SW-1S/1C SERVICE MANUAL

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1. Introduction

1.1. Preface

Thank you for purchasing of our CAS scale.
This scale has been designed with CAS reliability, under rigid quality control and with outstanding performance.
WE hope that your departments enjoy with high quality of CAS product.
This manual will help you with proper operations and care of the SW-1S/1C series.
Please keep it handy for the future references.

1.2. Precaution

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

1.3. Specifications

1.3.1. SW-1S/1C Specifications

	SW1S/1C – 02	SW1S/1C – 05	SW1S/1C – 10	SW1S/1C – 20
Capacity / e	2,000g / 1 g (2 kg / 0.001 kg) 5 lb / 0.002 lb 80 oz / 0.05 oz	5,000g / 2 g (5 kg / 0.002 kg) 10 lb / 0.005 lb 160 oz / 0.1 oz	10,000g / 5 g (10 kg / 0.005 kg) 20 lb / 0.01 lb 400 oz / 0.2 oz	20,000g / 10 g (20 kg / 0.01 kg) 50 lb / 0.02 lb 800 oz / 0.5 oz
High Resolution	2,000.0g / 0.2 g 2 kg / 0.0001 kg 5 lb / 0.0005 lb (1/10,000) 80 oz / 0.01 oz (1/8,000)	5,000.0g / 0.5 g 5 kg / 0.0005 kg 10 lb / 0.001 lb (1/10,000) 160 oz / 0.01 oz (1/8,000)	10,000g / 1 g 10 kg / 0.001 kg 20 lb / 0.001 lb (1/10,000) 400 oz / 0.05 oz (1/8,000)	20,000g / 2 g 20 kg / 0.002 kg 50 lb / 0.005 lb (1/10,000) 800 oz / 0.1 oz (1/8,000)
Low Resolution	2,000.0g / 0.5 g 2 kg / 0.0005 kg (1/4,000) 5 lb / 0.001 lb (1/5,000) 80 oz / 0.02 oz (1/4,000)	5,000.0g / 1 g 5 kg / 0.001 kg 10 lb / 0.002 lb (1/5,000) 160 oz / 0.05 oz (1/3,200)	10,000g / 2 g 10 kg / 0.002 kg (1/5,000) 20 lb / 0.005 lb 400 oz / 0.1 oz (1/4,000)	20,000g / 5 g 20 kg / 0.005 kg (1/4,000) 50 lb / 0.01 lb (1/5,000) 800 oz / 0.2 oz (1/4,000)
Internal Resolution	1 / 20,000	1 / 25,000	1 / 20,000	1 / 20,000
External Resolution	1 / 2,000	1 / 2,500	1 / 2,000	1 / 2,000
Display	110 X 35mm (43” X 13.8”) 5 digits LCD			
Symbols (Indicators)	STABLE, ZERO, TARE, g, kg, lb, oz, Low Battery HI/OK/LO, PCS (SW-1C only)			
Keys	ZERO, TARE, HOLD (SW-1S only), MODE (SW-1C only), POWER			
Functions	• Simple Weighing function • Hold function (SW-1S only) • Weight Unit Conversion Function (KG/LB/OZ) • Counting Function (SW-1C only); Counting sample range: 10~100, 200, 300, 400, 500 • Weight comparison function: Hi, OK, LOW (SW-1C only) • Auto Power Off			
Dimension	260(Width) × 287(Depth) × 137(Height) [mm] / 102(Width) × 113(Depth) × 54(Height) [inch]			
Platter Size	230(Width) × 190(Depth) [mm]/ 90.55(Width) × 74.80(Depth) [inch]			
Weight	2.8 kg			
Power	1.5V x 6 (D size battery) or 9 V Adapter			
Op.Temperature	- 10 °C ~ +40 °C			
Options	9V/300mA Adaptor, Rear Display, Stainless-tray			

1.4. Key

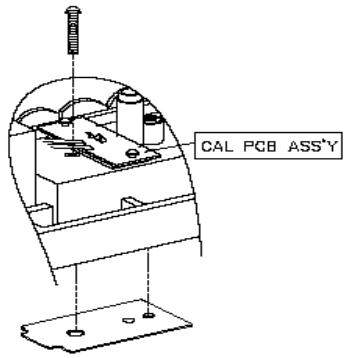
Key	Function

ZERO (-O-) **[Set]**	To set zero point To do **[SET]** key in the SETUP mode.
TARE	To input or cancel the tare (the weight of container).
HOLD	To make the weight of item stable. This weight is average value.
MODE **[SCROLL]**	To change the unit of weight. The unit of weight is shown up in the following sequence, [kg] → [WEIGHT LIMIT ON/OFF] → [PCS] → [kg].
POWER	To turn on or off.

