

2.1 Specification Changeover

To access the SPEC setting of the scale.

- I. Press **TARE, TARE, ON/OFF** key while depressing the **REZERO** key.
- II. Press **TARE** key twice and display shows **S0 XX**, where **S0** represents **SPEC 0** and **XX** for **SPEC data**.
- III. Depress **ON/OFF** key to increase **SPEC DATA(XX)**, and TARE key to store and move to SPEC 1.
- IV. After changing data in SPEC 1, press **TARE** key to store the data and **REZERO** key to exit.

2.1.1 Specification List (Version 1.10)

SPEC NO	BIT1	BIT2
S0	DECIMAL POINT POSITION ON WEIGH DISPLAY 00:NO DECIMAL POINT 01:1 DECIMAL POINT(0000.0) 10:2 DECIMAL POINT(000.00) 11:3 DECIMAL POINT(00.000)	
S1	SELECTION OF CAPACITY 00:2kg 01:10kg 10:20kg 11:NOT USED	

2.1.2 Specification List (Version 1.21)

SPEC NO	BIT2	BIT1	BIT0
S0	DECIMAL POINT POSITION ON WEIGH DISPLAY 000:NO DECIMAL POINT 001:1 DECIMAL POINT(00000.0) 010:2 DECIMAL POINT(0000.00) 011:3 DECIMAL POINT(000.000) 100:4 DECIMAL POINT(00.0000) 101:5 DECIMAL POINT(0.00000) 110-111 : NOT USED		
S1	DECIMAL POINT FORM 0:COMMON 1:POINT	ZERO LAMP ON 0:Gross 0 1:Net 0	ZERO TRACKING WHEN TARING 0:YES 1:NO
S2	INCREMENT 000 1 001 2 010 5 011 10 100 20 110-111 NOT USED		
S3	DISPLAY RESOLUTION 00 1/1000(MUTIPLE INTERVAL) 01 1/2000(SINGLE INTERVAL) 10 1/3000(SINGLE INTERVAL)		MULTIPLE INTERVAL SETTING 0 NET 1 GROSS

2.1.3 Specification List (Version 1.25)

SPEC No.	BIT 2	BIT 1	BIT 0
S0	Decimal Point Position 000 - No Decimal Point 001 - 2nd digit (00000.0) 010 - 3rd digit (0000.00) 011 - 4th digit (000.000)	100 - 5th digit (00.0000) 101 - 6th digit (0.00000) 110 ~ 1111 - Not used	
S1	Decimal Point Form 0 - Period 1 - Comma	ZERO Lamp "ON" 0 - Gross 0 1 - Net 0	Zero Tracking when Tare 0 - Inhibit 1 - Allow
S2	Minimum Display 000 - 1 001 - 2 010 - 5 011 - 10 100 - 20 101 ~ 111 - Not used		
S3	Display Resolution 00 - 1/1000 (Multi-Interval) 01 - 1/2000 (Single Interval) 10 - 1/3000 (Single Interval) 11 - Not used		Multi-Interval Setting 0 - Net Multi-Interval 1 - Gross Multi-Interval
S4	Swing filter 000 - Level 0 (No swing filter, for standard version) 001 - Level 1 010 - Level 2 011 - Level 3 100 - Level 4 (for hanging version) 101 - Level 5 110 - Level 6 111 - Level 7		*V1.23
S5	Manual tare cancellation *V1.25 0 - Allow 1 - Inhibit	Tare subtraction *V1.25 0 - Allow 1 - Inhibit	Tare accumulation *V1.25 0 - Allow 1 - Inhibit
S6	Weight reset when tare *V1.25 0 - Allow 1 - Inhibit	Auto tare clear when rezero *V1.25 0 - Allow 1 - Inhibit	Tare auto clear (Gross 21e & Net 5e) *V1.25 0 - Allow 1 - Inhibit

2.2 Span Adjustment

NOTICE: Please turn on the span switch before the following process (Please refer to 3.7 for the position of SPAN Switch).

