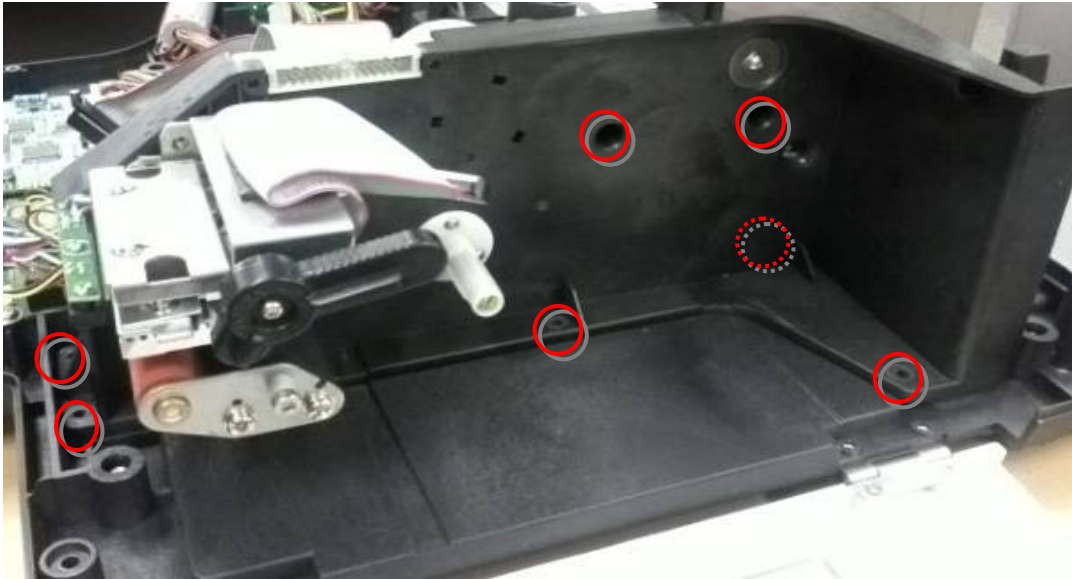
NOTE: Carefull with load cell this procedure may cause critical damage on scale



- 5) Remove A/D module bolt(2) and cable(A/D data line, L/C line)

## 5.6 Print Assembly Replacement

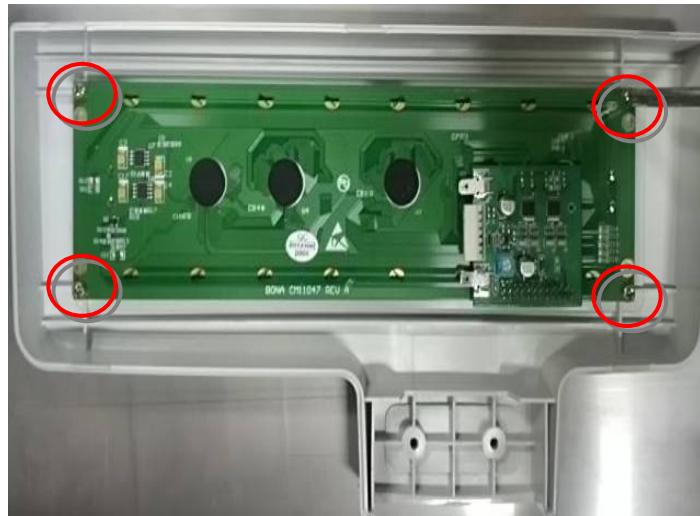
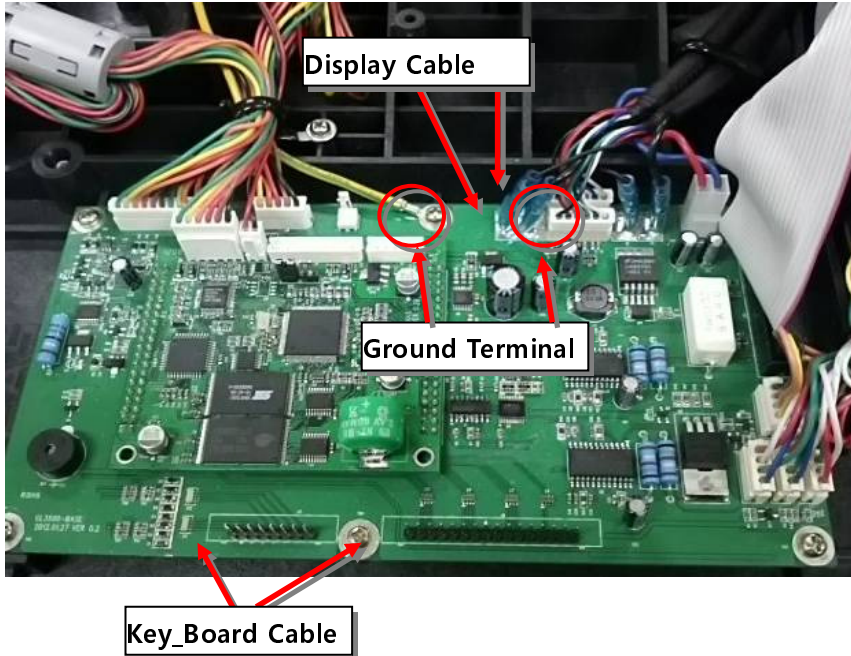
- 1) Turn power off and remove power cord
- 2) Remove printer cartridge
- 3) Remove upper case(5.2)
- 4) Remove printer connecting bolt



- 5) Remove printer module (lift upper right side first)
- 6) Reference following exploded view

## 5.7 Display Replacement

- 1) Turn power off and remove power cord
- 2) Remove upper case (5.2)
- 3) Remove keyboard and display cable of main board

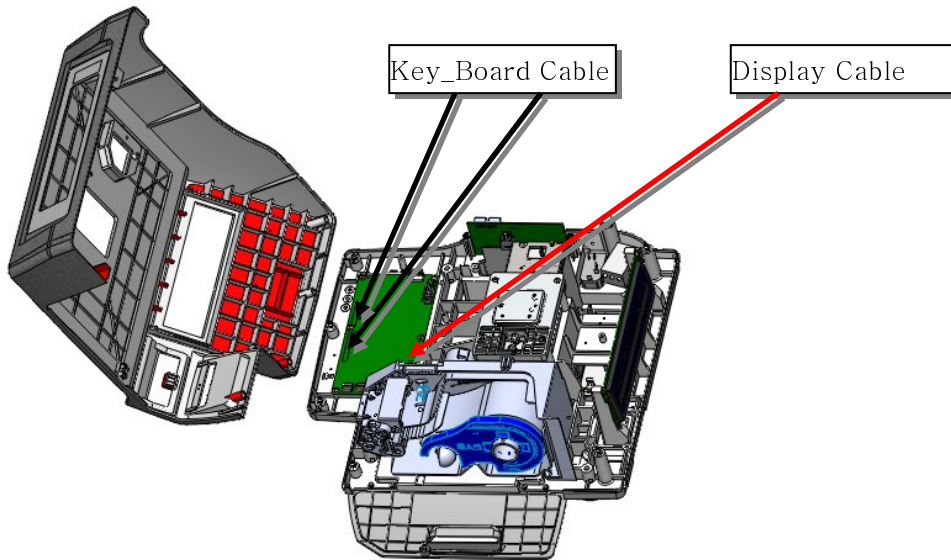


- 4) Remove display case by unhook support part (P type)
- 5) Both are divided into separate (Display case)
- 6) Remove cable & bolt