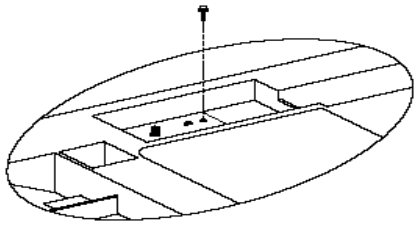
1.5. Sealing Method

REVISIONS					
REV	SYM	CONTENTS	DRAWN	CHECKED	APPROVED

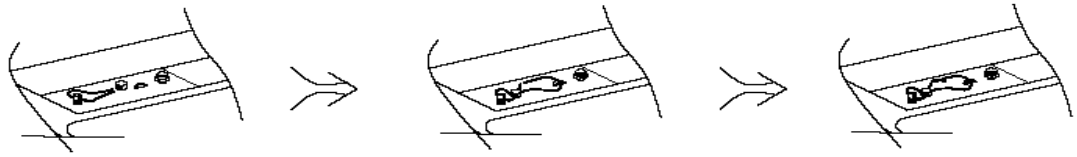
① BOTTOM VIEW



②



③ BOTTOM DETAIL



NO	PARTS NAME	SPECIFICATION	Q'TY	REMARK

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

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

2. Calibration

2.1. General Calibration

Pressing and holding calibration switch press [POWER] key to go to calibration mode.

User can move to other mode by using [ZERO] key in the calibration mode.

User also moves to other sub-modes for each mode by using [MODE/HOLD] and [TARE] key.

Please simply follow below procedure to move to other mode.

(1) Calibration Mode: Pressing and holding "Calibration Switch" press [POWER] key.

It displays "C-0" after "CAL", and it blinks the version of scale three times.

(2) Selecting menu: press [TARE] and then [MODE/HOLD].

(3) ENTER(Setting) : [ZERO] key

MODE	Function
C – 0	To go back to simple weighing mode
C – 1	To display internal value of weight
C – 2	-
C – 3	Weight Setting Mode ("UnLoad" → [ZERO] →"Load"→ [ZERO] after loading → "END" on display)
C – 4	**Capacity displayed and Option Setting**
C – 5	Net internal value of weight (zero value confirmed)
C – 6	
C – 7	
C – 8	
C – 9	Gravity constant

2.1.1. SPAN Calibration Setting (C-3)

(1) Pressing and holding "Calibration Switch" press [POWER] key.

After "CAL" message blinks three times and shows the version of scale, it displays "C-0" message.

(2) Press [TARE] to display "C-3".

(3) Press [ZERO] key and then it displays "UnLOAd" message.

(4) Press [ZERO] key if you want to scroll it.

※ To exit from SPAN Calibration mode press [TARE] key when "UnLOAd" or "LOAd" message is displayed.

2.1.2. Gravity Constant Value Setting (C-9)

Current gravitational Acceleration value is set to 9.7994 m/s^2 .

(1) Pressing and holding "Calibration Switch" press [POWER] key.

After "CAL" message blinks three times and shows the version of scale, it displays "C-0" message.

(2) Press [TARE] to display "C-9".

(3) Press [ZERO] key, and then " G-1" message and "9.7994" will be shown. The first digit,"9" will blink.

(4) Input a gravitational acceleration value by using [MODE/HOLD] and [TARE] key.

(5) Press [ZERO] key, and then "G-2" message blinks."9.7994" will be shown. The first digit,"9" will blink.

(6) Input a gravitational acceleration value by using [MODE/HOLD] and [TARE] key.

(7) Press [ZERO] key to save the gravitational acceleration value, and "C9 END" message will be shown shortly.

2.1.3. Displaying Real A/D Value (C-5)

(1) Under Calibration switch on press [POWER] key.

After "CAL" message blinks three times and the version of scale is displayed, "C-0" message will be displayed.

Press [TARE] to display "C-5".

Press [ZERO] key, and then the display will show a real A/D value.

Press [ZERO] key to exit from it.

2.1.4. How to confirm SPAN calibrated A/D value (C-1)

(1) Pressing and holding Calibration Switch please press [POWER] key.

After "CAL" message blinks three times and the version of scale is displayed, "C-0" message will be displayed.

(2) Press [TARE] to change "C-0" to "C–1".

(3) Press [ZERO] key, and then it displays SPAN calibrated A/D value, "0".

(4) When the weighing value of maximum capacity is not stable you may use [TARE] key to decrease or [MODE] key to increase the value.

For example, when you weigh maximum capacity on the platter in case of 1/20,000 it may display "19,999" or "20,001". You can adjust up or down to "20,000" using [MODE] or [TARE] key.

(5) Press [ZERO] to go to and display "C – 1" and you may scroll it at this point. Then, if you press [ZERO] key again it automatically saves "Span Factor" on it.

