

charder®



## MS-6121R SERVICE MANUAL

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## PRECAUTIONS

**READ** the service manual **BEFORE** operating or servicing this equipment.

**FOLLOW** the instructions carefully.

**Keep** this manual for future reference.

**Don't** allow untrained personnel to operate, clean, inspect, maintain, service or tamper with this equipment.

**ALWAYS DISCONNECT** this equipment from the power source before cleaning or performing maintenance.

**Note:** If the unit has been stored or transported in below freezing temperatures, allow the unit to warm up to room temperature before turning on power.

### PAY SPECIAL ATTENTION TO ALL "WARNING" SYMBOLS



IMPORTANT



ELECTRICAL WARNING

## GENERAL INFORMATION

Before connecting or disconnecting any internal electronic components or interconnecting wiring between electronic equipment, always remove power and wait at least 30 seconds. Ignoring any of these precautions could damage or cause destruction to the equipments.

## GENERAL INSPECTION

Inspect the scale assembly by checking the following:

- Are there any unusual wear points, paths, or marks on the weighing Surface?
- Is the instrument cable damaged or binding the scale?
- Has any debris or material built up under or around the platform that could inhibit movement?
- Visually inspect the load cells and levelling feet for signs of unusual wear.

## TROUBLESHOOTING

### GENERAL:


If the scale does not operate properly, find out as much as possible about the problem.

Determine whether the problem is constant or intermittent. Be aware that problems can be caused by mechanical or electrical influences.

While troubleshooting MS 6121R scale, check for the following:

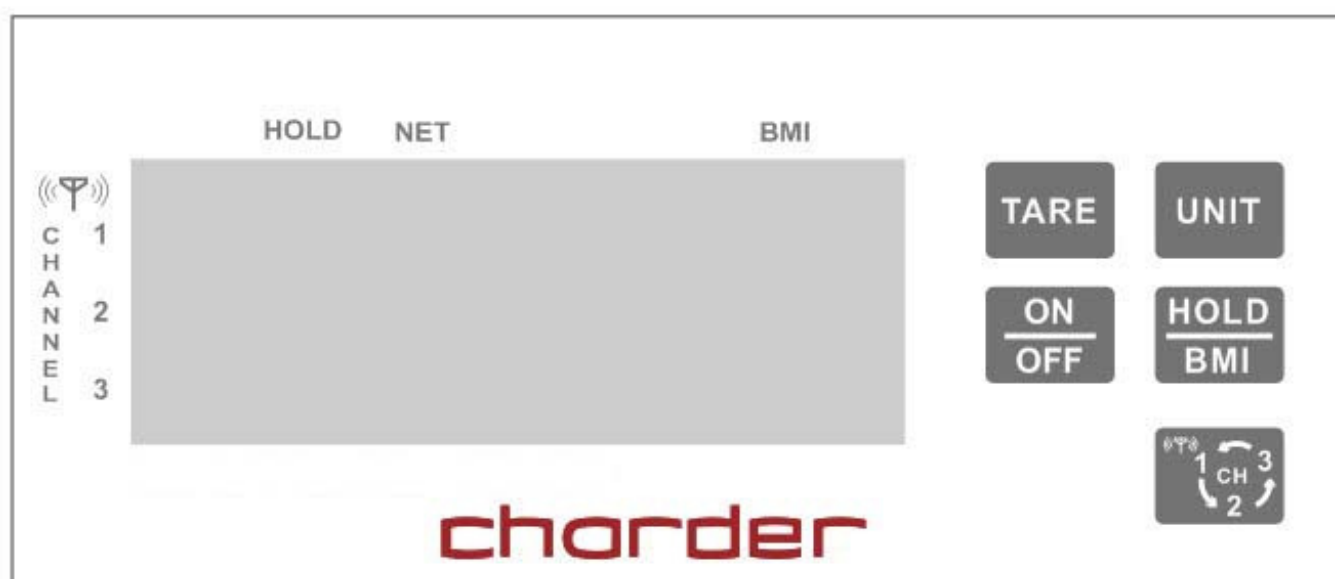
- Water
- Corrosive materials
- Uneven floor
- Strong vibrations or wind currents
- Physical damage to the scale platform or housing.

## SPECIFICATION






<b>MODEL#</b>	<b>MS 6121R</b>	
<b>Capacity Division</b>	250kg x 0.1kg	550lb x 0.2lb
<b>Accuracy</b>	±200g	±0.4lb
<b>Units of Measure</b>	kg; lb	
<b>Function keys</b>	ON/OFF, UNIT, TARE, HOLD/BMI,  Channel switch	
<b>Stabilisation time</b>	1-2 seconds	
<b>Operating temp.</b>	5°C - 35°C	
<b>Power supply</b>	DISPLAY: four 1.5V AA size batteries & Adaptor	
	PLATFORM: four 1.5V AA size batteries & Adaptor	
<b>Indicator display</b>	1.0" LCD display with 5 active digits	
<b>Wireless type</b>	Infrared 2.4G	
<b>Wireless channels</b>	3 channels	
<b>Dimensions</b>	348.5 x 355mm	

**\*MS6121R serves three wireless platforms at a time. Press channel switch button to change platform and channel to start measurement.**

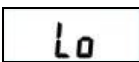
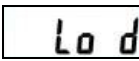
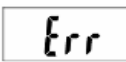
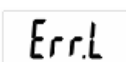
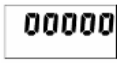

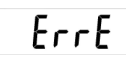
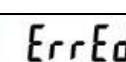
## OVERLAY / PANEL