## 5.8 Keyboard Replacement A,B(with/without breaking sealing)

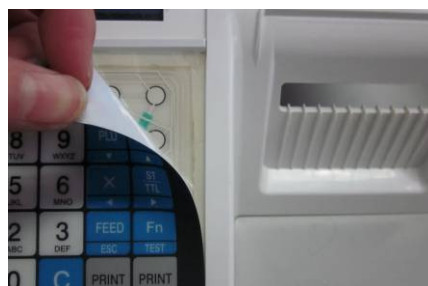
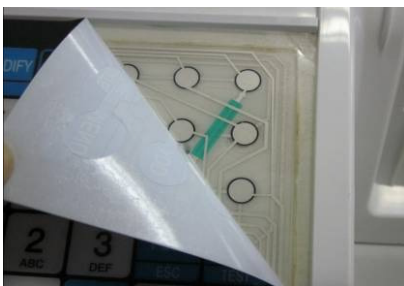
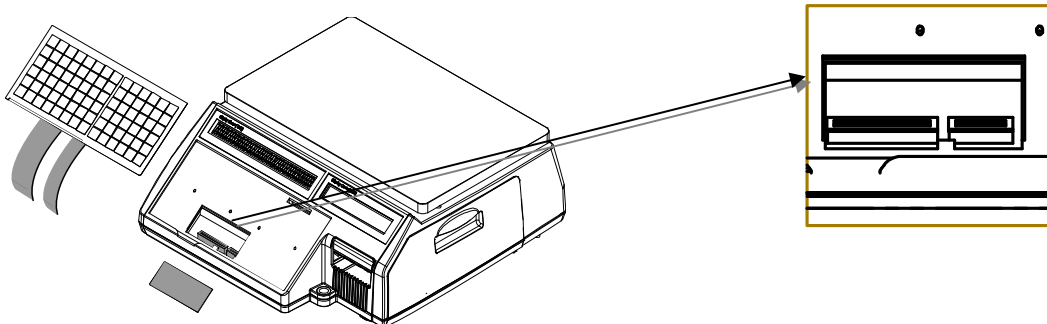
### A: with break sealing

- 1) Turn power off and remove power cord
- 2) Remove upper case(5.2)
- 3) Remove keyboard display cable from main board and replace new keyboard



### B: without break sealing

- 1) Remove keyboard from upper case
  - 2) Remove keyboard support plate and disconnect key board cable by pull the cable lock
  - 3) Connect keyboard cable by pushing keyboard suspend lock / add metal support plate
- Stick the keyboard pad



-Remove keypad cover

## 6. Installing Options

Additional network card is available for ungrade

### 6.1 Installing Wireless Lan Card

- 1) Turn power off and remove power cord
- 2) Remove Ethernet card cover
- 3) Insert Wireless LAN Card.



- 4) Turn on power when installation is finished



## 7. Update

### 7.1 F/W update (CL3500)

NOTE: While you are turning on the scale, you must PUSH CAL button.

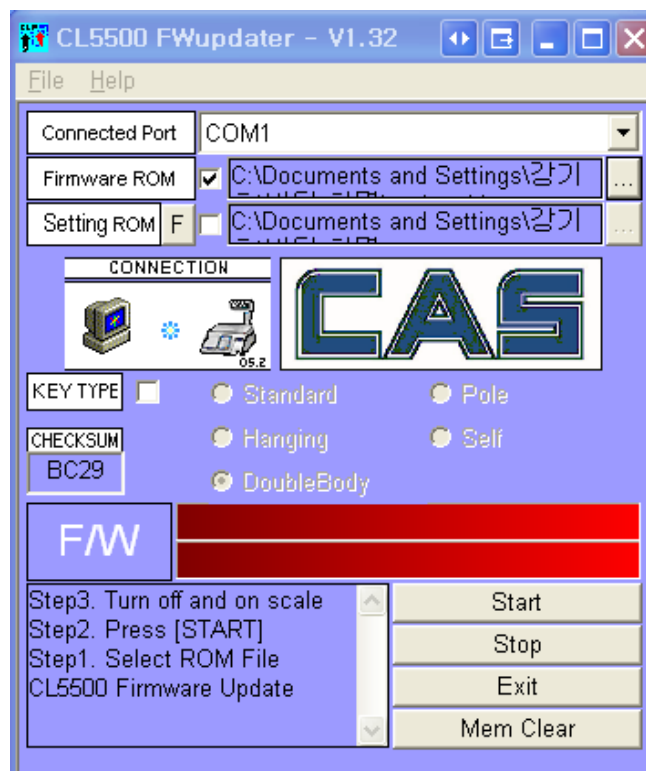
If you didn't follow this procedure, scale will not accept any signal from PC.

Step1: Connect RS232C to computer

Pin-layout is following diagram

Scale(DB-9 Female)	PC (DB-9 Male)
(2) -----	(3)
(3) -----	(2)
(5) -----	(5)

Step2: Play CL5500fwupdater\_v1.32.exe



Step2: Select RS232C communication port by pressing ①

Step3: Select new firmware ROM pressing ②

Step4: Press Start , ready to F/W -ROM download

\* Software will not download if the firmware version is old or file desination is wrong  
Window message will show error message

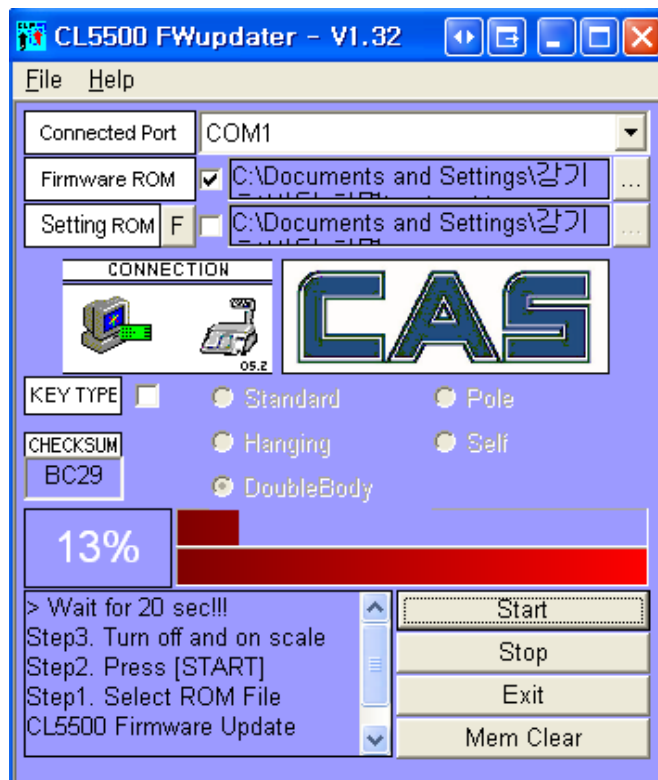
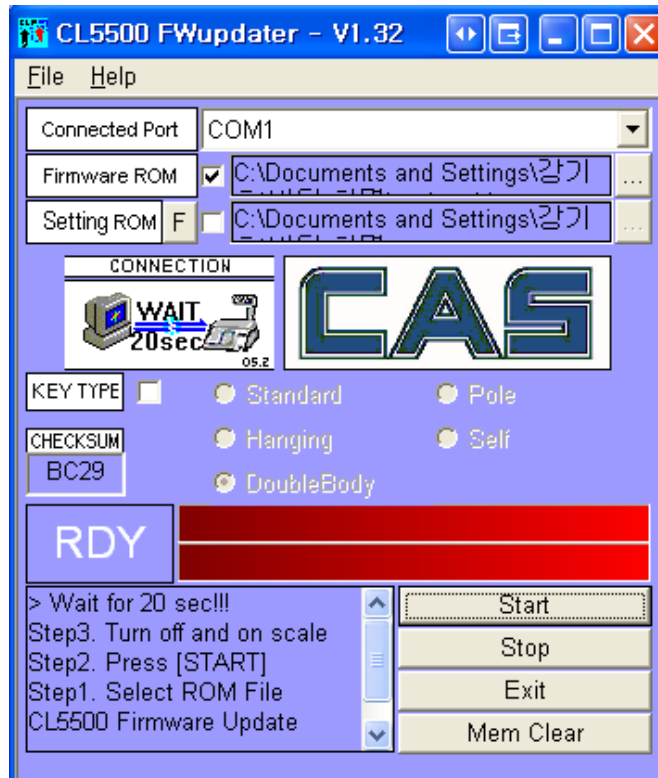
Step5: Turn off the scale to get scale ready

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Step6: Turn on the scale while CAL button is pushed. (at this point display will show "RDY")

NOTE: If CAL button isn't pushed, scale will not accept any signal from PC.