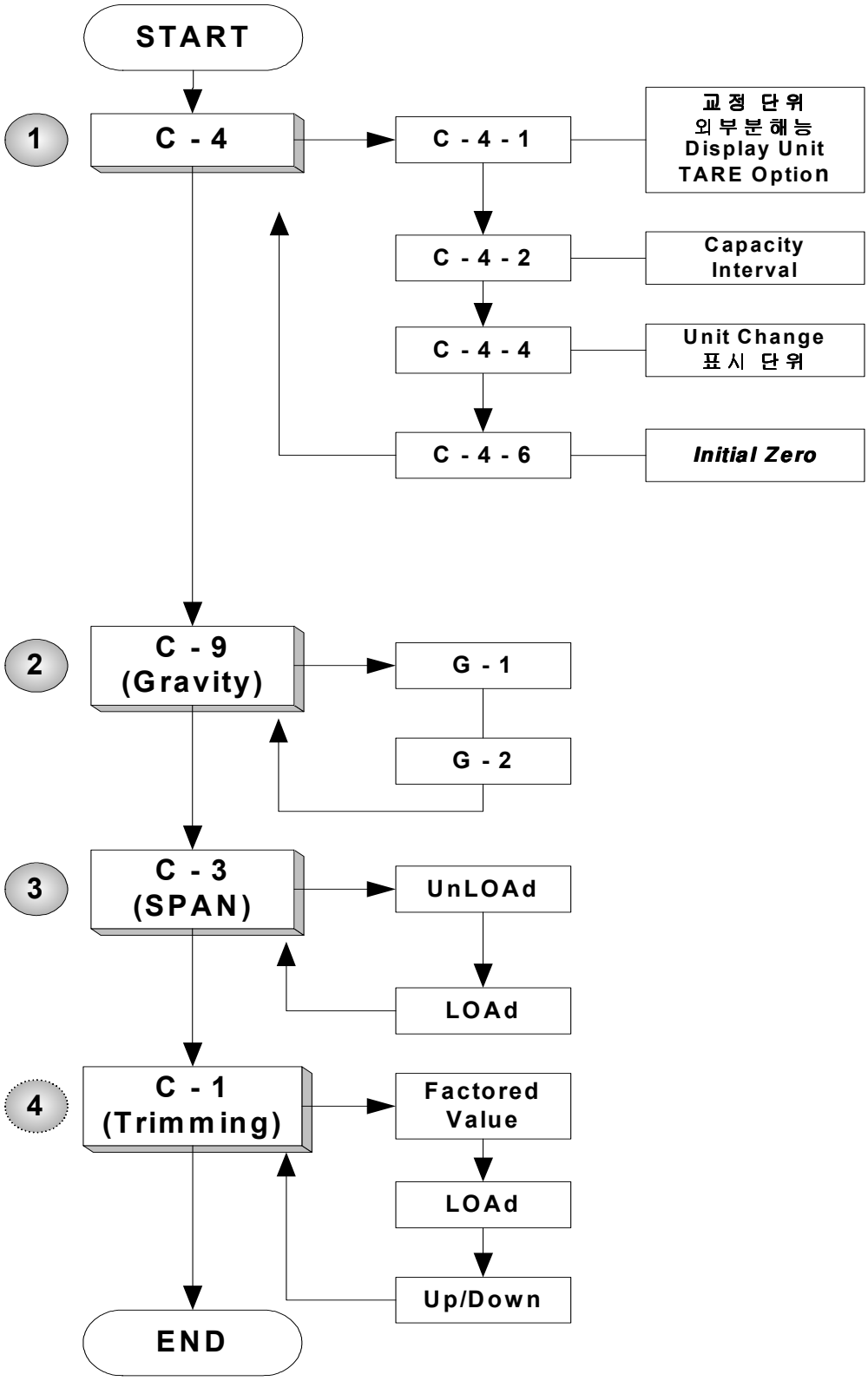
2.1.5. Back to the normal weighing mode (C-0)

(1) Under the Calibration Switch ON press [POWER] key.

✓ After "CAL" message blinks three times and the version of scale is displayed, "C-0" message will be displayed.

