



MOTOR STATOR TESTER
6910
ENGLISH MANUAL

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V1.1Version

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1 . BEFORE USE

1.1 Product Introduction

MT-6910S is a tester which exclusive made for Motor Stator tester and it includes 8 4-wire testing independent testing points. The testing items are including DC Resistor testing and Impulse / Surge Testing which can well examined your product and also speed up the testing.

1.2 Product Characteristic

- Speedy, time saving, efficiency
- Programming control and analyze
- Simple editing and easy learning
- Simultaneously testing available
- Sole testing available
- Waveform display and storage
- Non-destructiveness analyzing
- 100 sets information storage available
- Code function
- Error stop function
- Pass / Fail alarming
- Temperature compensation

2 SPEC INSTRUCTION

DC Resistor

- ◆ Measuring Range
1mΩ~100KΩ
- ◆ Stable Accuracy
Low Resistance: 1mΩ~100mΩ ± (0.1%±2mΩ)
High Resistance: 1Ω~100kΩ ± 0.1%
1kΩ~10kΩ ± 2%
10kΩ~100kΩ ± 5%

Hipot

- ◆ Measuring Voltage
AC 0.1kV~5kV ±5% DC 0.1kV~6kV ±5%
- ◆ Leakage Voltage
AC 0~10mA / DC 0~5mA
- ◆ Arc Sensor
AC 0~9mA DC 0~5mA
- ◆ Measuring Time
0.1~99.9 second continuously adjustable
- ◆ Stable Accuracy
2%

Insulation Resistor

- ◆ Measuring Voltage
0.1kV~1kV ± 5%
- ◆ Measuring Range
1MΩ~9.9GΩ
- ◆ Measuring Time
0.1~99.9 second continuously adjustable
- ◆ Stable Accuracy
2%

Layer Short

- ◆ Measuring Voltage
0.1kV~5kV $\pm 1\%$
- ◆ Measuring Item
Waveform area, waveform area difference, waveform tremor, waveform comparison, flutter value
- ◆ Stable Accuracy
2%

Other Spec

- ◆ Measuring Pin
8 Channels
- ◆ Display / Sound Device
Pass / Fail graphic display / Sound device
- ◆ Print Device
- ◆ Power Supply
AC 220V / 110V $\pm 10\%$ 50/60Hz
- ◆ Temperature
10°C ~40°C
- ◆ Humidity
Less than 50% relative
- ◆ Fixture
Option

3 SAFETY INSTRUCTION

The instrument is not suitable using in outdoor especially in humid and dusty environment, inappropriate using may cause electronic shock. Before using the instrument, please read the safety instruction completely in order to prevent any accident while using the instrument.

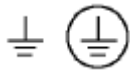
1. Security Signal



Caution



High voltage



Protect the GND terminal. Make sure the terminal connect the ground conductor before using the instrument

CAUTION Warning. Improper use of instrument may cause the instrument and DUT breakdown

WARNING Warning. Improper use of instrument may caused injured or death

2. Electronic Shock

To avoid electronic shock, we strongly suggest to wearing rubber gloves before testing

3. Ground Conduction

Please make sure ground conductor at the back panel is well connected. Do not touch the exterior case to avoid any accident

4. Power

The instrument built with 110V / 200V AC power. Please switch the AC power at the back panel in order to match with the power which provide in the using area. Ensure that only fuses with require type and current can be replaced, also please take off the power before changing the fuses

Model	Mark	Input Voltage Range	Fuse
6905	110V	98~123V	5A, 250V
	220V	192~264V	
6910	Full Range	100~264V	5A, 250V

5. Connect testing cable with HV output port

Please make sure the power is off when HV cable plug in the ports of the tester, and ensure that the exterior of cables are not broken or come off

6. Warm Up

Warm up the machine at least 15 minutes in order to make the testing value accurate.
The instrument can still work normally without any warm up

7. Exterior Control

Do not touch HV port and DUT during operation

8. Breakdown

Stop the operation and contact your agent or Microtest immediately while there's abnormal condition with the testers

9. End Up

Turn off the power when the tester is not in use and do not turn the power on and off continuously

10. Placing

The instrument must be placed under temperature 5°C~40°C and humidity 80%RH.
Also, in order to make the instrument accurate and safe, please do not place the instrument under sunshine, high temperature, high humidity, unstable and dusty places

11. Emergency

Turn off and power off if DUT or main instrument is burning

12. Generally Guide

- (1) Do not put any inflammables or heavy articles above the instrument
- (2) Do not let the instrument under any serious hit
- (3) Do not turn on and plug in the power while cleaning the instrument
- (4) Do not dismantle or fix the instrument while the instrument is under unusual circumstances
and contact your agent or Microtest Corp. directly