After few second download process will occur

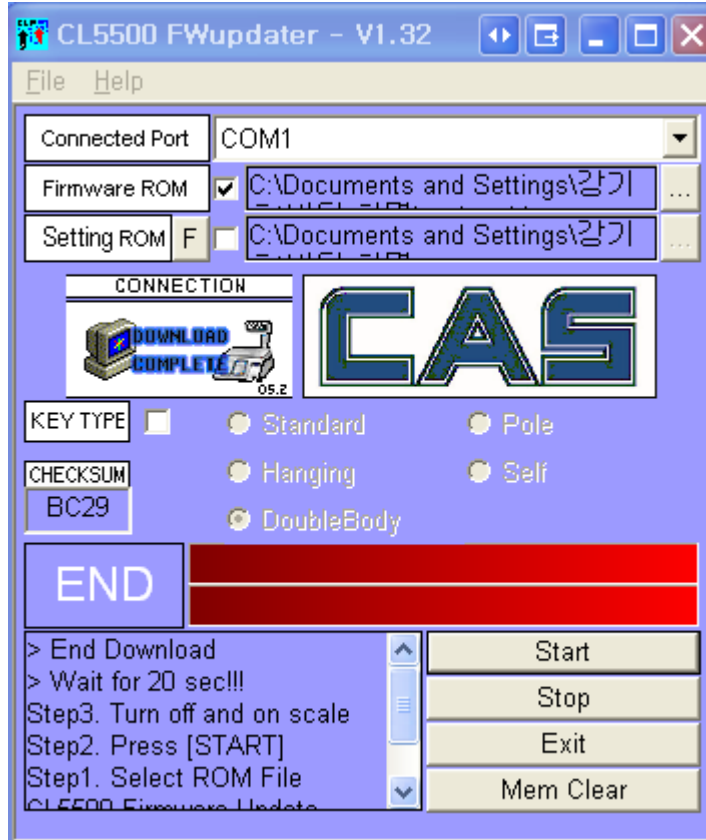


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When download finish scale will reboot

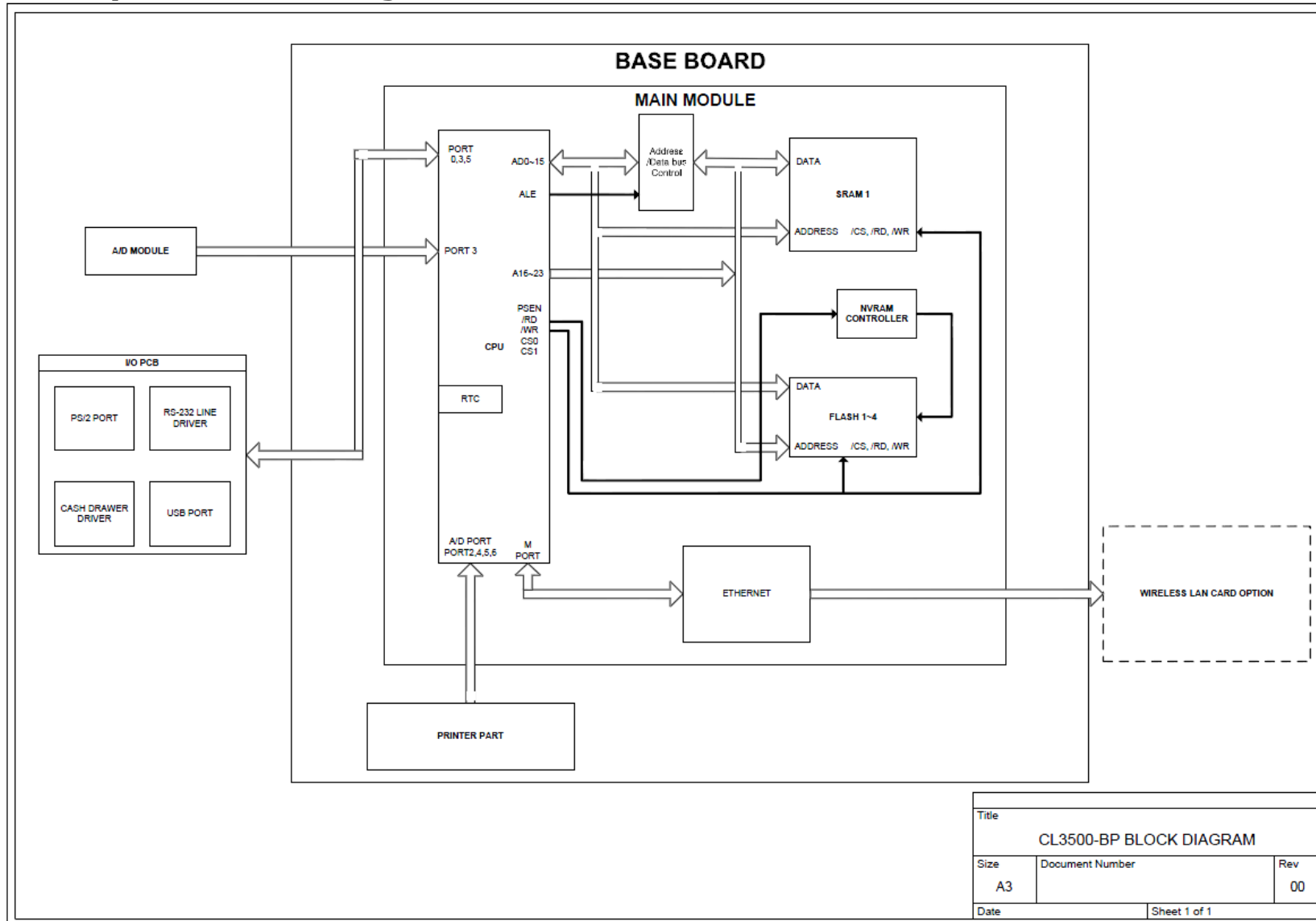
NOTE: During this procedure power or communication connector is cut off