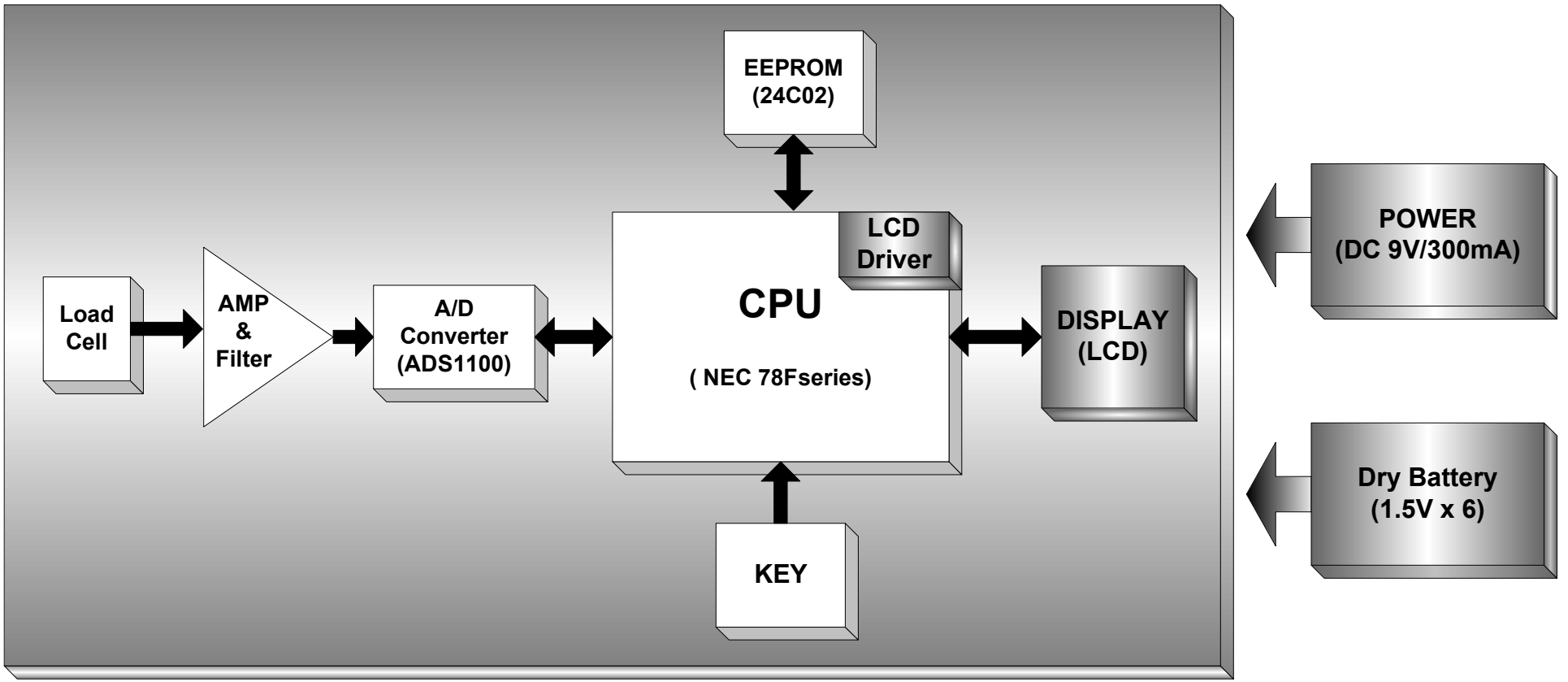
(2) You may exit from Calibration mode by pressing [ZERO] key.