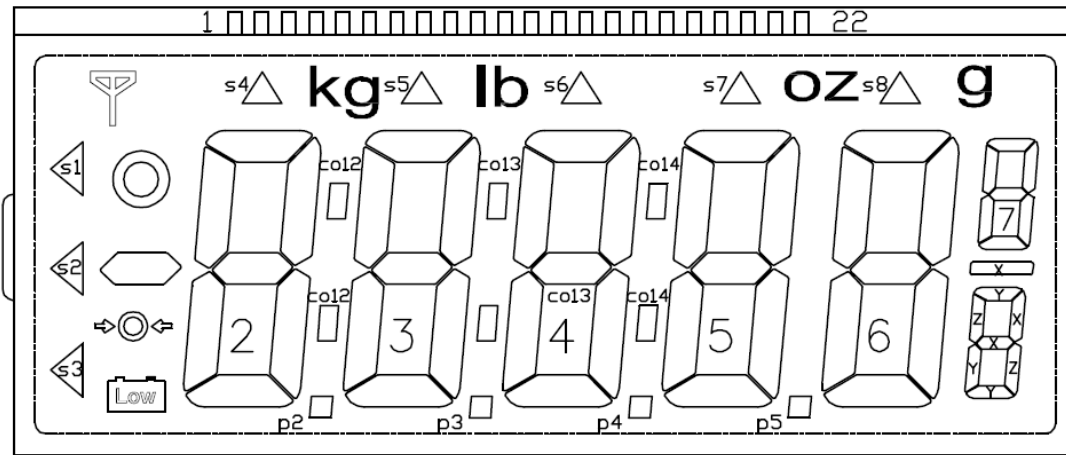
## KEY DESCRIPTION

1.  : To power ON and OFF the scale.
2.  : Press to tare weight.
3.  : Press this key to lock the weight value before or while weighing. To disable the weight lock (Hold) function, press HOLD key again or pick up the weight (Tare weight also) from the platform; display will come to zero weighing
4.  : Press to change measuring unit between kg and lb.
5.  **change channel**  
Press to change wireless channel

## ERROR MESSAGE

<u>Error Message</u>	<u>Description</u>	<u>Solution</u>
	Indicator Low battery	Please replace batteries or plug the AC adaptor for operation
	Deck Low battery	
	Overload: The total load exceeds the maximum capacity of the scale	Please reduce the load and try again
	Counting error (too high): Indicates that the signal from the load cell/s is too high	This error is normally caused by a serious fault on the scale such as faulty load cell or wiring. Please contact the local service representative
	Counting error (too low): Indicates that the signal from the load cell/s is too low	This error is normally caused by a serious fault on the scale such as faulty load cell or wiring. Please contact the local service representative
	Zero count is over calibration zero range +10% while power on	Please re-calibrate the scale
	Zero count is under calibration zero range -10% while power on	Please re-calibrate the scale
	EEPROM error (Indicator)	This error is normally caused by a serious fault on the scales such as a faulty load cell or wiring. Please contact the local service representative.
	EEPROM error (deck)	

# LCD FORMAT



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
COM1	☐	☉	s4	2a	kg	s5	3a	lb	s6	4a	s7	oz	5a	s8	6a	g	7a	/	C1	/	/	/
COM2	s1	☐	X	2f	2b	col2	3f	3b	col3	4f	4b	col4	5f	5b	6f	6b	7f	7b	/	C2	/	/
COM3	s2	☐	Y	2g	2c	p2	3g	3c	p3	4g	4c	p4	5g	5c	6g	6c	7g	7c	/	/	C3	/
COM4	s3	☐	Z	2e	2d	/	3e	3d	/	4e	4d	p5	5e	5d	6e	6d	7e	7d	/	/	/	C4

## ACTION:

**Problem-** The scale shows non-complete segments when power on.

## Solution:

- Turn off the scale and take out the batteries from the scale.
- Check LCD pin. (Please refer to above LCD FORMAT)

For instance, if the top left arrow (S1) disappears, then check pin 1 and pin 20.

- Check whether LCD pins are soldered properly or not.