You must redo from step1

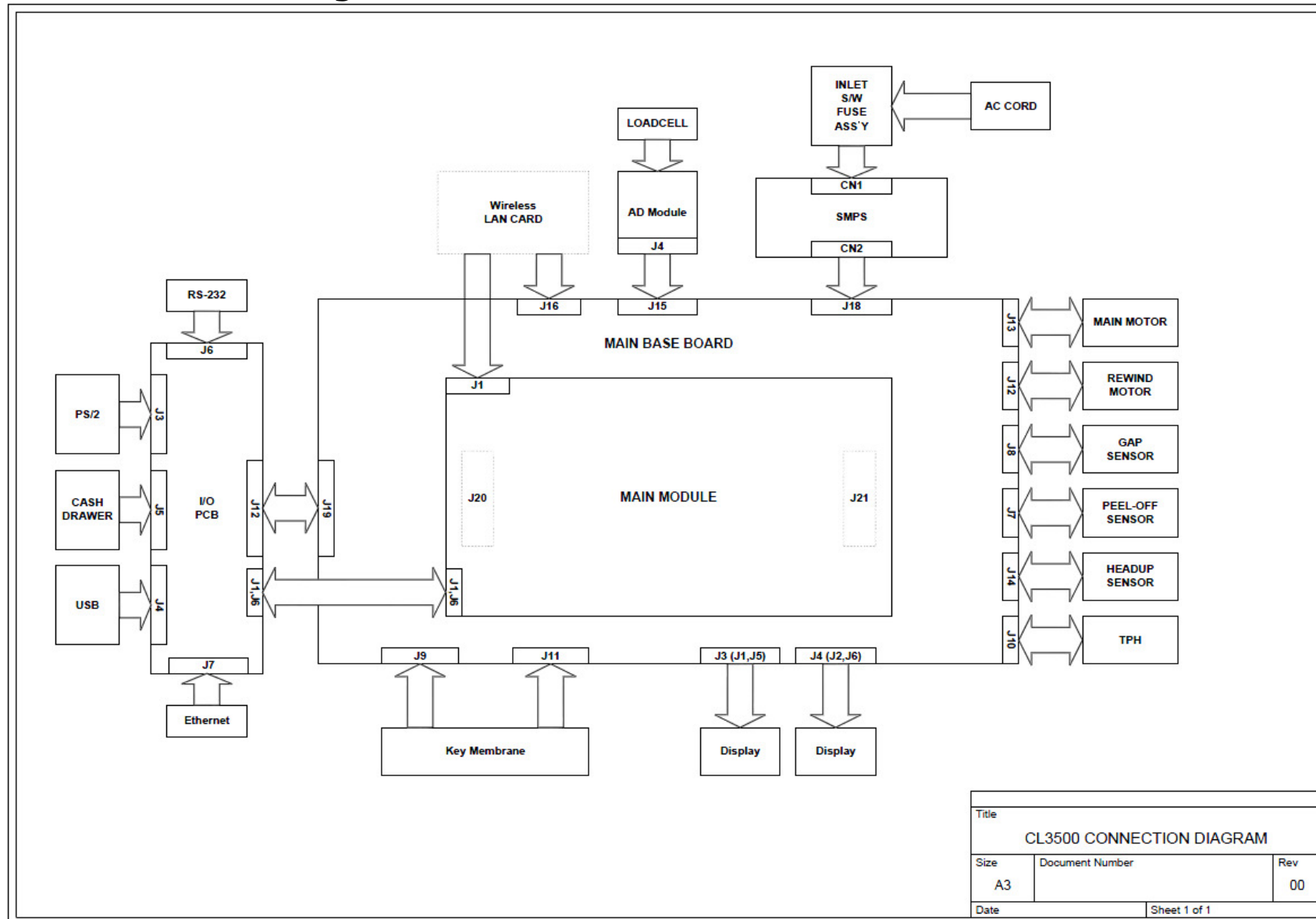


## 8. Schematic & Diagrams

### 8.1 System Block Diagram

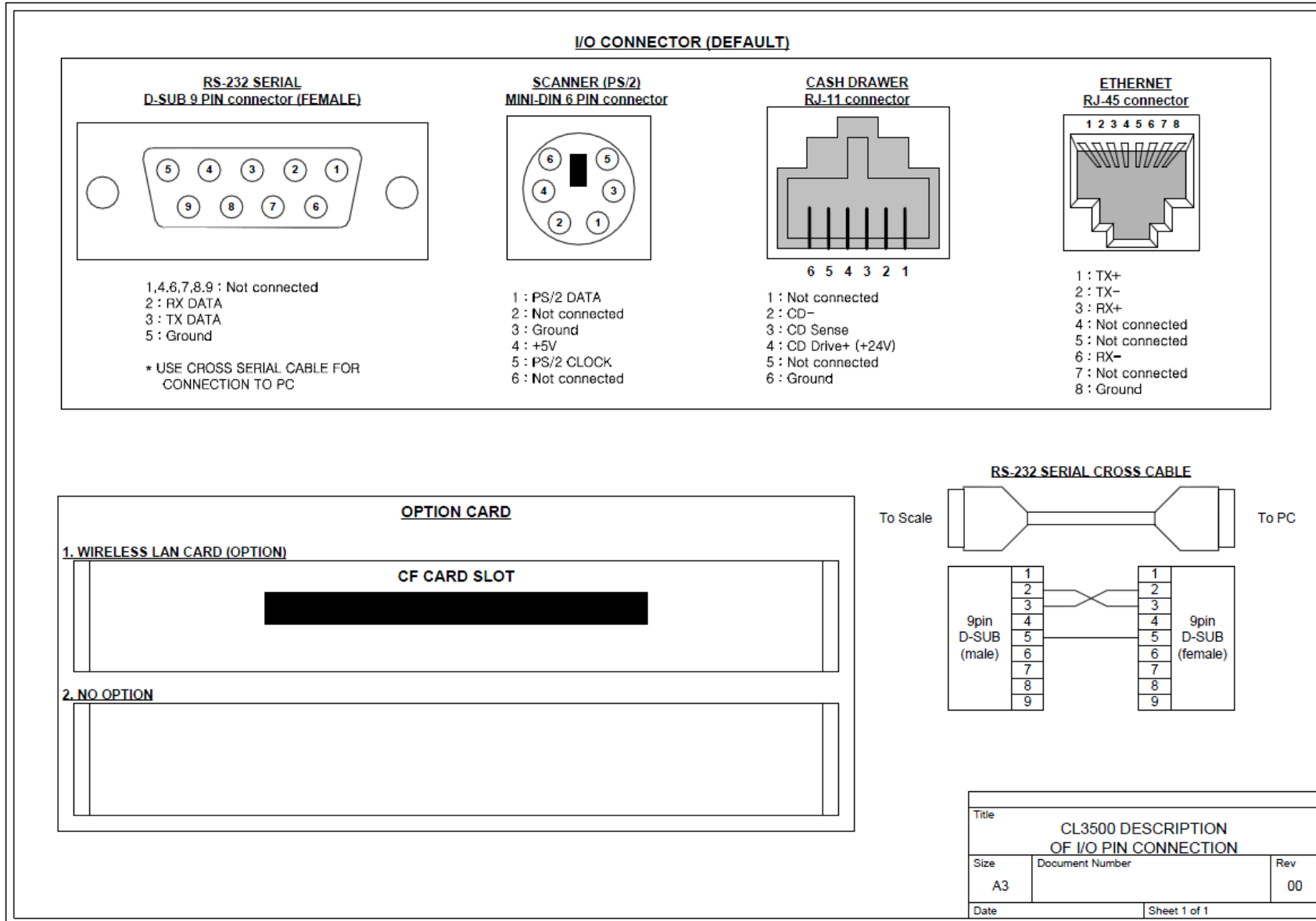


## 8.2 Connection Diagram



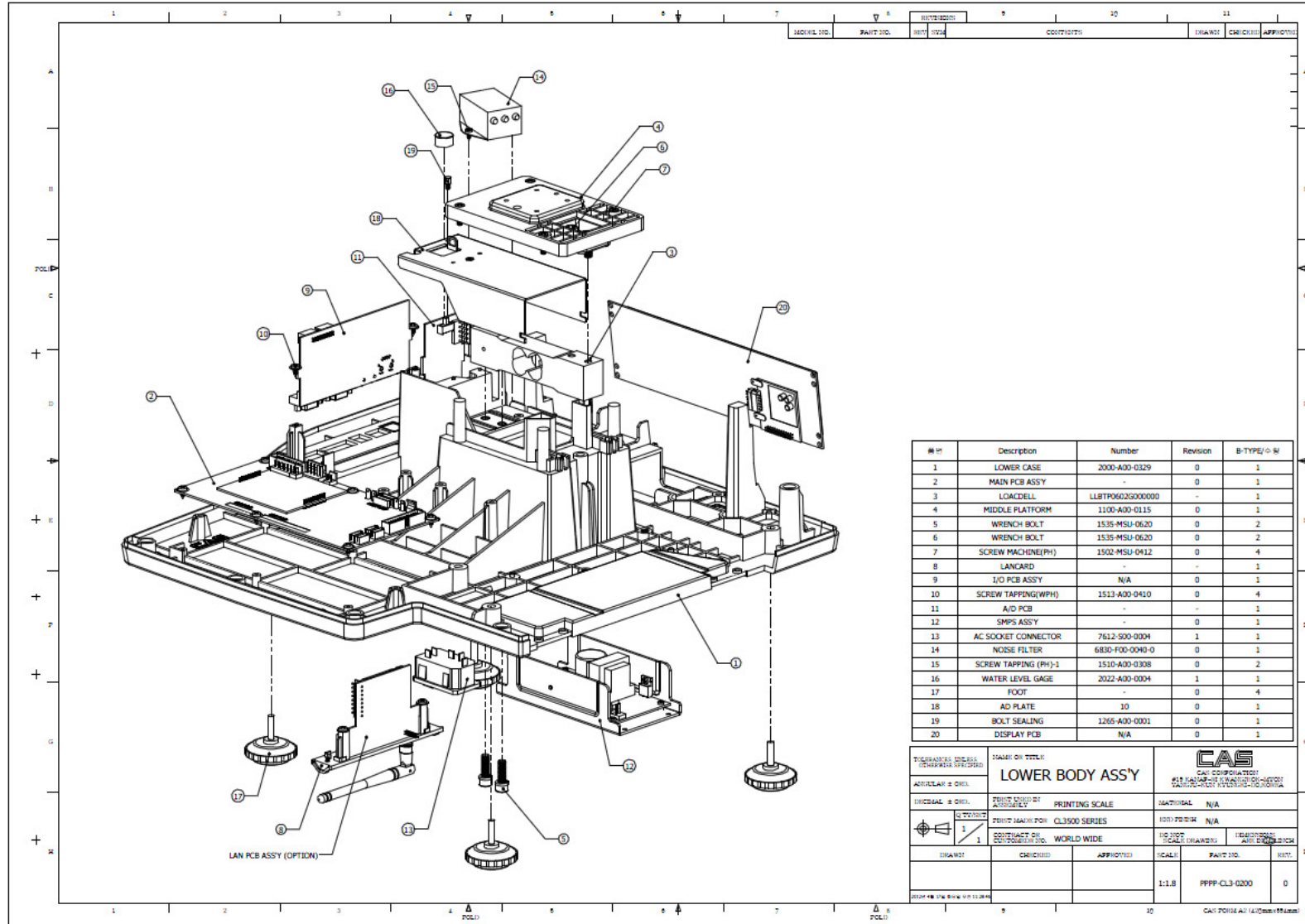
Title		
CL3500 CONNECTION DIAGRAM		
Size	Document Number	Rev
A3		00
Date	Sheet 1 of 1	