2.1.6. Calibration Block Diagram



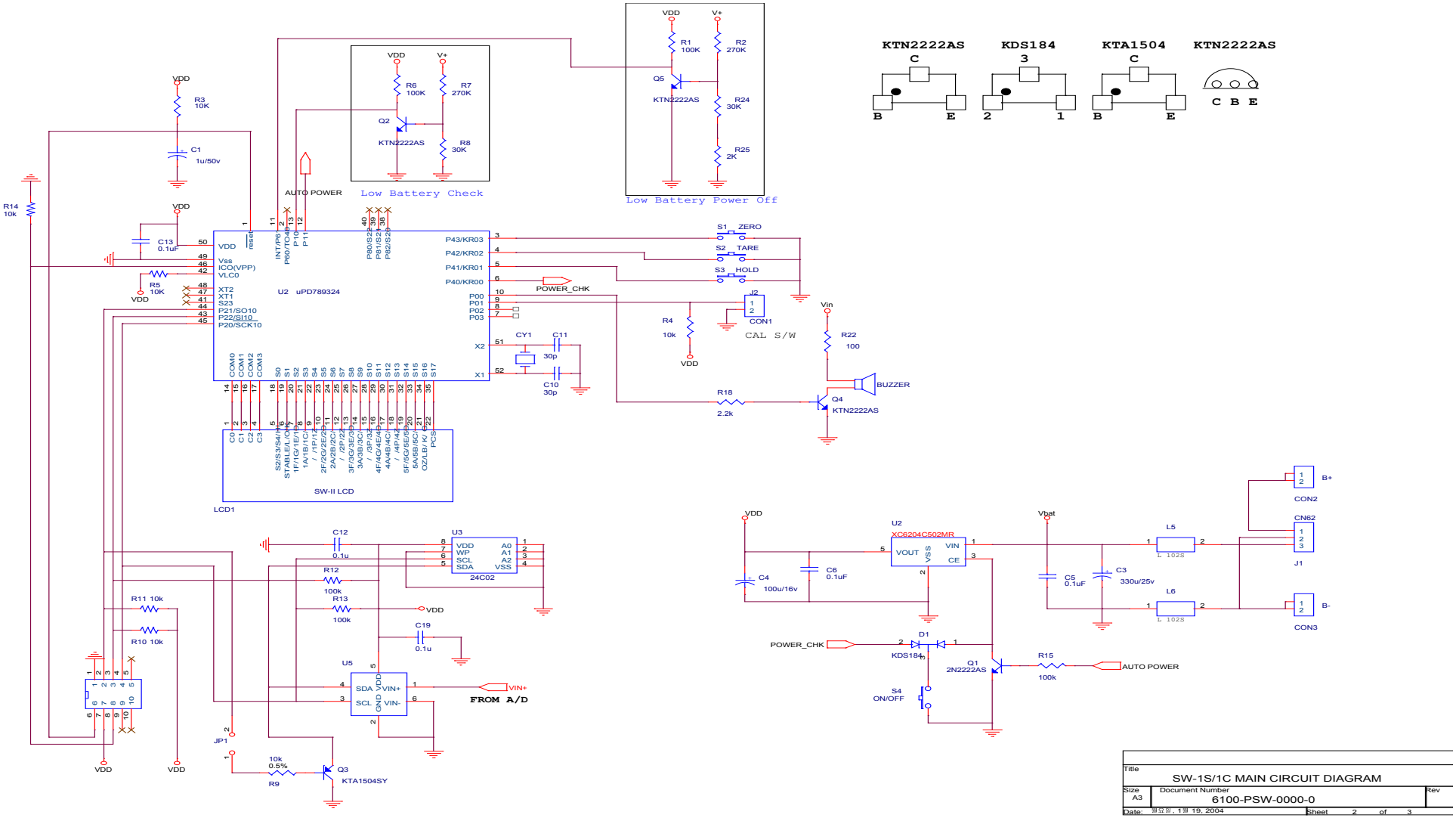
3. The Schematics and Diagram

3.1. System Block Diagram

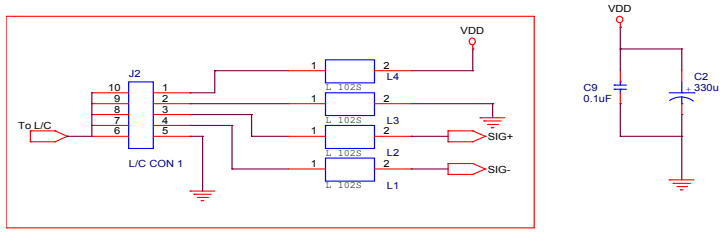