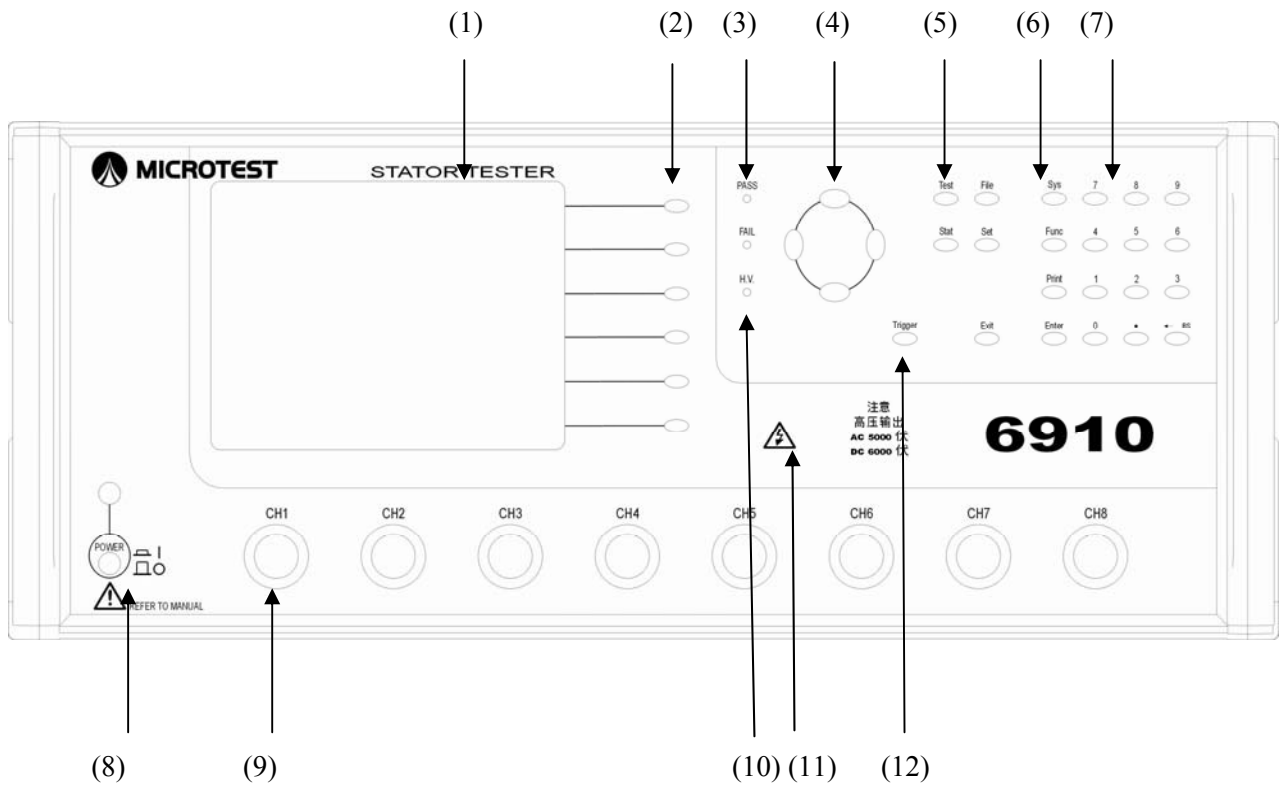
13. Packing

6910 standard accessories are as follow

- (1) 6910 Tester * 1
- (2) PT100R Temperature Sensor Stick *1
- (3) HV cable * 8
- (4) Foot Switch *1
- (5) AC Power Cord *1
- (6) User Manual *1