## 8.3 I/O Pin Connection



# 9. Exploded Views

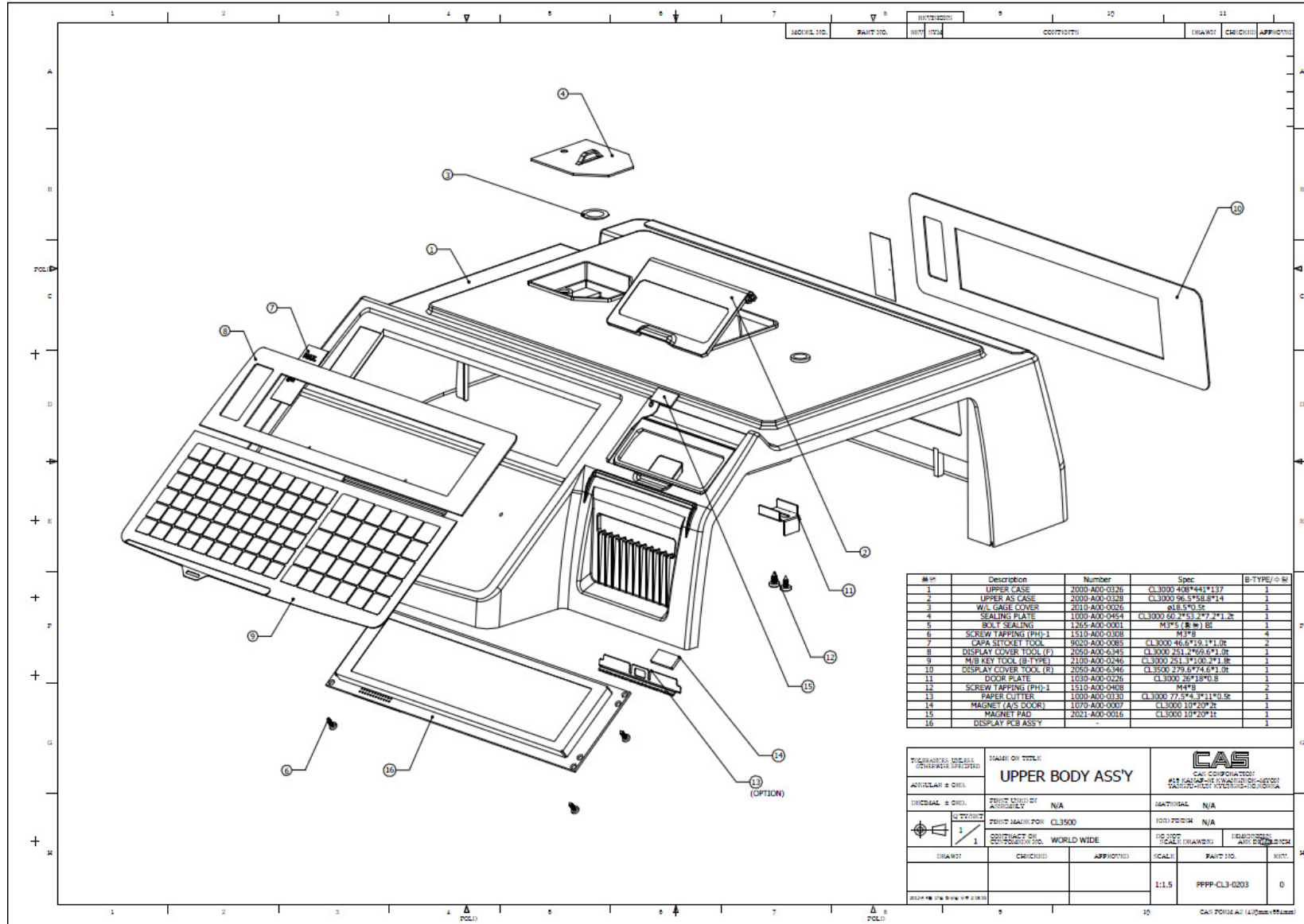
## 9.1 Lower Body A'ssy



#	Description	Number	Revision	B-TYPE/0-#
1	LOWER CASE	2000-A00-0329	0	1
2	MAIN PCB ASSY	-	0	1
3	LOADCELL	LL8TP0602G000000	-	1
4	MIDDLE PLATFORM	1100-A00-0115	0	1
5	WRENCH BOLT	1535-MSU-0620	0	2
6	WRENCH BOLT	1535-MSU-0620	0	2
7	SCREW MACHINE(PH)	1502-MSU-0412	0	4
8	LANCARD	-	-	1
9	I/O PCB ASSY	N/A	0	1
10	SCREW TAPPING(WPH)	1513-A00-0410	0	4
11	A/D PCB	-	-	1
12	SMPS ASSY	-	0	1
13	AC SOCKET CONNECTOR	7612-500-0004	1	1
14	NOISE FILTER	6830-F00-0040-0	0	1
15	SCREW TAPPING (PH)-1	1510-A00-0308	0	2
16	WATER LEVEL GAGE	2022-A00-0004	1	1
17	FOOT	-	0	4
18	AD PLATE	10	0	1
19	BOLT SEALING	1265-A00-0001	0	1
20	DISPLAY PCB	N/A	0	1

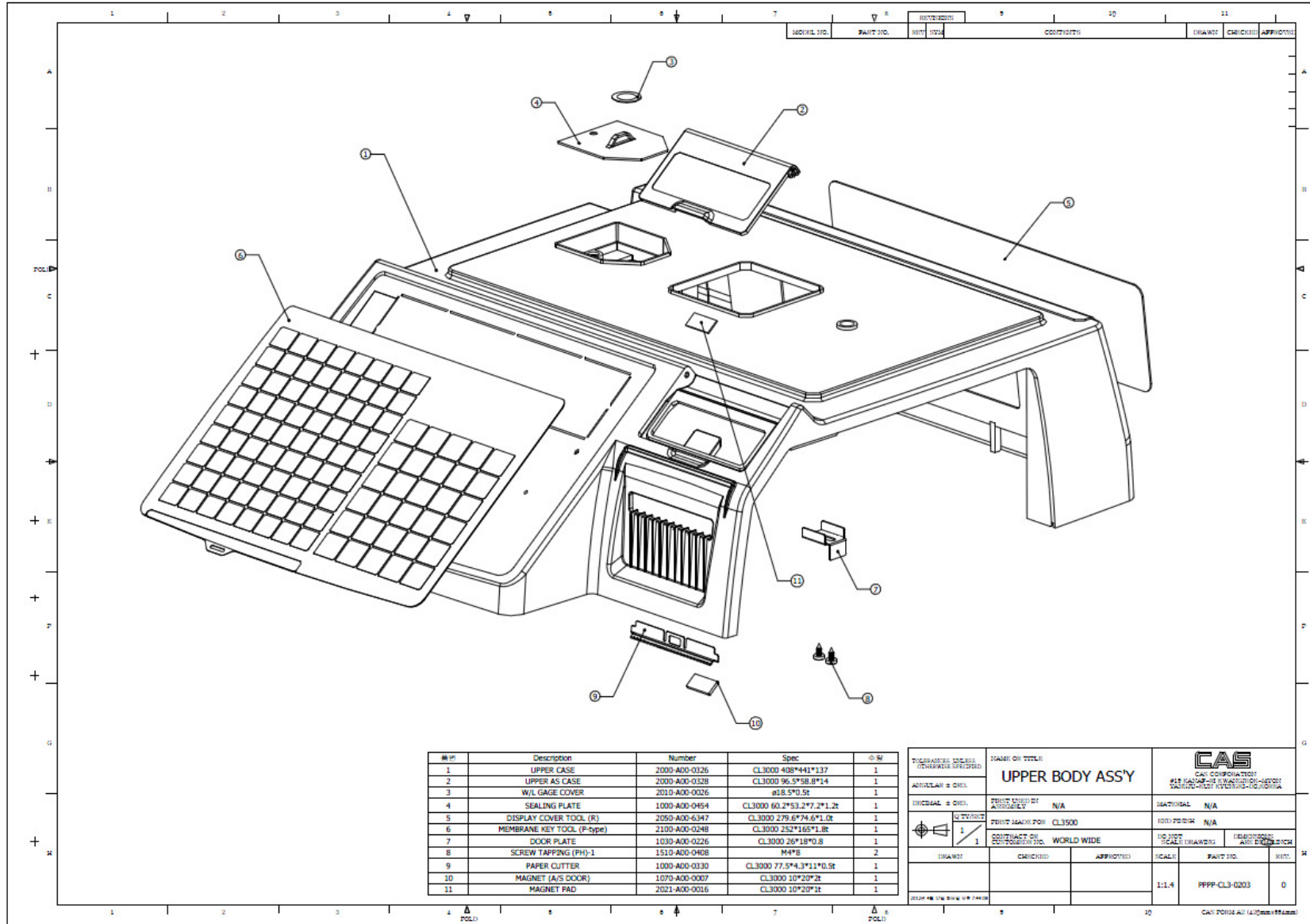
DRAWING TITLE: <b>LOWER BODY ASS'Y</b>			
DRAWING NO.: PPRINT SCALE:		DRAWING NO.: N/A	
PRINT SCALE FOR: CL3500 SERIES		PRINT SCALE FOR: N/A	
WORLD WIDE		WORLD WIDE	
DRAWN:	CHECKED:	APPROVED:	SCALE:
			1:1.8
			PPPP-CL3-0200
			0