2.2.1 Calibration (Version 1.10)

OPERATION	DIPSLAY	REMARKS
REZERO+	888888	
TARE TARE ON/OFF Key	DS-671	Maintenance Mode.
TARE Key	VER X,X	Display Version no.
TARE Key	S0 XX	Display SPEC 0 data.
TARE Key	S1 XX	Display SPEC 1 data and Update SPEC 0.
TARE Key	CAL 00	Update SPEC 1 data.
Ensure no weight on platter	CAL 00	Ready to calibration zero point.
TARE Key	-----	Calibrating zero point.
Put full capacity on platter	CAL SP	Ready to calibrate span.
TARE Key	-----	Calibrating span.
After calibration	10.000	Goes back to Weighing Mode.

2.2.2 Calibration (Version 1.21)

OPERATION	DIPSLAY	REMARKS
REZERO+	888888	
TARE TARE ON/OFF Key	DS-671	Maintenance Mode.
TARE Key	VER X,X	Display Version no.
TARE Key	S0 XX	Display SPEC 0 data.
TARE Key	S1 XX	Display SPEC 1 data and Update SPEC 0.
TARE Key *	S2 XX	Display SPEC 2 data and Update SPEC 1.
TARE Key *	S3 XX	Display SPEC 3 data and Update SPEC 2.
TARE Key	CAL 00	Update SPEC 1 data.
Ensure no weight on platter	CAL 00	Ready to calibration zero point.
TARE Key	-----	Calibrating zero point.
Put full capacity on platter	CAL SP	Ready to calibrate span.
TARE Key	-----	Calibrating span.
After calibration	10.000	Goes back to Weighing Mode.

***NOTICE:** The two processes are extra for Version 1.21.

2.3 Internal Count

OPERATION	DISPLAY	ZERO	REMARKS
REZERO+	888888		
TARE TARE ON/OFF KEY	VER X.X		Maintenance Mode
ON/OFF Key	厖.0	Light	Display ZERO count
ON/OFF Key	.. 3000	Light	Display A/D count
TARE Key	0	Light	Goes back to weighing Mode

2.4 Error Message List

The following error message will appear when an incorrect operation is performed.

Message	Remark	Appropriate Operation
OF	When display weight exceeded capacity +9d, or something is on the platter when power on.	Remove the item on the platter.
UF	When displayed minus weight >= 9d.	REZERO or ON/OFF again.
#####	When A/D starting check error or DS-671 not steady.	Place DS-671 on firm, flat base and level it.
ERROR	When calibration operation is not correct, or A/D starting check error.	Repeat calibration operation.

2.5 Basic Operation

2.5.1 Power ON/OFF

OPERATION	DISPLAY	ZERO	REMARKS
OFF			
Depress ON/OFF Key			
Release ON/OFF Key	#####		Display for 1 second
			Blank for 1 second
Ready to operate	0	Light	Weighing mode
ON/OFF Key			OFF

2.5.2 Automatic Shut Off Timer Setting

OPERATION	DISPLAY	ZERO	REMARKS
Keep pressing ON/OFF key until 3 appear	3		Set automatic shut-off timer to 3 minutes
Release ON/OFF key	#####		Scale return to weighing Mode
Press ON/OFF key			Turn off scale
Keep pressing ON/OFF key until 6 appear	6		Set automatic shut-off timer to 6 minutes
Release ON/OFF key	#####		Scale return to weighing Mode
Press ON/OFF key			Turn off scale
Keep pressing ON/OFF key until 999 appear	999		Disable automatic shut-off timer
Release ON/OFF key	#####		Scale return to weighing Mode

***NOTE:**The data set is registered in memory until new data is established.

2.5.3 Rezero Operation

OPERATION	DISPLAY	ZERO	REMARKS
Put 60g on platter	60		
REZERO key	888888		
	0	Light	
Put 2000g on platter	2000		
REZERO key	888888		
	2000		Exceeded REZERO range
Remove 2000g from platter	0	Light	