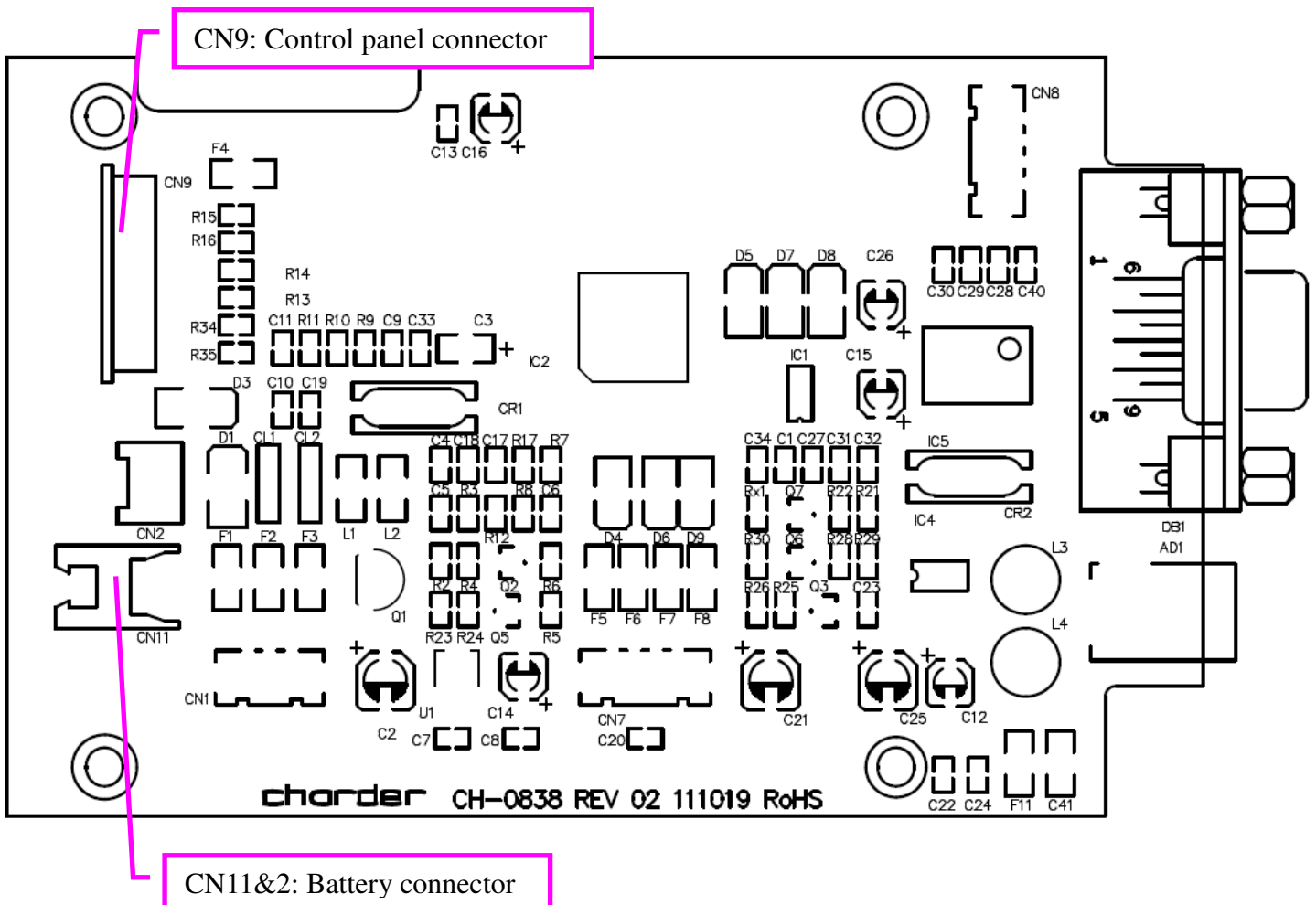
# WIRING

## ACTION:

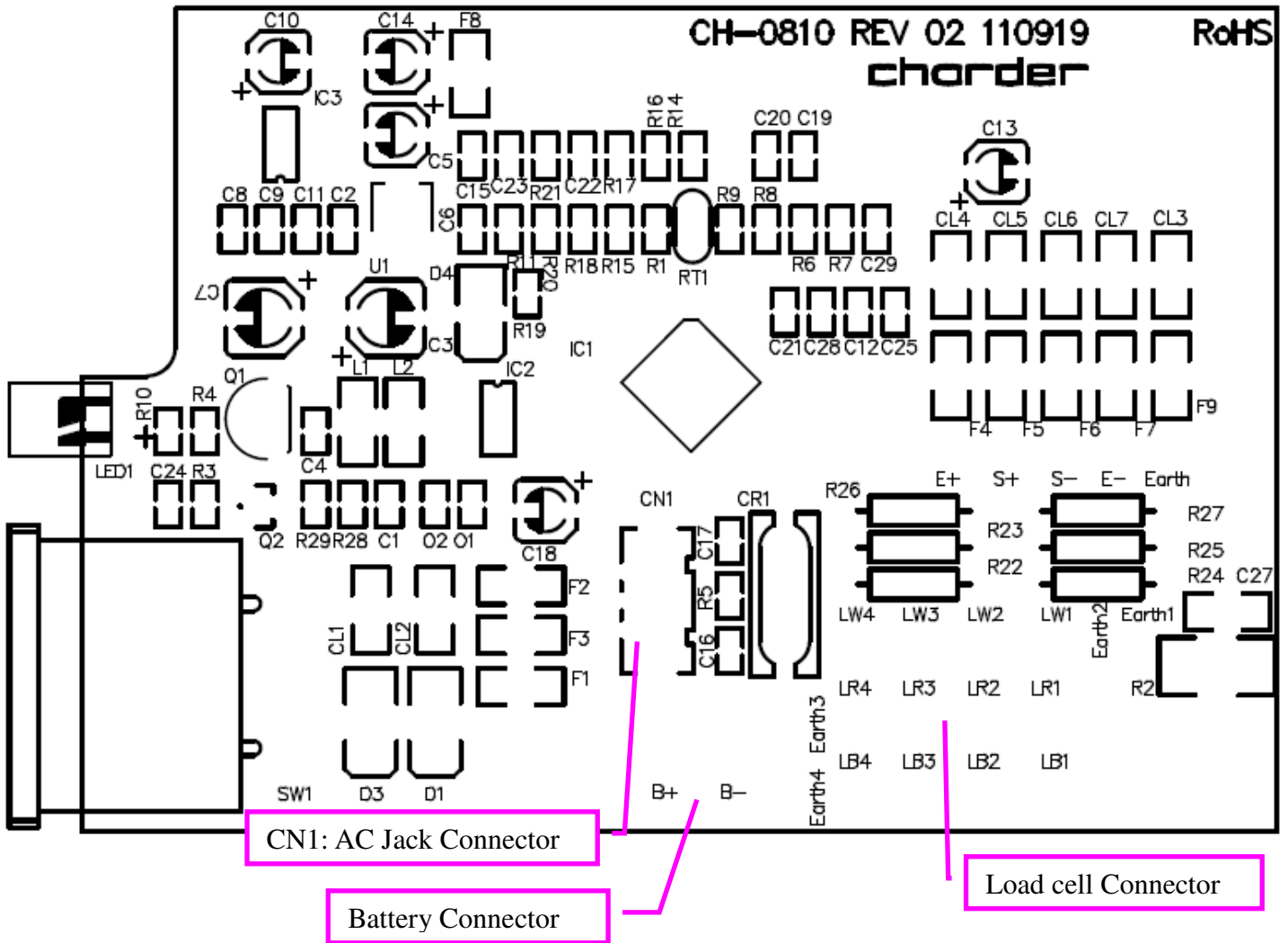
1. Remove battery from the scale.
2. Un-screw the lower housing.
3. Remove upper housing.
4. Make sure that all wire connectors are well and that no insulation material is touching the soldering contacts.
5. Make sure that all wires are connected to the correct points.

Wiring	Connector
Load cell wiring	RED (solder pad "E+")
	BLACK (solder pad "E-")
	GREEN (solder pad "S+")
	WHITE (solder pad "S-")
Battery Wiring	CN 3
Power Wiring	CN 2

## ■ Main Board CH-0838 (Indicator)

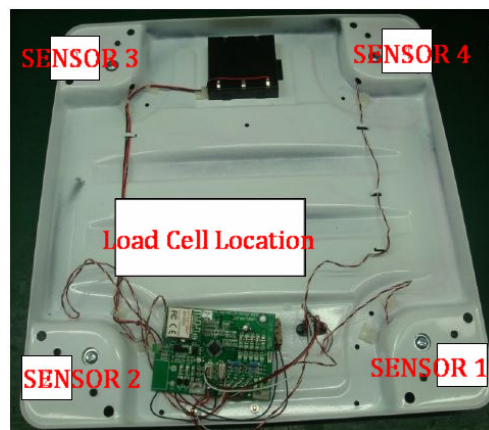


## ■ Junction Board CH-0810 (Deck)



### Load cell Connector

Load cell	White wire	Red wire	Black wire
sensor 1	LW1	LR1	LB1
sensor 2	LW3	LR2	LB2
sensor 3	LW2	LR3	LB3
sensor 4	LW4	LR4	LB4