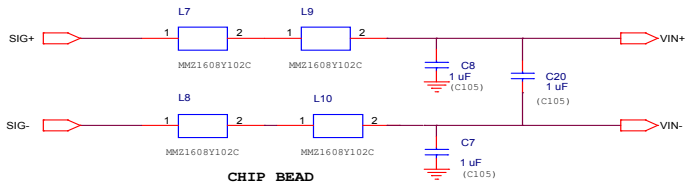
3.2. Circuit Diagram

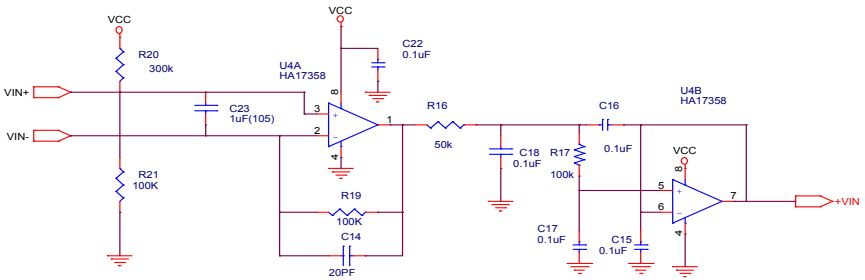
3.2.1. Main



3.2.2. A/D

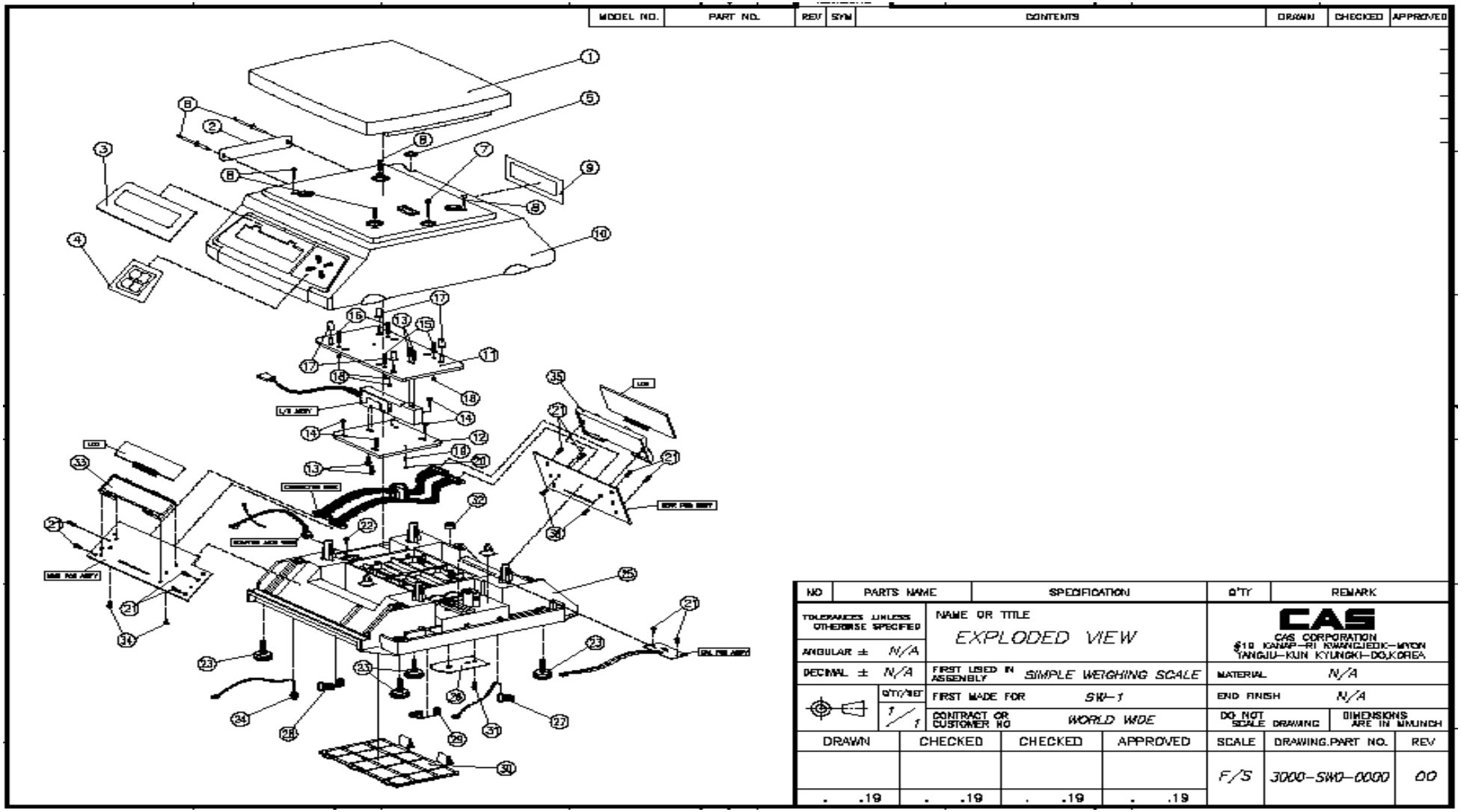