2.5.4 Tare Subtraction

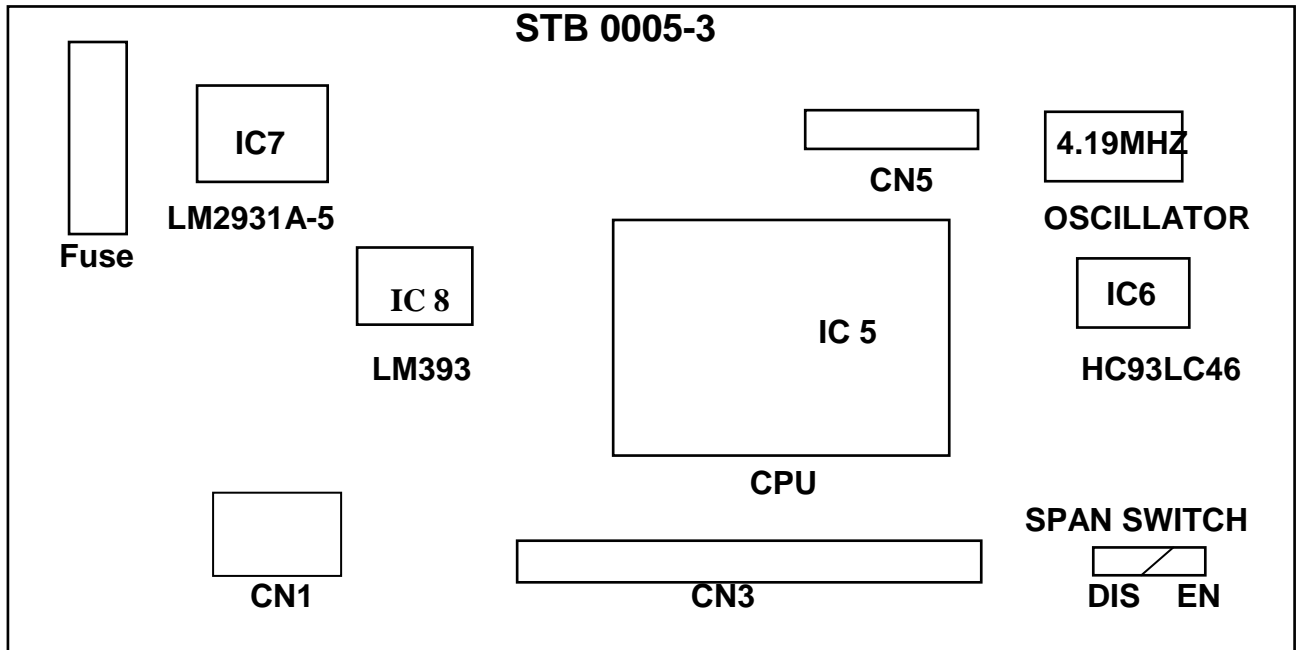
OPERATION	DISPLAY	ZERO	TARE	REMARKS
Put 600g on platter	600			
TARE key	0		Light	Subtract the tare weight
Remove 600g	-600	Light	Light	
Tare key	0	Light		Clear the tare weight

2.6 Key Summary

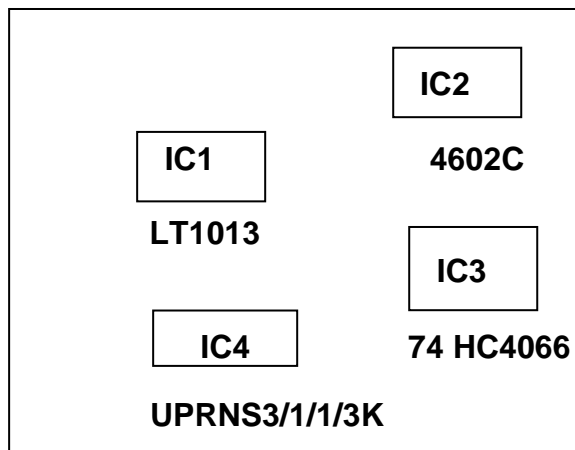
OPERATION	REZERO	ON/OFF	TARE
SPEC Changeover	EXIT	Increase Spec Data(00-11)	Store & Increment SPEC
SPAN Adjustment	EXIT	Not Used	Execute Calibration
Internal Count	REZERO	Toggle between Zero & SPAN count	EXIT