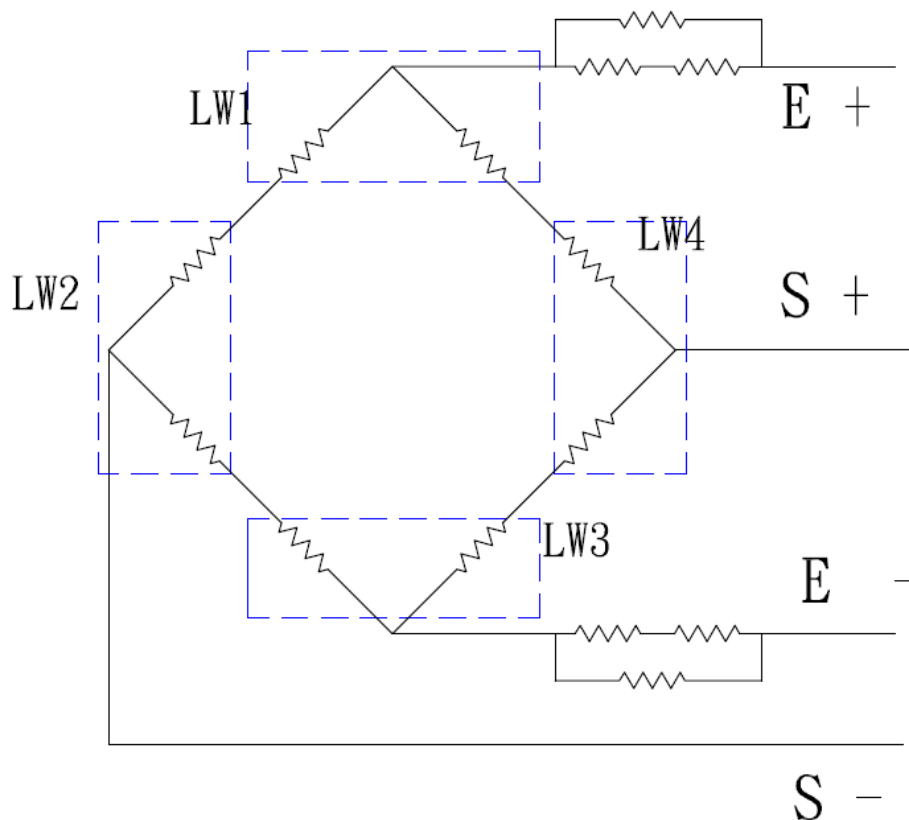
## LOAD CELL

Check load cell for proper bridge resistances as below.

MODEL	MEASURING POINTS	RESISTANCE
AL-1380	E+ (RED) to E- (BLACK)	$700 \pm 15$ ohms
	S+ (GREEN) to S- (WHITE)	$700 \pm 15$ ohms

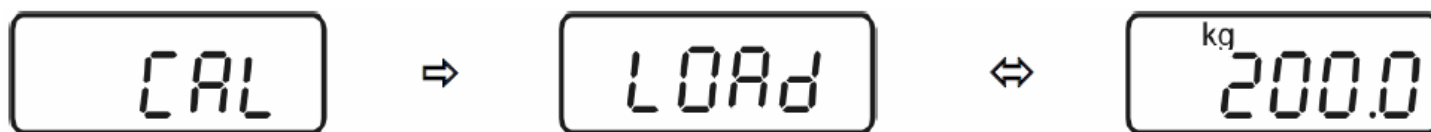
### ACTION:

1. Remove power (adaptor pin) from the system, check load cell for proper resistances.
2. If load cell fails the above tests, replace load cell.
3. If load cell passes the above tests and has no visible damage, please re-calibrate the scale.



## CALIBRATION & SETTING ORIGIN GRAVITY PROCEDURE

- In weighing mode long press UNIT key 6 sec until “CAL” followed by the weight value of the required calibration weight in display. “LoAd” is displayed alternatively.

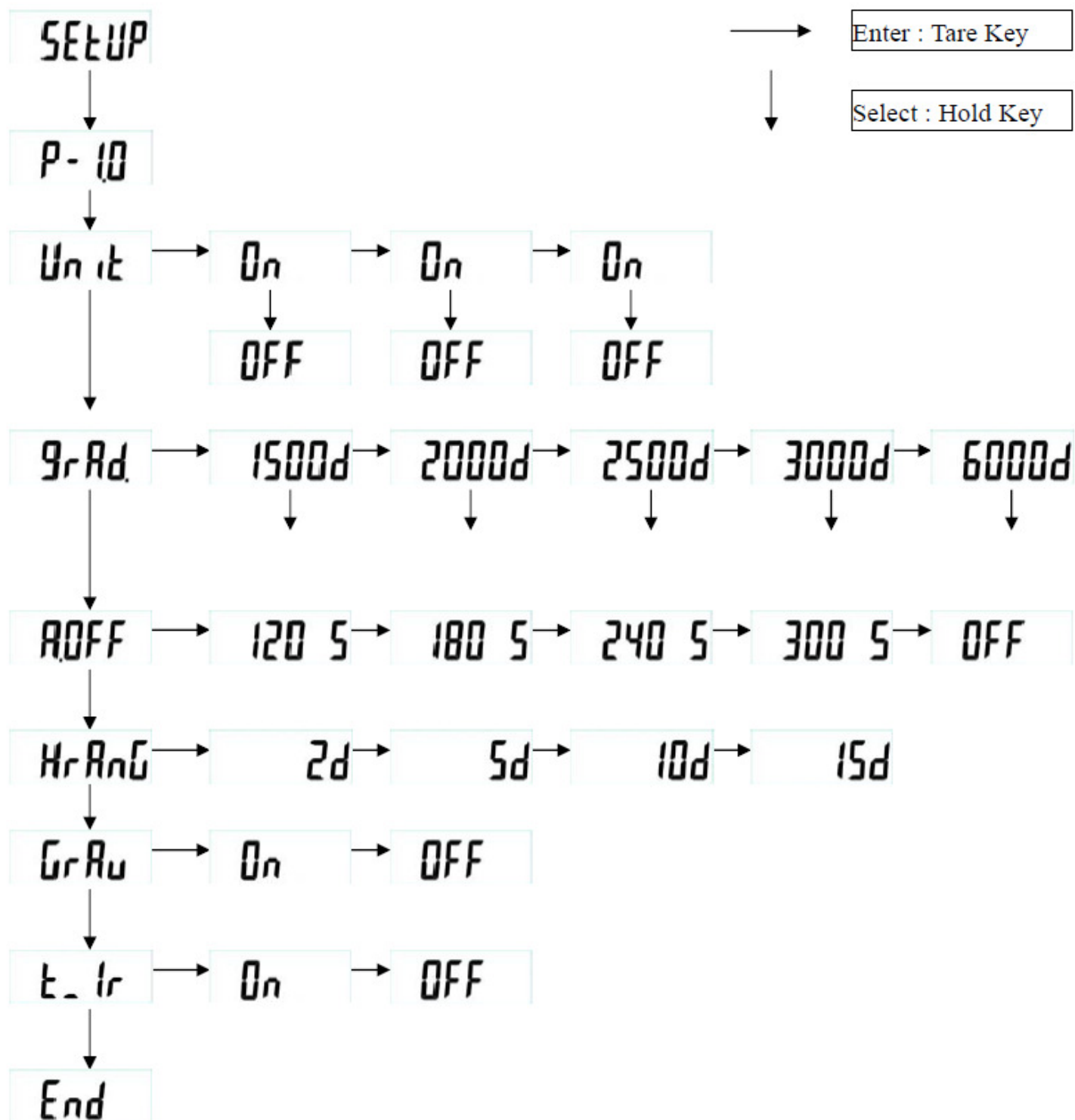


- Carefully place the required adjustment weight (200kg or 500lb) in the centre of the weighing plate.
- Press **TARE** key, adjustment is started.
- Wait until the stability display appears after that the adjustment is finished.