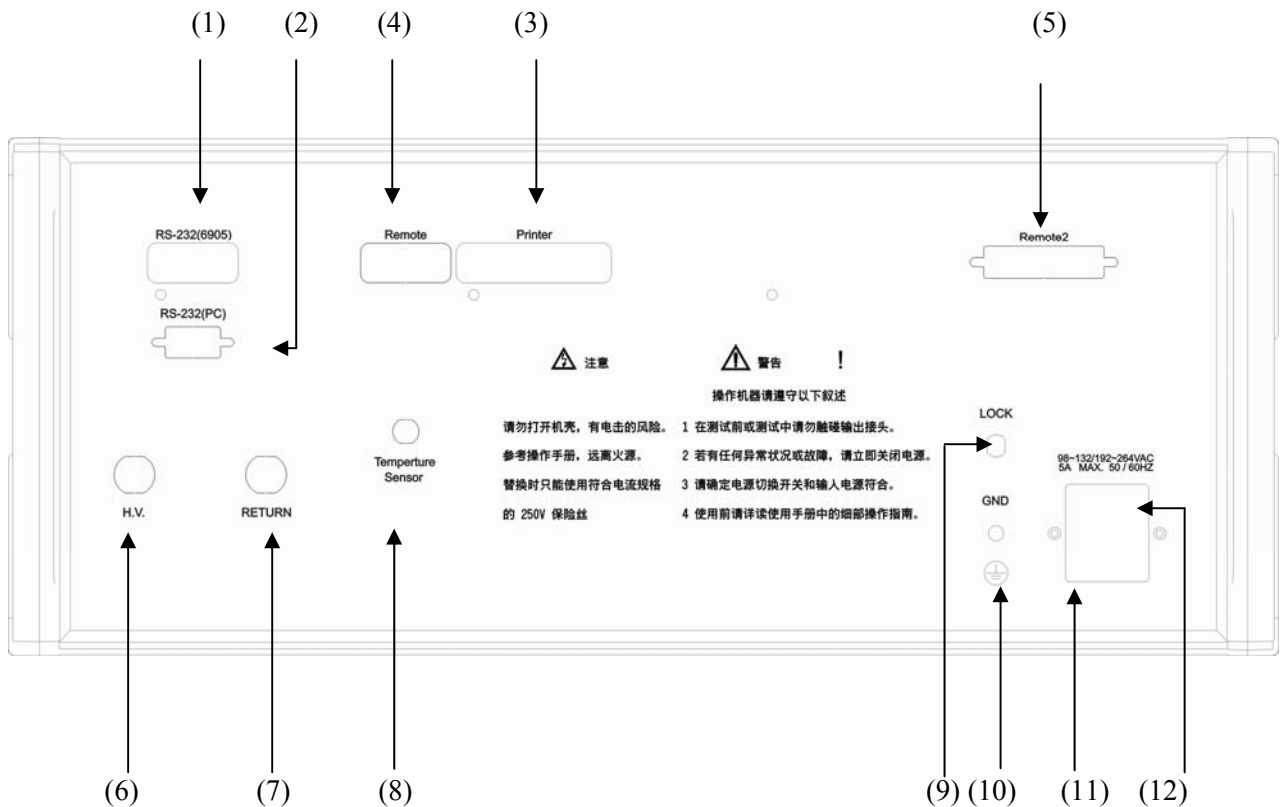
4 INSTALLATION

4.1 Front Panel Function



- (1) LCD Monitor
- (2) S1~S6 Operation Soft Key
- (3) PASS / FAIL & HV instruction light
- (4) Cursor Control Key
- (5) Function Key
- (6) System Key
- (7) Numeric Key
- (8) ON / OFF Power Switcher
- (9) Testing Output Terminal
- (10) HV Alarm
- (11) Alarm Signal
- (12) Trigger

4.2 Back Panel Function



- (1) RS-232 Output Port (For 6905)
- (2) RS-232 Input Port (For PC)
- (3) Printer Port
- (4) Remote Port 1
- (5) Remote Port 2 (For double fixture)
- (6) 6905 HV Input Port (Positive)
- (7) 6905 HV Input Port (Negative)
- (8) Temperature Sensor Port
- (9) Safety Power Cord
- (10) Ground Conduction Port
- (11) Fuse
- (12) AC Power Cord

5 OPERATION INSTRUCTION

5.1 Before Use

1. The instrument built in 110V / 220V AC power. Please switch AC power at the back panel to match with the current in local area
2. Make sure the power is off when HV cables plug in the ports of the tester, also please ensure that exterior of cables are not broken
3. Warm up the testers at least 15 minutes in order to reach an accurate value. The instruments can still work normally without any warm up.

5.2 Function Instruction

5.2.1 Function Enter Setting

Press **FUNC** key under the main menu

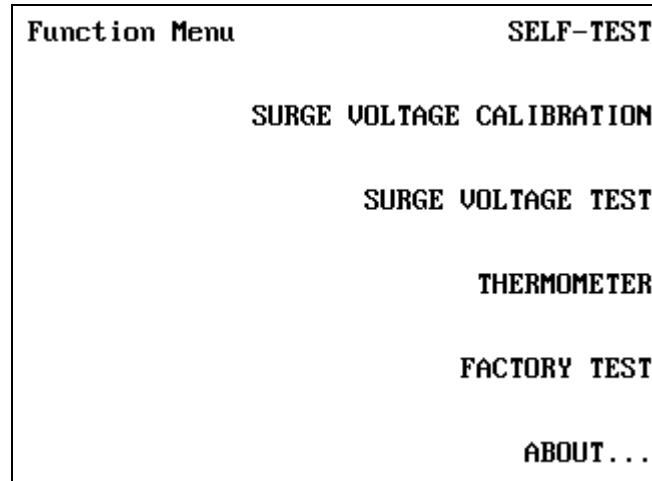


Figure 5.2.1-1

5.2.2 Self-Testing

Press **S1** under Function Menu and enter Self Test mode and start the self testing. Test items are CPU, RAM, ROM, EEPROM, CLOCK...etc. If test result is NG, power off the tester and contact your agent or Microtest Corp. to repair the instrument

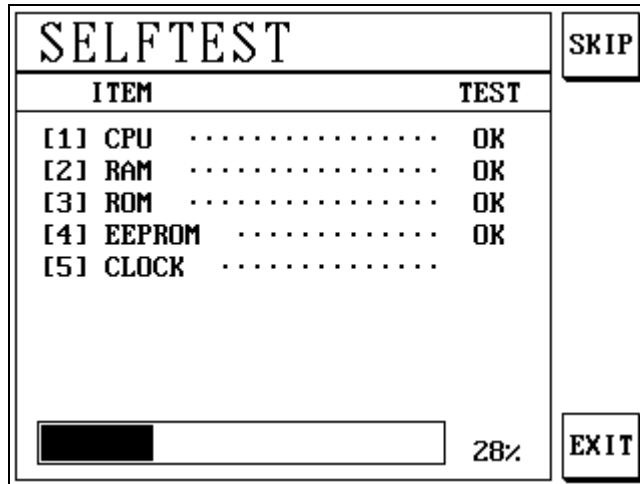


Figure 5.2.1-2

5.2.3 Temperature Testing Configuration

Press **S4** under Function Menu and enter Temperature Testing Configuration mode. The function helps the testing progress under usual temperature and which make the test results more accuracy

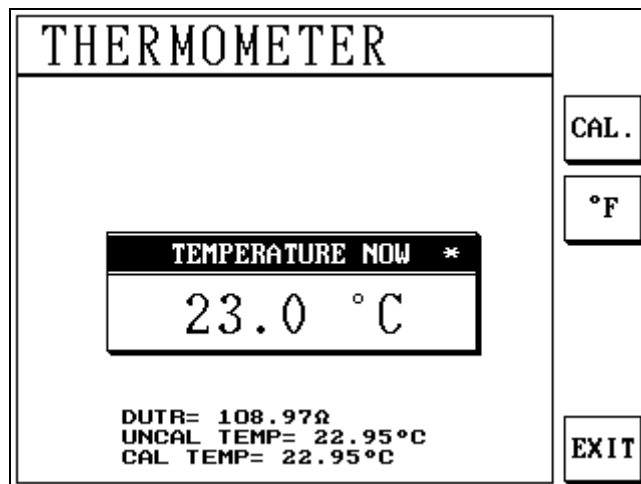


Figure 5.2.3.1

Configuration: Press **S2** and manager code under Temperature Testing Configuration mode and start the calibration. Press **S1** and **S2** to adjust the value and make it same as the standard temperature