2.7 Position of SPAN Switch

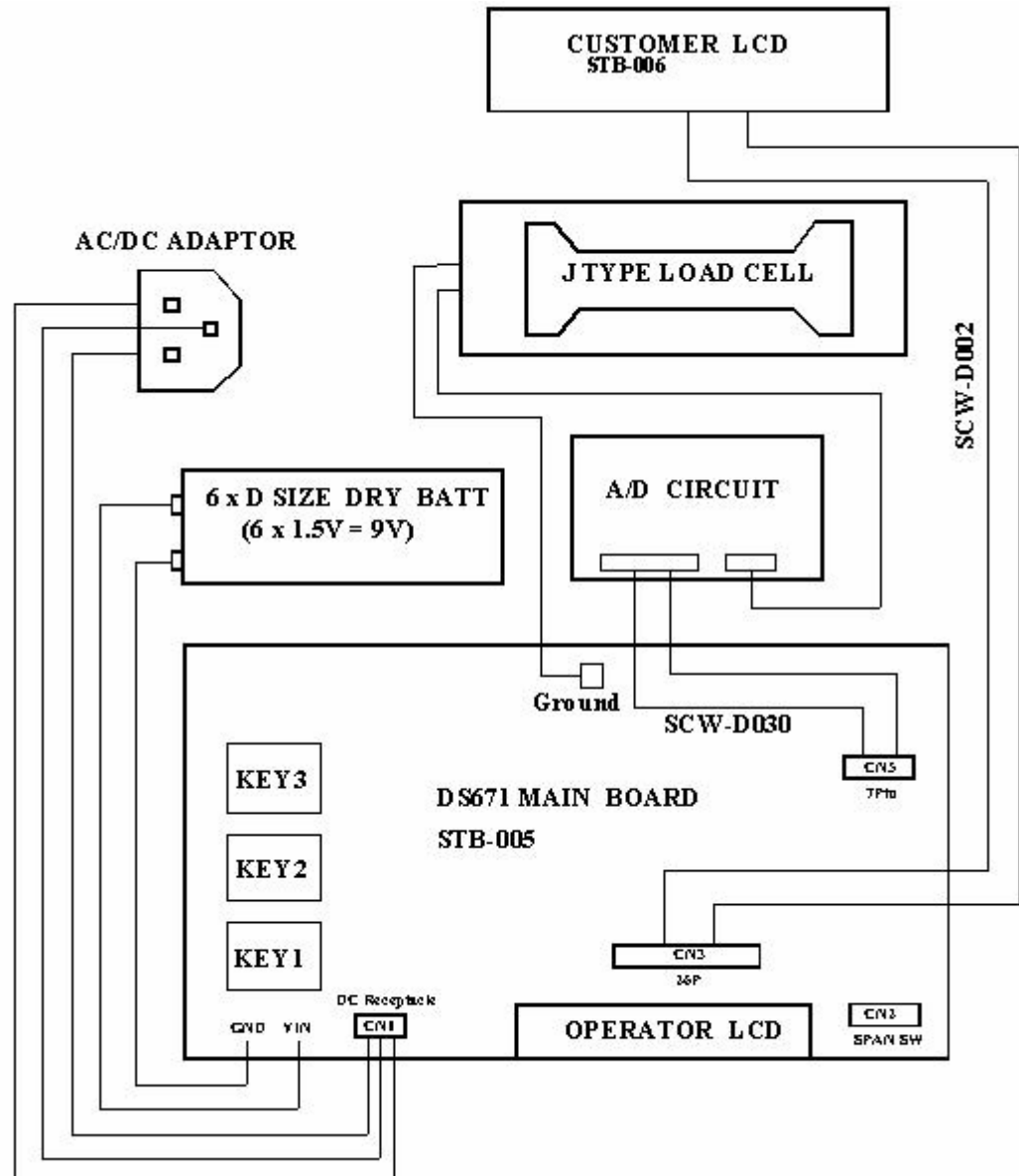
2.7.1 MAIN BOARD



2.7.2 A/D BOARD



2.7.3RFI type



2.8 Hardware Description

2.8.1 Microcomputer

The uPD75304GF/uPD75308/uPD75P308GF/uPD75P316AGF Microcomputer was chosen for the following reasons:

- * Cheaper
- * Low operating current
- * Having an on-chip programmable LCD controller/driver
- * Six interrupt sources and efficient interrupt processing
- * Three versatile timers
- * Less chip count
- * Pin compatibility of similar package with difference ROM sizes
- * Good support