- The balance will automatically return to weighing mode upon successful completion of the adjustment and will display the weight of adjustment weight.
- Take away adjustment weight and re-power on the scale.

# SERVICE MENU CONFIGURATION OF MS 6121R

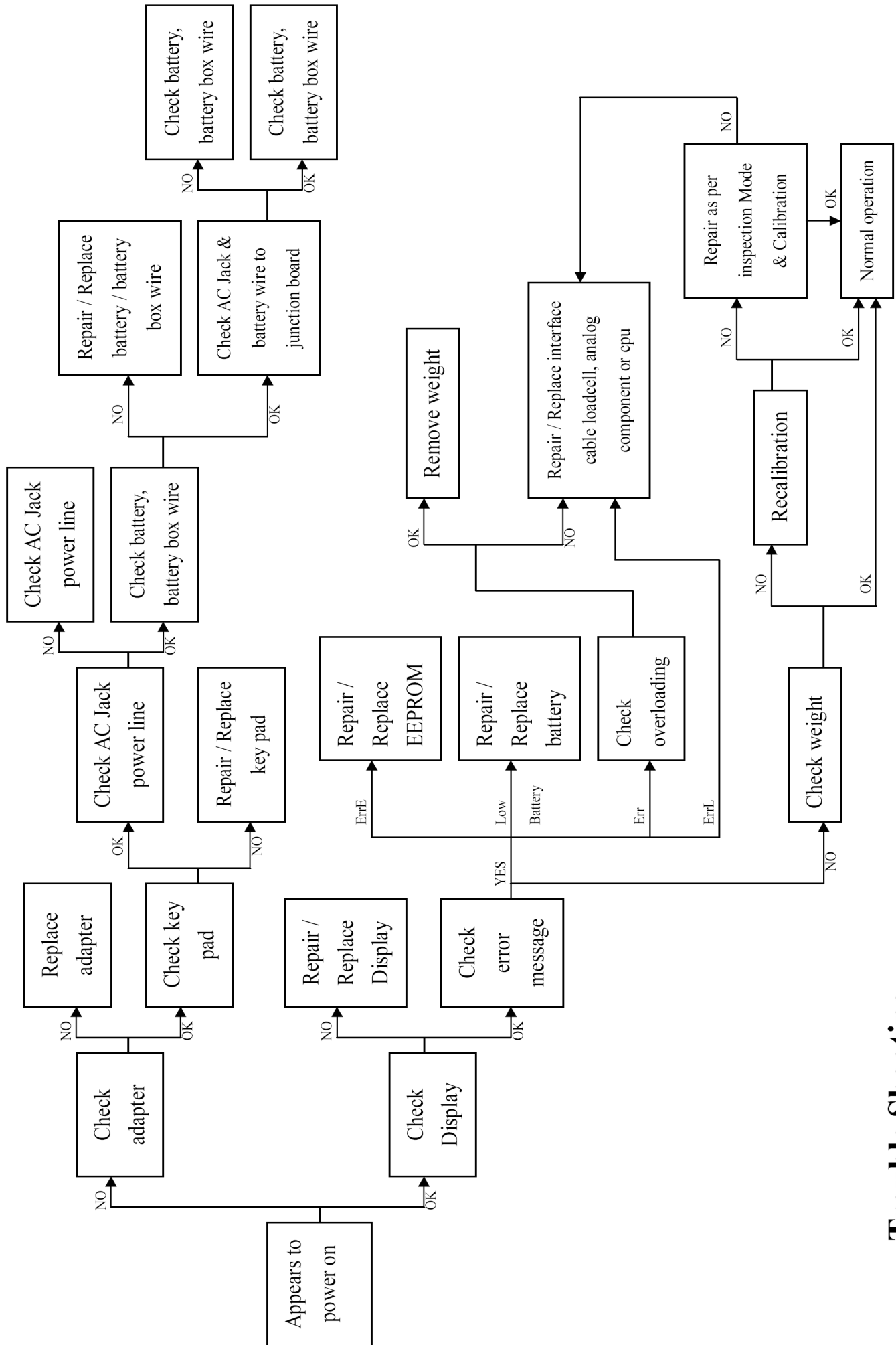


## COMPANY SETTINGS

The setting of MS6121R must be set to following default settings:

Function	Description	Default
Unit	(Units): Kg/ Lb/ lb:oz	kg, lb
GrAd	(Graduations): 1500d/2000d/2500d/3000d/6000d	2500d
A_OFF	(Auto off time) 120/180/240/300/off seconds	180
HRAN	(Hold Range): 2d/5d/10d/15d	5d
GRAU	(Gravity) on/off	off
t-ir	(Tare-IR): on/off	off