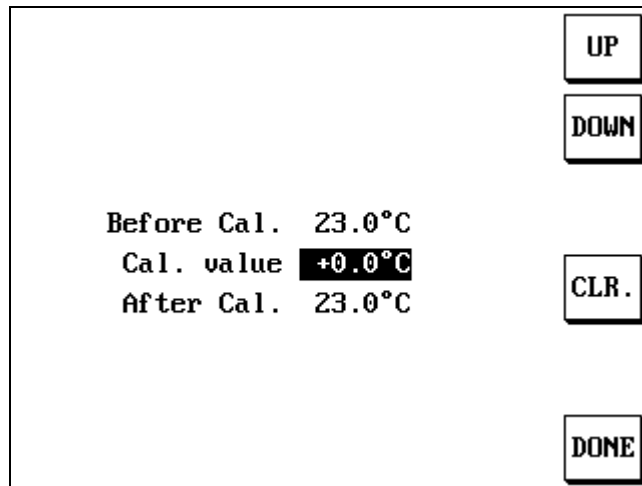


Figure 5.2.3-2

Fahrenheit / Centigrade: Press **S3** under Temperature Test Configuration mode to switch the temperature module.

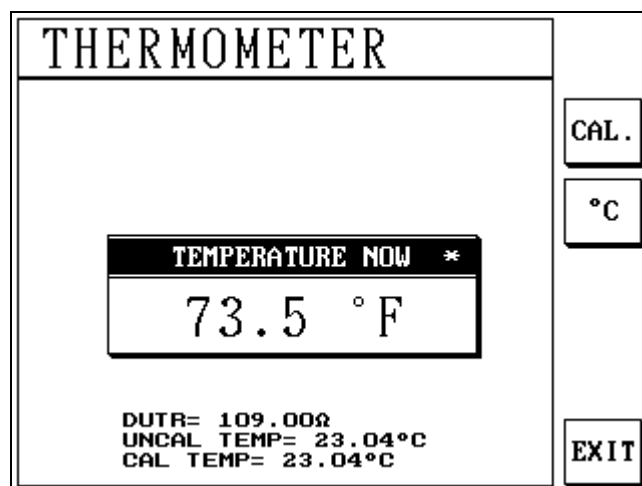


Figure 5.2.3.3

5.2.4 System Version Information

Press **S6** at the Function Mode to enter System Info, the function can provide you the information of the Model Number, Firmware Version, Release Date, Total File Space, and Free File Space

SYSTEM INFO.	
MODEL	6910
FIRMWARE VERSION	2.40
RELEASED DATE	Sep 09 2009
TOTAL FILE SPACE	220
FREE FILE SPACE	217
EXIT	

Figure 5.2.4.1

5.3 System Instruction

5.3.1 System Entering Setting

Press **[SYS]** at the main menu to enter System Setup Menu

System Setup Menu	SYSTEM CONFIG
	TEST CONFIG
	DATE & TIME
	PASSWORD

Figure 5.3.1.1

5.3.2 System Environment Setting

Press **[S1]** to enter System Setup. If want to modify the contents, use navigation key to moved the cursor and press **[S1]** to modify the contents

SYSTEM SETUP		PROG
LINE FREQUENCY	50Hz	
TESTER ID No.	1	
KEY LOCK	UNLOCKED	
LCD CONTRAST	4	
REMOTE OUTPUT	REMOTE 2	
POWER ON SELF-TEST	ON	
LANGUAGE 語言	ENGLISH	
		EXIT

Figure 5.3.2.1

Line Frequency: Line Frequency can be switched from 50Hz to 60Hz

Tester ID No. : For the user who has several instruments. Default value is 1, the maximum value is 999, use numeric key to edit and press **ENTER** to finish setting

Key Lock: Keypad lock function

 **Warning! Key Lock function must key in secret code**

LCD Contrast: Use **S1** to adjust the brightness of LCD screen

Remote Output: Press **S1** to setup control type, Standard, Extend, Unused

Power On Self-Test: Press **S1** to Lock or Unlock the Power On Self-Test

WARNING: If self testing is NG, please turn off power immediately and contact your agent or Microtest Corp. immediately

Language: Press **S1** to change language

5.3.3 Test Configuration Setting

Press **S2** to enter Test Configuration, use navigation key to move cursor and press **S1** to modify the contents

TEST CONFIG.		Prog
TEMP. CORRECTION	ON	SET CON
TEST ALARM	FAIL	
TEST DATA FONT	SMALL	
SHOW TESTING WAVE	ON	
BREAK ON FAILED STEP	OFF	
AUTO PRINT TEST DATA	OFF	
PRINT TEST DATA	ALL STEPS	
UPLOAD TEST DATA	ALL	He 1p
FIXTURE TYPE	MANUAL	EXIT
TRIGGER DELAY	1000mS	

Figure 5.3.3.1

Temp. Correction: Press **S1** to turn on / off the function

 **Warning: Please turn off Temperature Correction function during configuration.**

Test Alarm: Press S1 to select setup item as follow...