2.8.2. Pin Assignment

Pin	I/O	Assignment	Device	Remark
P00/INT4	I	BATT T1	BATTERY	Detects battery Voltage Level 1
P01/SCK	O	SCK	93C46P	EEPROM
P02/SO	O	S0	93C46P	EEPROM
P03/SI	I	SI	93C46P	EEPROM
P10/INT0				
P11/INT1	I	A/D INT	uPC4062	A/D Conversion Interrupt
P12/INT2				
P13/TI0				
P20/PTO0				
P21	I	BATT T2	BATTERY	Detects battery Voltage Level 2
P22/PCL				
P23/BUZ				
P30	O	CS	93C46P	EEPROM
P31	O	P-ON/OFF	DC MAIN POWER	Controls Power
P32	I	SPANSW	SWITCH	Span Enable/Disable
P33	O			
P40	O	A/D CONTROL	74HC4066	A/D Conversion Control
P41	O	A/D CONTROL	74HC4066	A/D Conversion Control
P42	O	A/D CONTROL	74HC4066	A/D Conversion Control
P43	O	A/D CONTROL	74HC4066	A/D Conversion Control
P50				
P51				
P52				
P53				
P60/KR0	I	KEY1	KEY	RE-ZERO KEY
P61/KR1	I	KEY2	KEY	TARE KEY
P62/KR2	I	KEY3	KEY	ON/OFF KEY
P63/KR3				
P70/KR4				
P71/KR5				
P72/KR6				
P73/KR7				
P73/KR7				
S0	O	SEGMENT 0	LD-B7873AZ	Segment Signal Output
S1	O	SEGMENT 1	LD-B7873AZ	Segment Signal Output
S2	O	SEGMENT 2	LD-B7873AZ	Segment Signal Output
S3	O	SEGMENT 3	LD-B7873AZ	Segment Signal Output
S4	O	SEGMENT 4	LD-B7873AZ	Segment Signal Output
S5	O	SEGMENT 5	LD-B7873AZ	Segment Signal Output
S6	O	SEGMENT 6	LD-B7873AZ	Segment Signal Output
S7	O	SEGMENT 7	LD-B7873AZ	Segment Signal Output
S8	O	SEGMENT 8	LD-B7873AZ	Segment Signal Output
S9	O	SEGMENT 9	LD-B7873AZ	Segment Signal Output
S10	O	SEGMENT 10	LD-B7873AZ	Segment Signal Output
S11	O	SEGMENT 11	LD-B7873AZ	Segment Signal Output
S12	O	SEGMENT 12	LD-B7873AZ	Segment Signal Output
S13	O	SEGMENT 13	LD-B7873AZ	Segment Signal Output

2. MAINTENANCE MODE

Pin	I/O	Assignment	Device	Remark
S14	O	SEGMENT 14	LD-B7873AZ	Segment Signal Output
S15	O	SEGMENT 15	LD-B7873AZ	Segment Signal Output
S16	O	SEGMENT 16	LD-B7873AZ	Segment Signal Output
S17				
S18				
S19				
S20				
S21				
S22				
S23				
BP0/S24				
BP1/S25				
BP2/S26				
BP3/S27				
BP4/S28				
BP5/S29				
BP6/S30				
BP7/S31				
COM0	O	COMMON 0	LD-B7873AZ	Common Signal Output
COM1	O	COMMON 1	LD-B7873AZ	Common Signal Output
COM2	O	COMMON 2	LD-B7873AZ	Common Signal Output
COM3	O	COMMON 3	LD-B7873AZ	Common Signal Output
BIAS	O	BIAS	-	LCD Drive Power Supply
VLC0	-	VLC0	-	LCD Drive Power Pin
VLC1	-	VLC1	-	LCD Drive Power Pin
VLC2	-	VLC2	-	LCD Drive Power Pin
RESET	I	RESET	-	SYSTEM RESET
X1	I	-	Oscillator	4.19 MHz Crystal
X2	I	-	Oscillator	4.19 MHz Crvstal
XT1	I	-	-	Connects To The VSS Pin
XT2				
VSS	-	-	-	Grounding Potential Pin
VDD	-	-	-	Positive Power Pin (5V)
NC/VPP	-	-	-	Connects To The VDD Pin