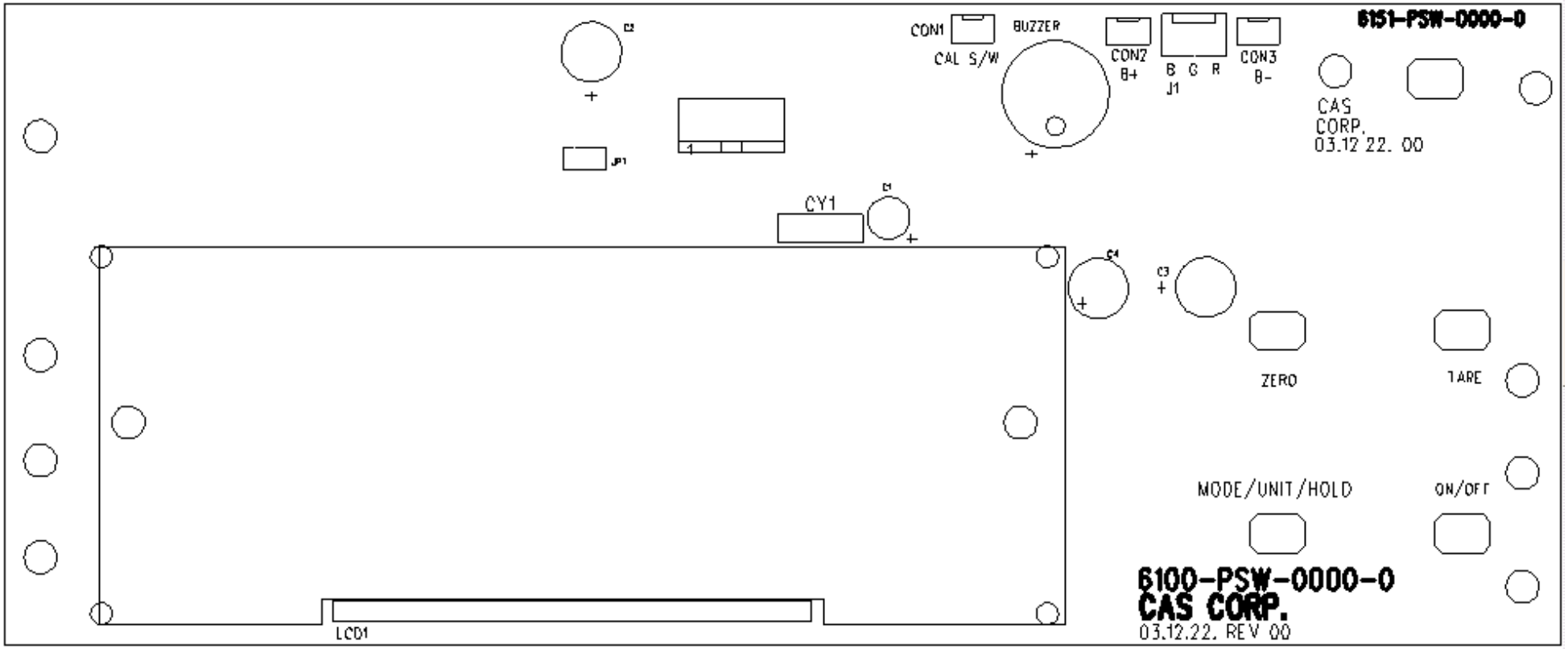
Title	SW-1S/1C A/D CIRCUIT DIAGRAM	
Size A3	Document Number 6100-PSW-0000-0	Rev
Date: 월 12일, 1월 19, 2004	Sheet 2 of 3	