None → No alarm whether the result is pass or fail

All → Alarm when the results are pass and fail

Pass → Alarm only DUT is pass

Fail → Alarm only DUT is fail

Test Data Font: Press **S1** to select the size of data font

Show Testing Wave: Press **S1** to select the display of waveform; use **S4** to enter graphic setup

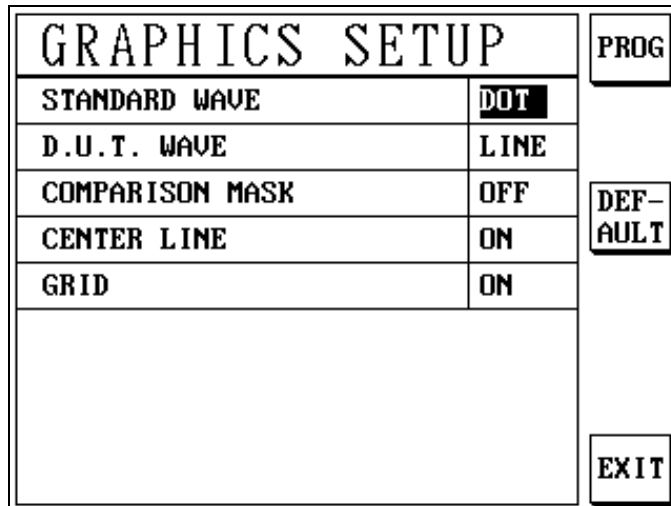


Figure 5.3.3.2

Break On Failed Step: Press **S1** to turn on / off the function. Stop testing when result is failed

Auto Print Test Data: Press **S1** to turn on / off the function. Print out the information when the sample is fail

Print Test Data: Print out all information or fail information

Fixture Type: Press **S1** to select Auto / Manual

Trigger Delay: Use numeric key to enter delaying time

5.3.4 System Time Setting

Press **S3** under System Setting menu to enter System Time Setting

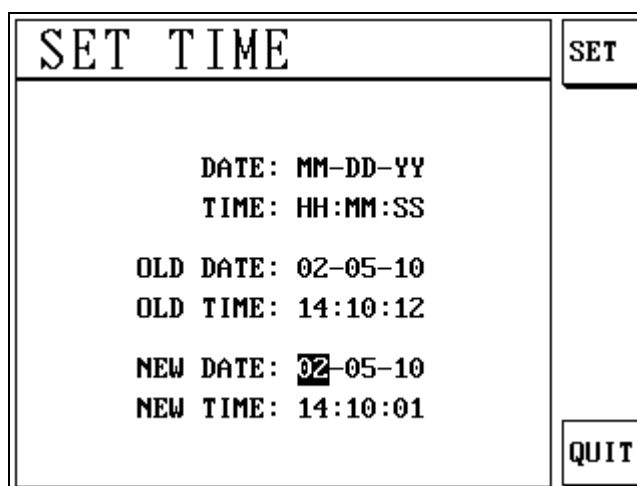


Figure 5.3.4.1

5.3.5 Password Setting

Press **S4** under System Setting and enter the password into a text box.

After enter the original code (6910), re-enter the new password (maximum 8 digits number) and re-enter the new numbers again to confirm the new password