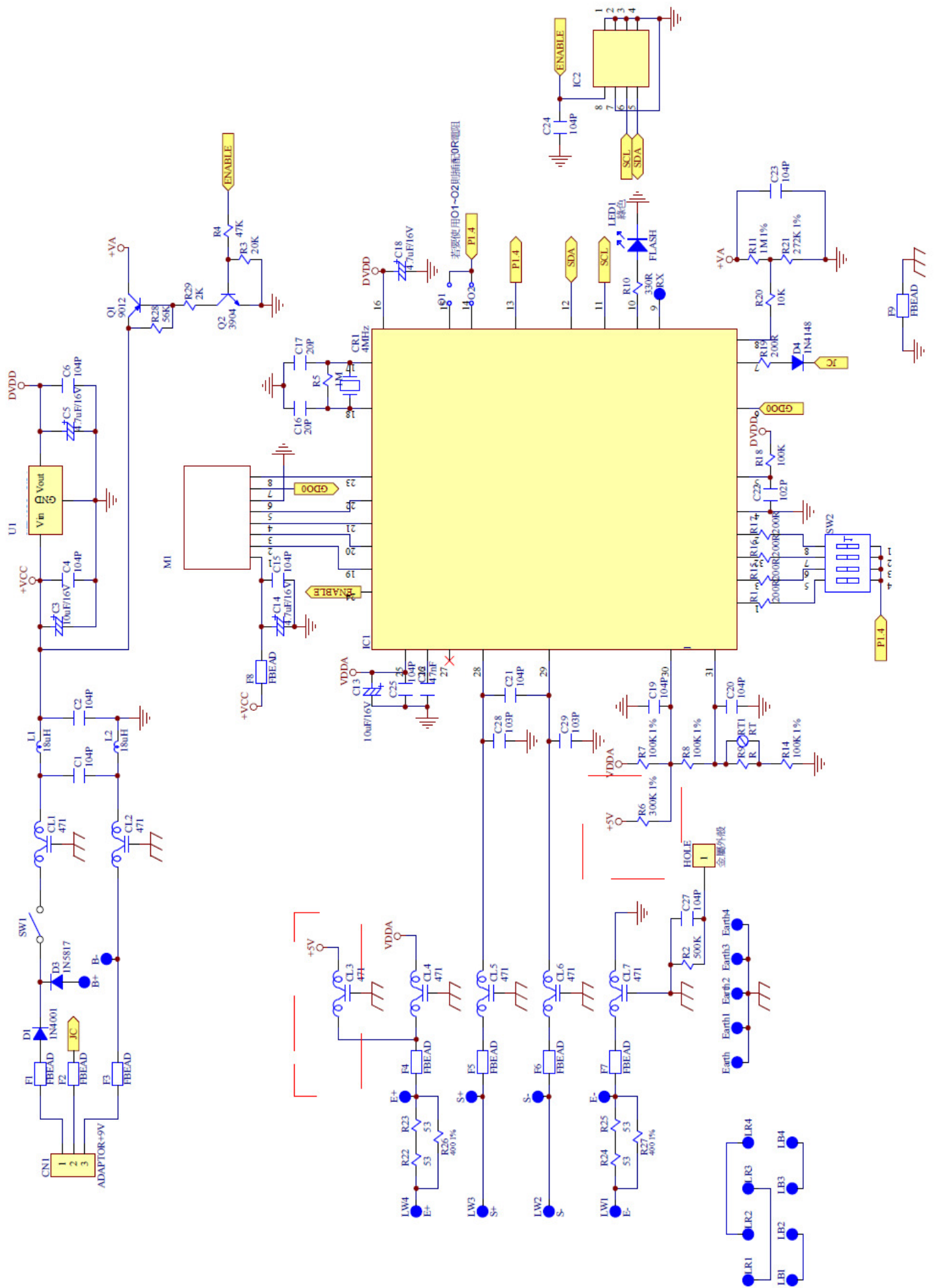
# TROUBLE SHOOTING



## Trouble Shooting

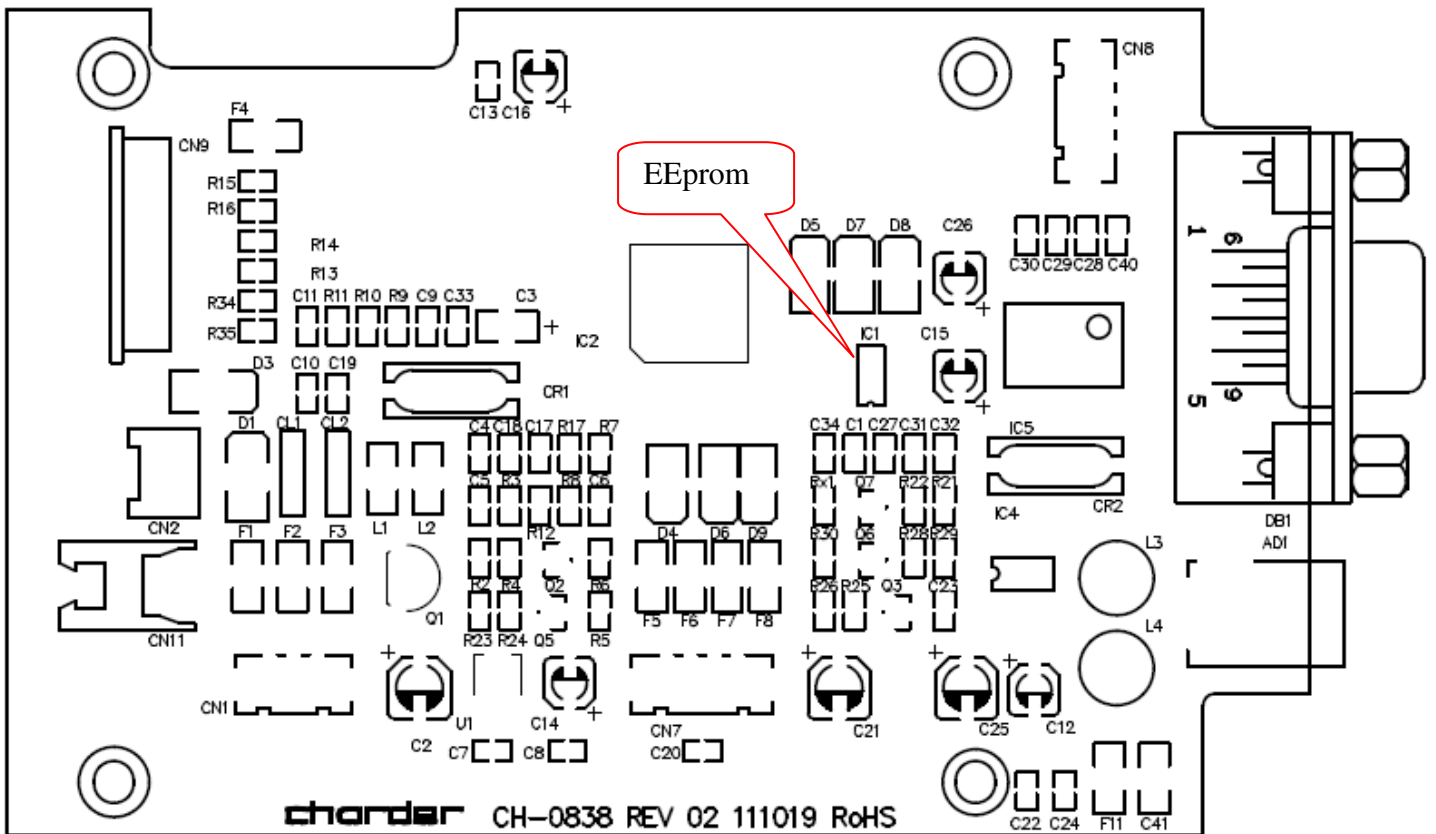


# Junction Board (Deck) CH-0810

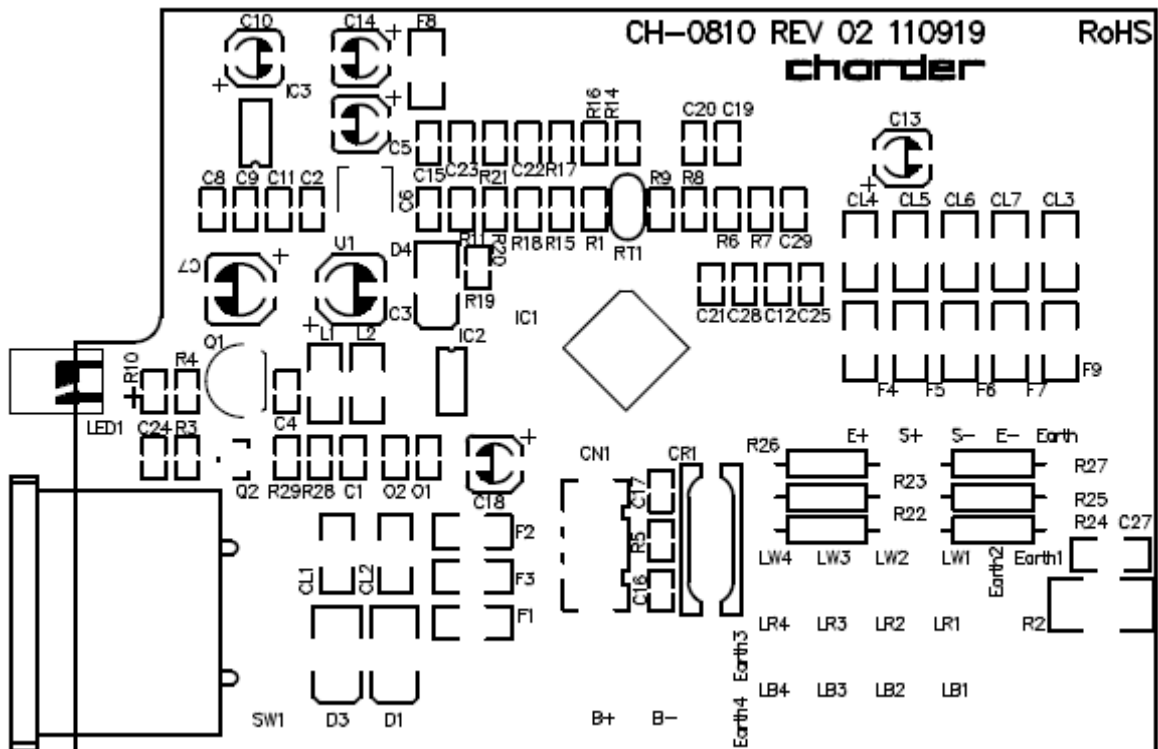


# LAYOUT

## PRIMARY AND SECONDARY SIDE OF MAIN BOARD CH-0838

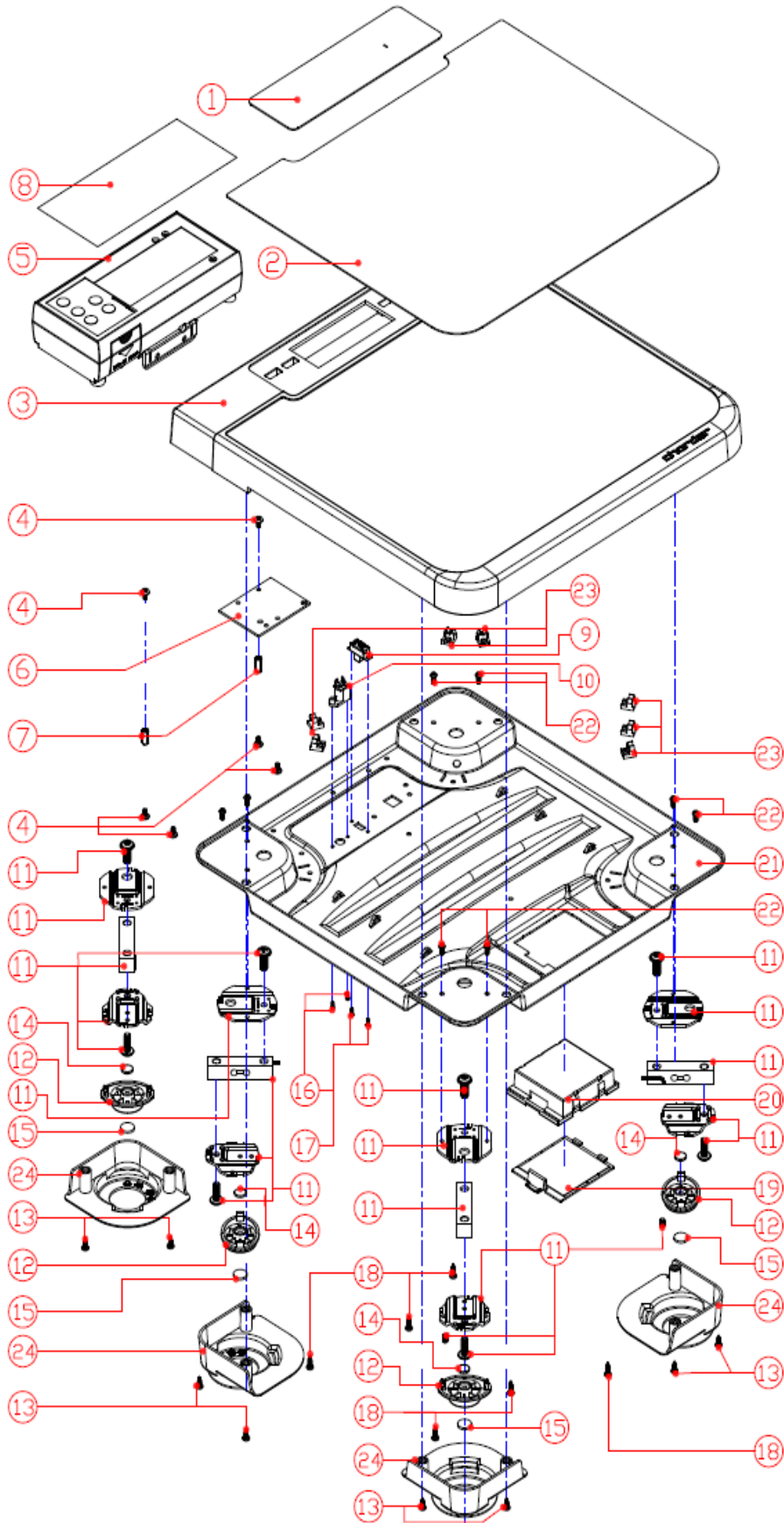


## PRIMARY AND SECONDARY SIDE OF JUNCTION BOARD (Deck) CH-0810





# MS 6121R PARTS & ASSEMBLY



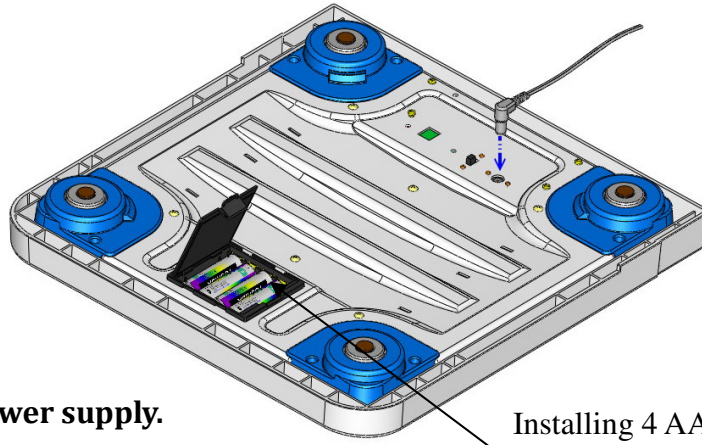
No.	Item	Spec.	QTY
1	Overlay	NP-5801	1
2	Mat	MT-0471	1
3	Plastic Cover	CR-2971	1
4	Screw	M3*0,5*6	8
5	Indicator	DP4000	1
6	Junction Board	CH-0810	1
7	PCB Spacer	SS-8441	3
8	Overlay for Indicator	NP-5711	1
9	Switch Key	SSF-22-078A+WR-8012	1
10	AC Jack	LD-0201+WR-2401	1
11	Load Cell	AL-8180	4
12	Sensor cover	ST-8277	4
13	Self Tapping Screw	3*8	8
14	Iron	SS-1970	4