## 9.2 Upper Body A'ssy (B-type)





### 9.3 Upper Body A'ssy (P-type)

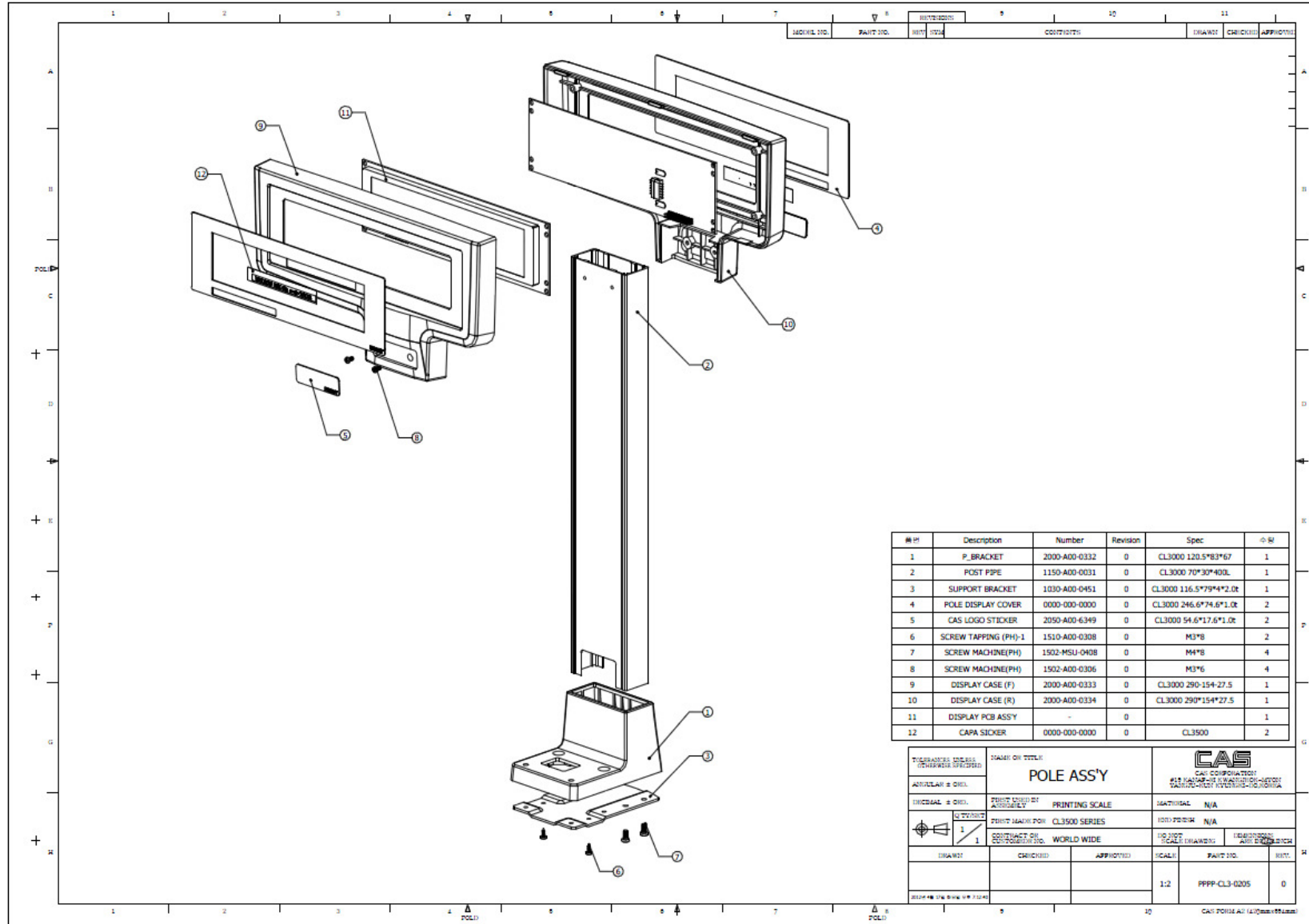


# 9.4 Printer A'ssy

MP	Description	Number	Spec	QTY
1	W BUNT	1500-0010415	M4*1.5	2
2	SILICON SHAFT ROLLER GUIDE	1000-0001031	CL3000 37.8*22*1.5L	2
3	SHAFT BUSHING	1210-0010095		2
4	SPRINGS	-	CL3000 M4*1.5	2
5	PERFECT SENSOR ASSY	-		1
6	CONNECTOR	-		1
7	GEAR SENSOR ASSY	-		1
8	REWIND SHAFT GEAR	2011-0001013		1
9	MAGNET	1000-0001042	CL3000 20	1
10	SILICON SHAFT	2620-0001030	CL3000 2015.6*4*90.7	1
11	SPUR GEAR 29.4	2011-0001017	CL3000 GD 29.4 M 0.5	1
12	WASHER	-		1
13	SPUR GEAR	2011-0001016	CL3000 GD 31.5 M 0.5	1
14	BEARING BEARING	2011-0001012	CL3000 20*15.5	1
15	SHAFT BEARING	1500-0001034	CL3000 4*7*17	1
16	SE-SEW TAPPING(WPH)1	1500-0001012	M4*1.5	1
17	FIN	1210-0001026	CL3000 12.4*11.4*15.0*0.1	1
18	MESH BODY	2000-0001035	CL3000 28*11.8*4*114.7	1
19	SPUR GEAR 19.5	2011-0001018	CL3000 GD 19.5 M 0.5	1
20	HEADLE SENSOR ASSY	-		1
21	GEAR COVER	2000-0001017	CL3000 49.9*31.9*6.2	1
22	SKILL COVER	2000-0001019	CL3000 152.2*95*11.2	1
23	PAPER ADJUST	2000-0001030	CL3000	1
24	ROLL PAPER FEED	2000-0001031	CL3000 W4*1.5	1
25	REWIND STOPPER PLATE	1000-0001017	CL3000 65*10*15	1
26	REWIND PAPER LOCKER	2010-0001028	CL3000 102*51.8*24*11.1	1
27	SE-SEW TAPPING(WPH)1	1510-0001010		1
28	SILICON WASHER	2620-0001029	CL3000 20*11.5	1
29	PRESSURE COIL SPRING	1500-0001029	CL3000 218*11.8*41	1
30	REWIND PAPER	2000-0001012	CL3000 218.5*76	1
31	STOPPER WASHER	1000-0001018	CL3000 218*11.4*2	1
32	REWIND WASHER	2011-0001010	CL3000 218*11.4*2	1
33	REWIND GUIDE	2011-0001012	CL3000 24*21.1	1
34	MAGNET	1000-0001003	CL3000 215*11	1
35	LEVER	2000-0001018	CL3000 26*110.7*12.5	1
36	TPH BRACKET ASSY	1000-0001055	CL3000 60.6*51.8*15.5	1
37	BRACKET PRESSURE	1000-0001010	CL3000 26*105*16*1.0	1
38	LEVER OPEN SHAFT	1210-0001010	CL3000 26*15.8	1
39	TPH AXIS	1210-0001019	CL3000 26*15.4	1
40	WAX BREAKER	1000-0001051	CL3000 74*45*4*1.8	1
41	LEVER	2000-0001036	CL3000 55.7*27*1*15	1
42	SE-SEW M2.5*3.0(FH)	1500-0001016	M2.5	1
43	BEADLE SHC	1000-0001040	CL3000 20*16*2.0	1
44	TPH ASSY	-		1