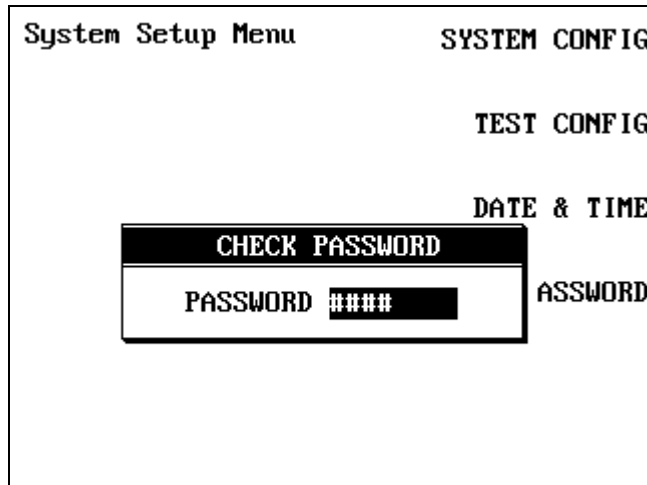


Figure 5.3.5.1

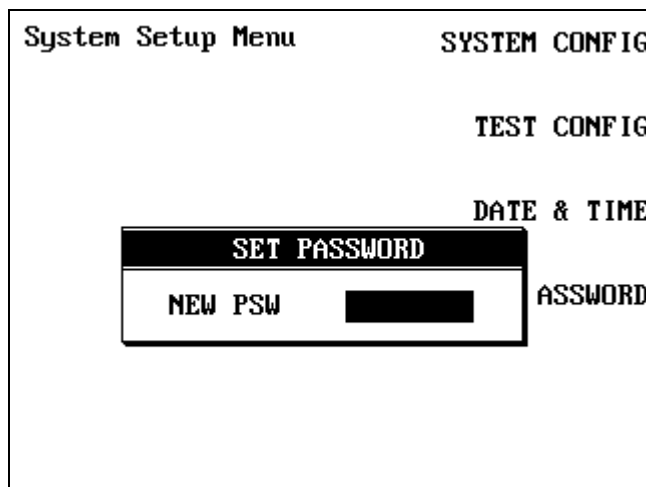


Figure 5.3.5.2

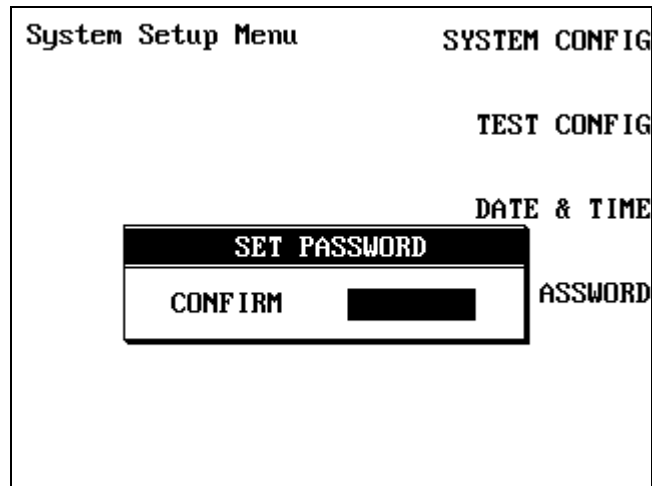


Figure 5.3.5.3

5.4 File Management

5.4.1 File Management Setting

Press **FILE** under Main Menu to enter File Management

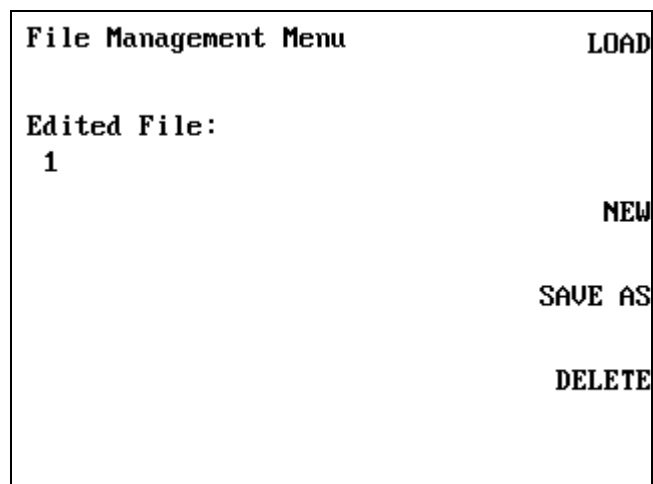


Figure 5.4.1.1

5.4.2 Load File

Press **S1** under File Management Menu to enter Load File. If file is using, the figure will show “@” in front of file name. Use navigation key to move the cursor and press **S1** to open the file.

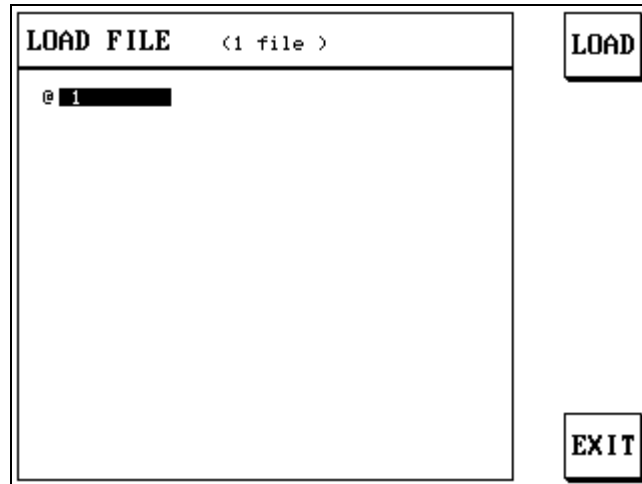


Figure 5.4.2.1

5.4.3 Create New File

Press **S3** under File Management to enter Create New File. Use navigation key to move the cursor and press **S3** to select the alphabet, press **S4** to delete and key in the file name press **S1** to save the file name.

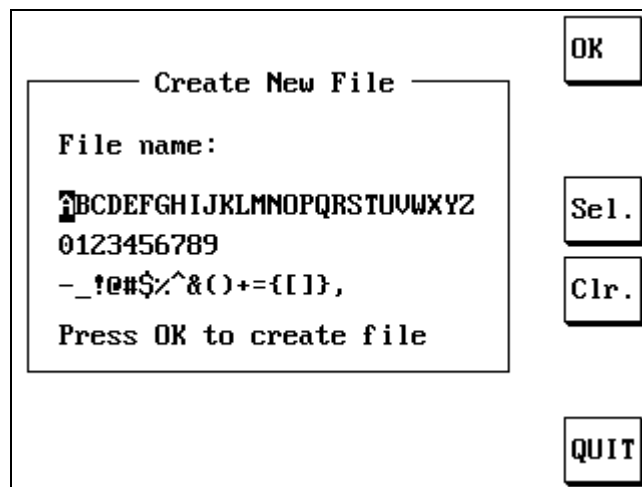


Figure 5.4.3.1

5.4.4 File Saving Instruction

Press **S4** under File Management and enter Save As. Use navigation key to move the cursor and press **S3** to select the alphabets and press **S4** to delete and key in the file name press **S1** to save the file name.

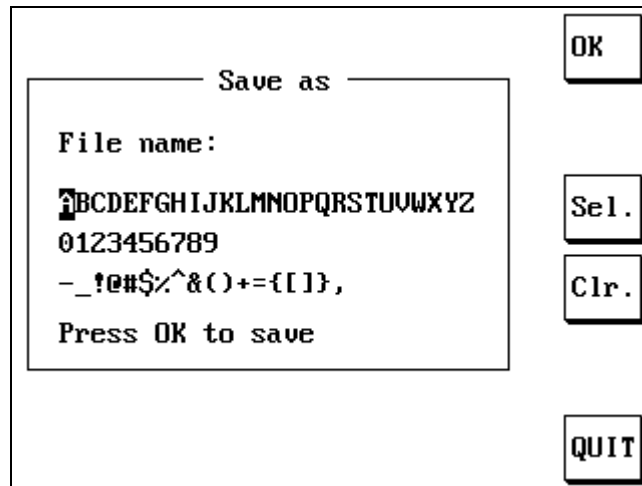


Figure 5.4.4.1

5.4.5 Delete File

Press **S5** under File Management and enter Delete File. Use navigation key to move the cursor you want to delete and press **S1** to delete.