15	Rubber Feet	SW-0961	4
16	Self-Tapping Screw	2*6	2
17	Screw	2*5 Black	2
18	Self-Tapping Screw	3*10	6
19	Battery Cover	BT-9002	1
20	Battery Box	AE-8110	1
21	Base cover	BM-1791	1
22	Ten head screw	MSP ⊕ 3*6	8
23	Cable clamp	MWS-9	7
24	Sensor cover	ST-3781	4

## MS 6121R SPARE PART LIST

<b>CED P/N</b>	<b>DESCRIPTION</b>	<b>DRAWING NO.</b>
<b>CE010001000017</b>	Indicator (DP4100 RF)	DP4000
<b>CE010002000034</b>	Base	MS6121R
<b>060014000918</b>	Overlay for base	NP-5801
<b>060014000921</b>	Overlay for indicator	NP-5711
<b>020018000076</b>	ADAPTOR (USA Type)	AD-0484 (52739-0595)

# INSTRUCTION FOR REPLACING BATTERY

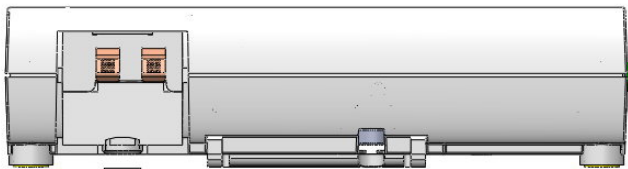
## INSTALLING BATTERY IN THE PLATFORM.



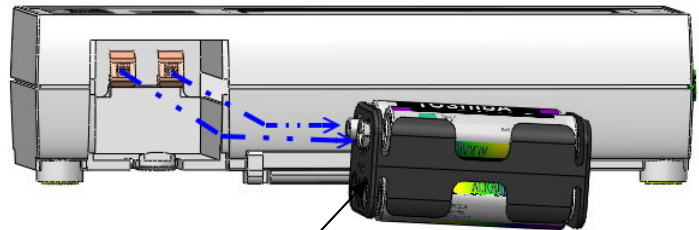
You can also use the adaptor as power supply.

Installing 4 AA 1.5V batteries