4. Exploded View

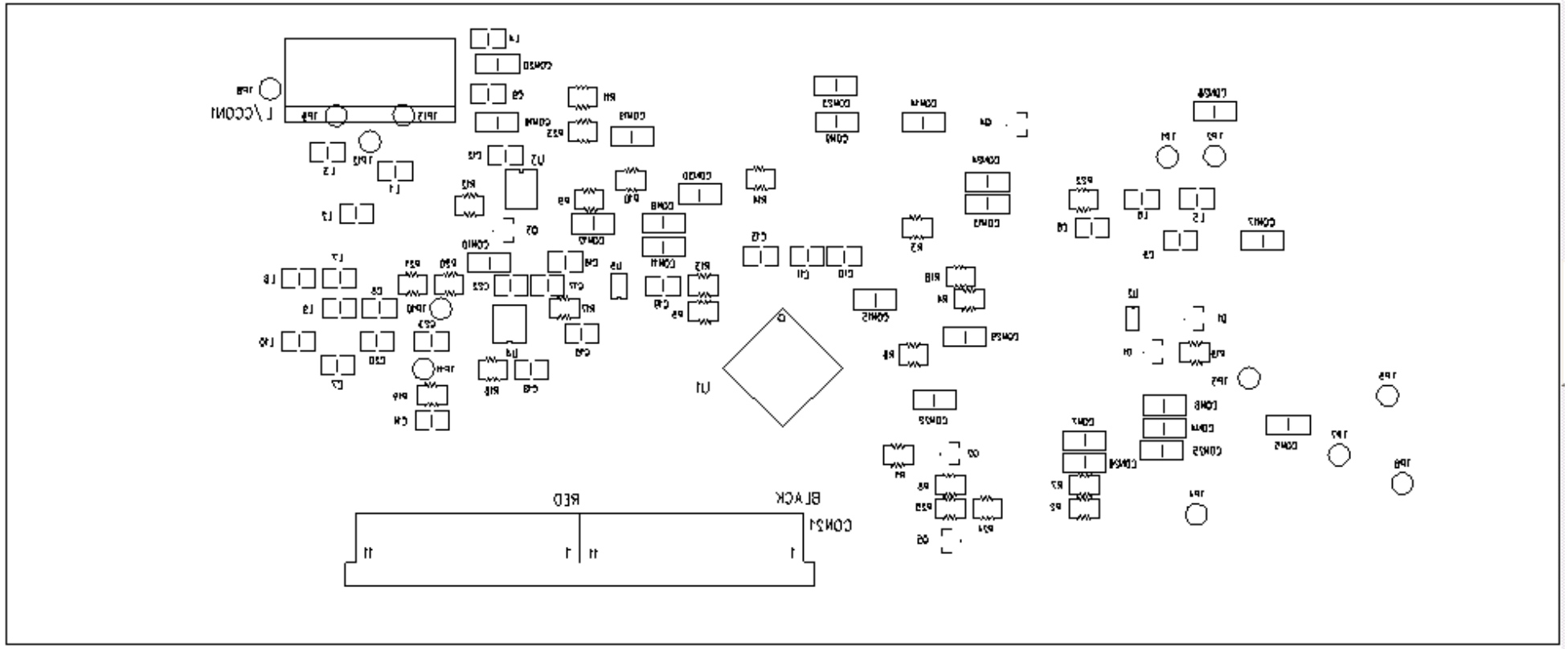


5. Part Location

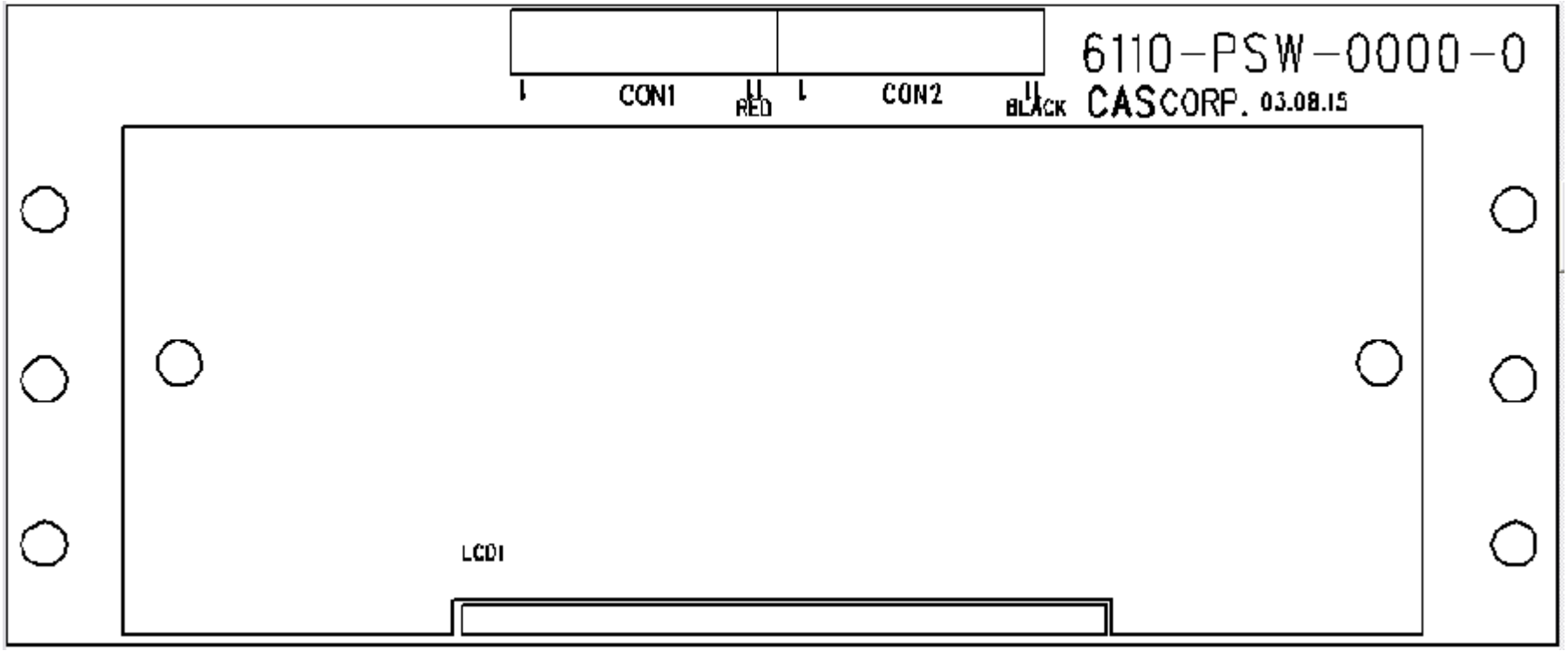
5.1. Main PCB (Front)



5.2. Main PCB (Rear)



5.3. Rear PCB



6. Error Messages & Solution

6.1. Beep: Re-zero

The range of "Re-zero" is within ± 2% of full capacity. However, when the scale is out of this range it automatically beeps to notify to user that "Re-zero" function does not work in this range.

6.2. Err: Initial Zero

You may set 2% or 10% of full capacity as Initial Zero.

When you place an item more than the initial zero setting value (2% or 10% of full capacity) and turn on the scale it display "Err" message and does not work.

However, you can make the scale work if you make the item's weight be within the initial zero setting range (2% or 10% of full capacity) by decreasing the value of weight.

6.3. Init: Failure of Analog Module

"Init" message shows up when there is some problem on analog module.

Please turn off the scale and turn on. If you still have "Init" message on display please contact CAS A/S service.

6.4. UNSTA: A/D Value Unstable

The scale displays "UNSTA" when it is in unstable status or in low-power supply.

If the scale is not properly balanced, please adjust the 4 legs at the bottom of the scale (turn legs clockwise or counterclockwise) so as to center the bubble of the leveling gauge inside the indicated circle. And if the scale is in low power supply please replace the battery or plug in adapter.

However, if you still have "UNSTA" problem please contact CAS A/S service.