TECHNICAL INDEX (OTHERWISE SPECIFIED)	SCALE OR TITLE <b>PRINTER ASSY</b>	<b>CAS</b> CAS CORPORATION #17 HANJANG-RO, KWANJUN-GU, SEOUL TEL: 02-2610-1111 FAX: 02-2610-1112
ASSEMBLY & QTY	PRINTING SCALE	MATERIAL <input type="checkbox"/> Wt Material
REVISION & QTY	PRINT MADE FOR CL3500	EDIT POSITION <input type="checkbox"/> Wt Finish
<input type="checkbox"/> 1	CONTRACT OR SUBTRACTOR'S NO. WORLD WIDE	1:1.3 SCALE (DRAWING) DIMENSIONAL AND FINISH
DRAWN	CHECKED	APPROVED
SCALE: 1:1.3	PAINT NO. PAPP-CL3-0204	REV. 0

# 9.5 Poll A'ssy




#	Description	Number	Revision	Spec	QTY
1	P_BRACKET	2000-A00-0332	0	CL3000 120.5*83*67	1
2	POST PIPE	1150-A00-0031	0	CL3000 70*30*40L	1
3	SUPPORT BRACKET	1030-A00-0451	0	CL3000 116.5*79*42.0E	1
4	POLE DISPLAY COVER	0000-000-0000	0	CL3000 246.6*74.6*1.0E	2
5	CAS LOGO STICKER	2050-A00-6349	0	CL3000 54.6*17.6*1.0E	2
6	SCREW TAPPING (PH)-1	1510-A00-0308	0	M3*8	2
7	SCREW MACHINE(PH)	1502-MSU-0408	0	M4*8	4
8	SCREW MACHINE(PH)	1502-A00-0306	0	M3*6	4
9	DISPLAY CASE (F)	2000-A00-0333	0	CL3000 290-154-27.5	1
10	DISPLAY CASE (R)	2000-A00-0334	0	CL3000 290*154*27.5	1
11	DISPLAY PCB ASSY	-	0	-	1
12	CAPA STICKER	0000-000-0000	0	CL3500	2

TOLERANCES UNLESS OTHERWISE SPECIFIED		DRAWN OR TITLE		 CAS CORPORATION 612 HANOVER ST. WASHINGTON, DC 20001 TEL: 202-775-1000 FAX: 202-775-1001	
ASSEMBLY & CHECK		<b>POLE ASS'Y</b>			
DIMENSIONAL & CHECK		PRINTING SCALE		MATERIAL N/A	
 1 / 1		PRINT MARK FOR CL3500 SERIES		100% FORM N/A	
		CONTACT OR CONSULT WITH WORLD WIDE		NO. 2007 SCALE (DRAWING) TELEPHONE AND E-MAIL	
DRAWN	CHECKED	APPROVED	SCALE	PAINT NO.	REV.
			1:2	PPPP-CL3-0205	0






# 10. Part List

## 10.1 Electronic Part

No	Image	Part Code	Parts Name	DESCRIPTION	Q'ty
1		6P01PCL40010 6P00PCL40010	MAIN PCB ASS'Y	MAIN MODULE ASS'Y MAIN BASE PCB ASS'Y	1
2		6P20PCL44000	AD PCB	AD MODULE ASS'Y	1
3		6P58PCL40000	IO PCB	IO PCB ASS'Y	1
4		6P80PCL09000	WLAN MODULE	WLAN MODULE ASS'Y	1
5		6P10PCL07000 7214D0011040	DISPLAY PCB	DISPLAY PCB ASS'Y LCD MODULE	2
6		6190PCL11200	SMPS	SP-C120A (CL3500,CE)	1

7		6412TPH00490	TPH ASSY	HHIK-9949A-XR56-9949	1
8		7612S0000042	AC SOCKET CONNECTOR	JR-101(POSCALE,SWITCH 미포함)	1
9		6830F0001300	NOISE FILTER	SN-M3H-CM(LP)	1
10		6P54CL800010	PEELOFF SENSOR	PEELOFF SENSOR PCB ASSY	1
11		7840W000270B	CONNECTOR WIRE	1P*1P*70(CL5500-D)	1
12		7840W0022410	CONNECTOR WIRE	2p*2p*410mm (CL3500)	1
13		7840CL826160	CONNECTOR WIRE	TPH 26PIN 160mm	1

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14		7840W0012310	CONNECTOR WIRE	12p*12p*315mm (CL3500)	1
15		7840W0062750	CONNECTOR WIRE	6p*6p*275mm (CL3500)	1
16		7840W002300A	CONNECTOR WIRE	2P*2P*300mm (CL5000J WireLess)	1
17		7840W0053150	CONNECTOR WIRE	5p*5p*315mm (CL3500)	
18		7840W0053110	CONNECTOR WIRE	5p*3p*1P*110mm (CL3500)	

## 10.2 Mechanical Part

### 10.2.1 Upper Body Ass'y










No.	IMAGE	CODE	REV.	PART NAME	SPEC	MATERIAL	Q'TY
1		2000-A00-0326	0	UPPER CASE	CL3000 408*441*137	ABS	1
2		2000-A00-0328	0	UPPER A/S CASE	CL3000 96.5*58.8*14	ABS	1
3		1030-A00-0226	0	DOOR PLATE	CL5000 23*16.5		1
4		1510-A00-0408	0	SCREW-TAPPING(PH)-1	M4*8(CHINA)	-	2
5		2010-A00-0026	0	WATER LEVEL GAGE COVER	GAGE COVER(POSCALE)	-	1
6		1000-A00-0330	0	PAPER CUTTER	CL3000 77.5*4.3*11*0.5t	SUS304	1
7		1510-A00-0308	0	SCREW-TAPPING(PH)-1	M3*8(CHINA)	-	4
8		1030-A00-0454	0	SEALING PLATE	CL3000 60.2*53.2*7.2*1.2t	SPCC	1
9		1265-A00-0001	0	SEALING BOLT	M3*0.5*5L	-	1
10		1501-A00-0308	0	SCREW-MACHINE(FH)	M3*8	-	1
11		1510-A00-0410	0	SCREW-TAPPING(PH)-1	M4*10	-	1
12		1070-A00-0007	0	MAGNET	CL3000 10*20*2t	-	1
13		2021-A00-0016	0	MAGNET PLATE	CL3000 10*20*1t	-	1

## 10.2.2 Lower Body Ass'y

No.	IMAGE	CODE	REV.	PART NAME	SPEC	MATERIAL	Q'TY
1		2000-A00-0329	0	LOWER CASE	CL3000 408*441*125	ABS+G/F30%	1
2		1100-A00-0116	0	LOADCELL BLOCK (INSERT)	CL3000 60*45*11.5	AL	1
3		1000-A00-0332	0	TRAY	CL3000 380*250*13*1.2t	SUS304	1
4		1100-A00-0114	0	TOP PLATFORM	CL3000 367*237*21	AL	1
5		1502-MSU-0406	0	SCREW-MACHINE(PH)	M4*6-SUS	SUS	4
6		2600-A00-0105	0	TRAY RUBBER (C)	CL3000 ø20*ø3.2*10.5L	NBR	1
7		2600-A00-0106	0	TRAY RUBBER (S)	CL3000 35.9*38.5*8	NBR	4
8		1100-A00-0115	0	MIDDLE PLATFORM	CL3000 137.5*95*25	AL	1
9		1535-MSU-0620	0	BOLT-WRENCH(WA)	M6*20-SUS	SUS	4
10		1502-MSU-0416	0	SCREW-MACHINE(PH)	M4*16-SUS	SUS	4
11		1030-A00-0448	0	AD PLATE	CL3000 147.2*70.4*47.8*1.2t	SPCC	1
12		1510-A00-0410	0	SCREW-TAPPING(PH)-1	M4*10	-	1
13		2022-A00-0004	1	WATER LEVEL GAGE	ø14.9*8(S-2000)상보	-	1
14		2000-A00-0330	0	LAN SLOT	CL3000 130*22*33	ABS	1
15		1503-A00-0408	0	SCREW-MACHINE(WPH)	M4*8	-	4
16		2008-A00-0001	B	FOOT	PVC ø40*42(SW-1)(CHINA)	-	4
17		1510-A00-0408	0	SCREW-TAPPING(PH)-1	M4*8(CHINA)	-	6
18		1510-A00-0308	0	SCREW-TAPPING(PH)-1	M3*8(CHINA)	-	6
19		1510-A00-0306	0	SCREW-TAPPING(PH)-1	M3*6	-	2
20		1511-A00-0306	0	SCREW-TAPPING(FH)-2	M3*6	-	4