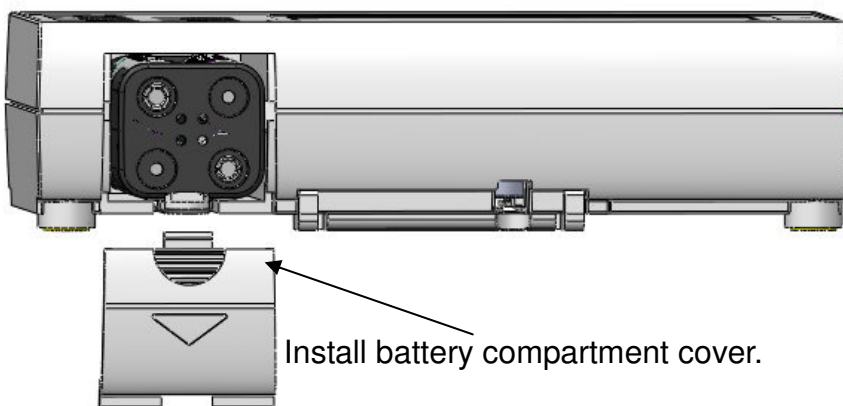
## INSTALLING BATTERY IN THE DISPLAY



Remove battery compartment cover



Place new 4 \* AA 1.5V batteries into the battery compartment. Watch the side of battery compartment and install it.



Install battery compartment cover.

You can also use the adaptor (standard) as power supply.

### **CAUTION:**

Always connect the AC adaptor pin to the adaptor plug in slot before connecting to the main power supply. Please disconnect the adaptor from main power supply first.

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- Layout
- MS 6121R Parts & Assembly.
- Instructions for Charging and Connecting.
- Instruction for replacing battery.

## 3. List of Spare parts.

## 4. Revision Sheet

<b>Release No.</b>	<b>Date</b>	<b>Revision Description</b>
Rev. 0	Dec/22/11	----