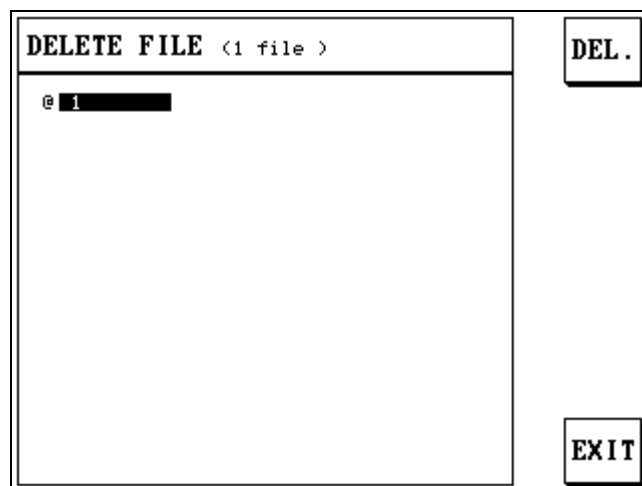


Figure 5.4.5.1

5.5 Setting Instruction

5.5.1 Test Setting Menu

Press **SET** under Main Menu to enter Test Setting Menu

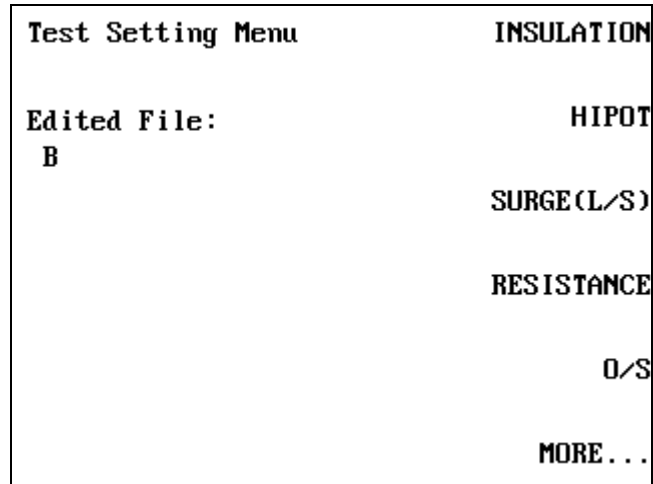



Figure 5.5.1.1

 Caution: Please be noted that the testing items for 6910 includes: Insulation, Hipot, Surge, Resistance, O/S and more. Insulation and Hipot are only for the testing which connect with 6905, if the instrument does not connect with 6905, please turn off these 2 items.

5.5.2 Insulation Test Setting

Press **S1** under test Setting Menu to enter Insulation mode

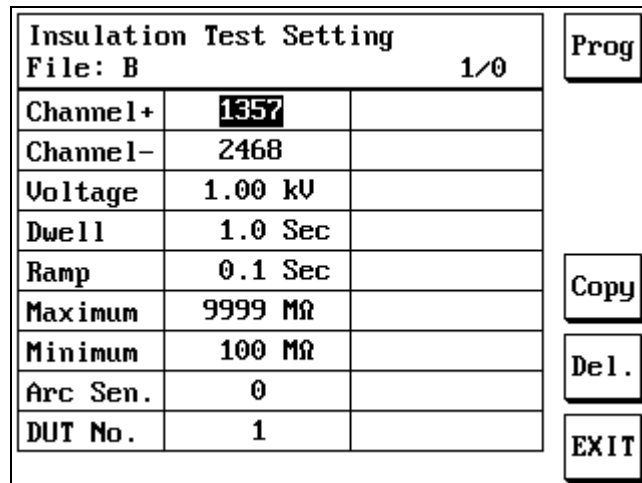


Figure 5.5.2.1

Channel +/-: Press **S1** under Insulation Test Setting to enter High voltage Channel Setting text box. Use navigation key to move the cursor to the channel and press **S1** to start the setting. After the setting, press **S3** to confirm.

Insulation Test Setting		1/0		ON/OFF																											
File: B																															
Channel+	1357																														
Channel-	2468																														
<table border="1"> <thead> <tr> <th>Chan</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> </tr> </thead> <tbody> <tr> <td>H/V+</td> <td><input checked="" type="checkbox"/></td> <td></td> <td><input checked="" type="checkbox"/></td> <td></td> <td><input checked="" type="checkbox"/></td> <td></td> <td><input checked="" type="checkbox"/></td> <td></td> </tr> <tr> <td>H/V-</td> <td></td> <td><input checked="" type="checkbox"/></td> <td></td> <td><input checked="" type="checkbox"/></td> <td></td> <td><input checked="" type="checkbox"/></td> <td></td> <td><input checked="" type="checkbox"/></td> </tr> </tbody> </table>				Chan	1	2	3	4	5	6	7	8	H/V+	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		H/V-		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	OK
Chan	1	2	3	4	5	6	7	8																							
H/V+	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>																								
H/V-		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>																							
Arc Sen.	0																														
DUT No.	1			QUIT																											