### 10.2.3 Poll Ass'y

No.	IMAGE	CODE	REV.	PART NAME	SPEC	MATERIAL	Q'TY
1		2000-A00-0332	0	P_BRACKET	CL3000 120.5*83*67	ABS	1
2		1150-A00-0031	0	POST PIPE	CL3000 70*30*400L	AL	1
3		1030-A00-0451	0	SUPPORT BRACKET	CL3000 116.5*79*2.0t	SPC 2.0t	1
4		2000-A00-0333	A	DISPLAY CASE (F)	CL3000 290*154*27.5	ABS	1
5		2000-A00-0334	A	DISPLAY CASE (R)	CL3000 290*154*27.5	ABS	1
6		2050-A00-6349	0	CAS LOGO STICKER	CL3000 54.6*17.6*1.0t	PC	2
7		1510-A00-0308	0	SCREW BOLT	M3*8	-	10
8		1502-MSU-0408	0	SCREW BOLT	PH M4*8	SUS	4
9		1502-A00-0306	0	SCREW BOLT	PH M3*6	-	4
10		1502-MSU-0430	0	SCREW-MACHINE (PH)	PH M4*30	-	4

## 10.2.4 Printer Mechanism Ass'y

No.	IMAGE	CODE	REV.	PART NAME	SPEC	MATERIAL	Q'TY
1		2000-A00-0335	0	MECH BODY	CL3000 287*128.2*114.7	ABS+G/F30%	1
2		2000-A00-0336	0	LEVER	CL3000 55.7*27.3*15	ABS	1
3		2000-A00-0337	0	GEAR COVER	CL3000 49.9*31.9*6.2	ABS	2
4		2011-A00-0016	A	SPUR GEAR	CL5000 OD_21.5 M_0.5	-	4
5		2011-A00-0018	B	SPUR GEAR 19.5	CL5000J OD_19.5 M_0.5	-	1
6		2011-A00-0017	A	SPUR GEAR 29.4	CL5000 OD_29.4 M_0.5		1
7		2011-A00-0013	0	BUSHING BEARING	CL5000 ø28*15.5		1
8		2011-A00-0011	0	REWIND SHAFT	CL5000 13*13*25	ABS	1
9		1030-A00-0452	0	MAGNET PLATE	CL3000 ø20*ø3.4*1.0t	SPCC	2
10		1030-A00-0453	0	MAIN BRACKET	CL3000 72*41*24*2.0t	SPCC	1
11		1030-A00-0449	0	BRACKET PRESSURE	CL3000 62*5505*16*1.0t	SPCC	1
12		1030-A00-0455	0	TPH BRACKET ASS'Y	CL3000 60.5*51.8*15.5	SPCC	1
13		1030-A00-0450	0	BRACKET THD	CL3000 70*16*2.0t	SPCC	1
14		1210-A00-0109	0	TPH AXIS	CL3000 ø8*91.4	SUS303	1
15		1210-A00-0110	0	LEVER OPEN SHAFT	CL3000 ø6*84.8	SUS303	1
16		1210-A00-0094	0	SHAFT BEARING	CL5000 ø7*37	SUS303	1





17		1000-A00-0331	0	SILICON SHAFT ROLLER GUIDE	CL3000 47.8*22*1.5t	SUS304	1
18		2620-A00-0030	A	SILICON SHAFT	CL5000J @15*@4*90.7	-	1
19		1210-A00-0095	0	SHAFT BUSHING	CL5000JR ø8*ø12*5.9	-	2
20		1210-A00-0096	0	PIN	CL5000JR ø4*12.4(SUS304)	SUS304	4
21		1210-A00-0114	0	LEVER BUSH	CL3000 ø6.4*ø4.2*5.7L	-	1
22		1540-MSU-0600	0	NUT(HEX)	M6*8(SUS)	SUS	1
23		1503-A00-0412	0	SCREW-TAPPING(WPH)-1	M4*12	-	2
24		1510-A00-0308	0	SCREW-TAPPING(PH)-1	M3*8	-	6
25		1501-MSU-0306	0	SCREW-MACHINE(FH)	M3*6	-	2
26		1503-A00-0308	0	SCREW-MACHINE(WPH)	M3*8	-	6
27		1502-A00-0306	0	SCREW-MACHINE(PH)	M3*6	-	2
28		1530-MSU-0415	0	BOLT-WRENCH	M4*15-SUS	-	3
29		1561-MSU-0200	0	E-RING	ø2.5*ø7*0.6-SUS	SUS	1
30		1561-MSU-0300	0	E-RING	ø3*ø7*0.6-SUS(CHINA)	SUS	2
31		1561-MSU-0400	0	E-RING	ø4*ø9*0.6-SUS	SUS	4
32		1561-MSU-0600	0	E-RING	ø6*ø11*0.6-SUS	SUS	6
33		1595-A00-0028	0	PRESSURE SPRING	CL3000	SWP	1

## 10.2.5 Cartridge Ass'y


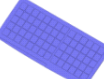




No.	IMAGE	CODE	REV.	PART NAME	SPEC	MATERIAL	Q'TY
1		2000-A00-0338	0	CARTRIDGE	CL3000 249*110.7*92.5	ABS	1
2		2000-A00-0339	0	ROLL COVER	CL3000 162.9*95*11.2	ABS	1
3		2000-A00-0151	0	ROLL PAPER FEED	CL5000 @34*81	-	1
4		2011-A00-0012	0	REWIND GUIDE	CL5000 ø42*71	-	1
5		2000-A00-0152	0	REWIND PAPER	CL5000 ø33.5*69	ABS	1
6		2010-A00-0028	B	REWIND PAPER LOCKER	CL5000 @29.5*83.8*19.1	ABS	1
7		2000-A00-0340	0	PAPER ADJUST	CL3000	PC	1
8		1000-A00-0217	0	REWIND STOPPER PLATE	CL5000 ø53*0.5t	-	1
9		1590-A00-0039	0	PRESSURE COIL SPRING	CL5000 ø18*13.5*44	-	1
10		1070-A00-0003	0	MAGNET	CL5000 ø15*3		2
11		1000-A00-0218	0	STOPPER WASHER	CL5000 ø18*1.2t	-	1
12		2620-A00-0029	0	SILICON WASHER	CL5000 ø17*1.5	-	1
13		2021-A00-0010	0	REWIND WASHER	CL5000 ø18*0.5t	-	1
14		1510-A00-0410	0	SCREW-TAPPING(PH)-1	M4*10		1
15		1510-A00-0412	0	SCREW-TAPPING(PH)-1	M4*12		1



### 10.2.6 C/T Box Ass'y

No.	IMAGE	CODE	REV.	PART NAME	SPEC	MATERIAL	Q'TY
1		9105-A00-0009	0	C/T BOX TOOL -P	CL3000 540*450*285	DW2	1
2		9205-A00-0003	0	STYROFOAM BOX (LEFT)(P-TYPE)	CL3000 540*280*150	-	1
3		9205-A00-0004	0	STYROFOAM BOX (RIGHT)(P-TYPE)	CL3000 540*280*150	-	1
4		9203-A00-0014	0	STYROFOAM PAD	CL3000 360*150*18	-	1
5		1563-A00-0308	0	RIVET	ø3.2*8	-	2

### 10.2.7 Image Ass'y

No.	IMAGE	CODE	REV.	PART NAME	SPEC	MATERIAL	Q'TY
1		2050-A00-6347	0	DISPLAY COVER TOOL (R)	CL3000 279.6*74.6*1.0t	PC	1
2		2100-A00-0248	0	MEMBRANE KEY TOOL	CL3000 252*165*1.8t	-	1
3		2050-A00-6348	0	DISPLAY COVER TOOL (P)	CL3000 246.6*74.6*1.0t	PC	2
4		9020-A00-0091	0	CAPA STICKER	CL3500 87.6*12.6	은데드롱	2
5		1810-PB0-0000	4	SPEC PLATE TOOL	내수 PB 중국산산용(10.03.17)	-	1
		1810-PB0-0000	3	SPEC PLATE TOOL	내수 PB 중국산산용(10.03.17)	-	1



## **11. Revision**

29-May, 2012

- CL3500-BP