Figure 5.5.2.2

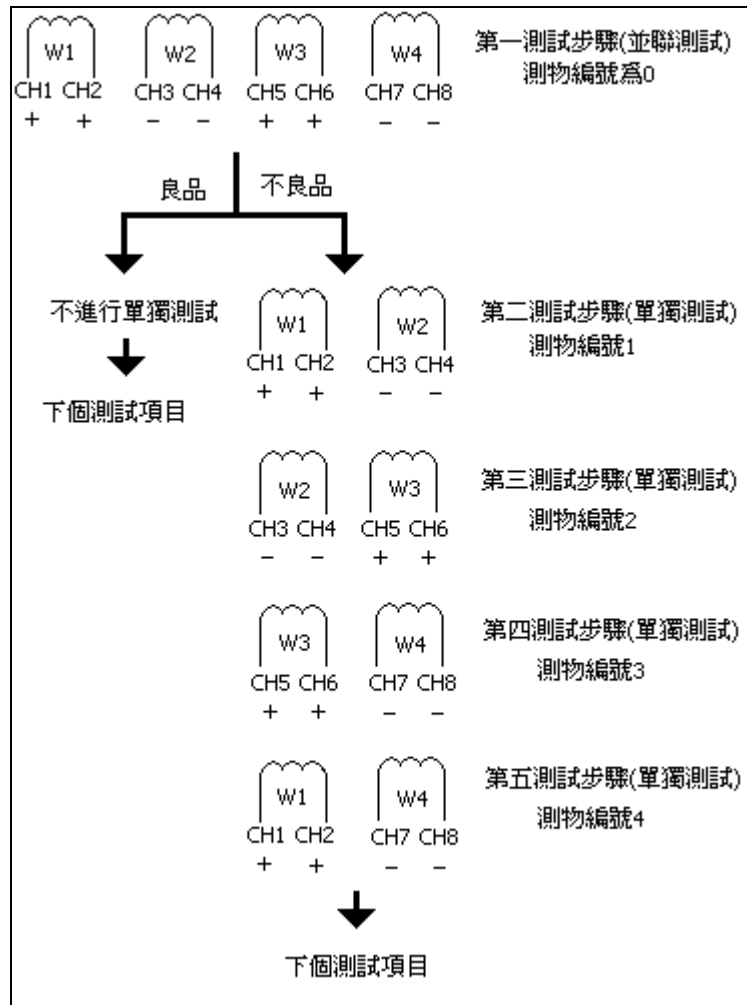
Voltage: Move the cursor to Voltage and use numeric key to set up voltage value, the maximum voltage is 1.0kV, the minimum voltage is 0.1kV

Dwell: High voltage output sequential times. Use numeric key to set up, maximum value is 99.9 second, minimum value is 0.1 second

Max/Min: Use numeric key to set up values, the maximum value is 9999MΩ, the minimum value is 0MΩ

Arc Sen.: The smaller value, the higher sensitivity. Use numeric key to set up values, if value is 0 then the function is off.

DUT No.: Use numeric key to set up, the maximum value is 4, the minimum value is 0. Use 0 at the first step, after the first step the minimum value should be 1. This function is to make users speed up testing.



5.5.3 Hipot Test Setting

Press **S2** under Testing Function Setting to enter Hipot Test Setting.

Hipot Test Setting		1/0	Prog
File: B			
Channel+	1357		
Channel-	2468		
VoltFreq	1.00kV 50Hz		
Dwell	1.0 Sec		
Ramp	0.1 Sec		
Maximum	1.000 mA		Copy
Minimum	0.000 mA		
Arc Sen.	0		Del.
Offset	0.000 mA		
DUT No.	1		EXIT

Figure 5.5.3.1

Channel +/-: Press **S1** under Insulation Test Setting to enter High voltage Channel Setting text box. Use navigation key to move the cursor to the channel and press **S1** to start the setting. After the setting, press **S3** to confirm.

Hipot Test Setting		ON/OFF																											
File: B	1/0																												
Channel+	1357																												
Channel-	2468																												
<table border="1"> <thead> <tr> <th>Chan</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> </tr> </thead> <tbody> <tr> <td>H/V+</td> <td><input checked="" type="checkbox"/></td> <td></td> <td><input checked="" type="checkbox"/></td> <td></td> <td><input checked="" type="checkbox"/></td> <td></td> <td><input checked="" type="checkbox"/></td> <td></td> </tr> <tr> <td>H/V-</td> <td></td> <td><input checked="" type="checkbox"/></td> <td></td> <td><input checked="" type="checkbox"/></td> <td></td> <td><input checked="" type="checkbox"/></td> <td></td> <td><input checked="" type="checkbox"/></td> </tr> </tbody> </table>		Chan	1	2	3	4	5	6	7	8	H/V+	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		H/V-		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	OK
Chan	1	2	3	4	5	6	7	8																					
H/V+	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>																						
H/V-		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>																					
Arc Sen.	0																												
Offset	0.000 mA																												
DUT No.	1	QUIT																											

Figure 5.5.3.2

Voltage / Frequency: Move the cursor to Voltage and use numeric key to set up

voltage value, the maximum value is AC 5.0kV, DC 6.0kV, the minimum voltage is 0.1kV. After the setting, press navigation key to move the cursor to frequency, use **S1** to select frequency

Dwell: High voltage output sequential times. Use numeric key to set up, maximum value is 99.9 second, minimum value is 0.1 second

Ramp: The maximum value is 99.9 second, the minimum value is 0.1 second

Max/Min: Use numeric key to set up values, the maximum value for AC is 10mA, DC is 5mA, the minimum value is 0 for both AC and DC

Arc Sen.: The smaller value, the higher sensitivity. Use numeric key to set up values, if value is 0 then the function is off

Offset: To deduce the leakage voltage which made by testing equipment or fixtures. Use numeric key to enter the leakage voltage value and tester will deduce the error automatically

DUT No.: Use numeric key to set up, the maximum value is 4, the minimum value is 0. Use 0 at the first step, after the first step the minimum value should

be 1. This function is to make users speed up testing.

5.5.4 Impulse (Surge) Test Setting

Press **S3** under Testing Setting mode to enter Impulse / Surge Setting

Impulse(Surge) Test Setting			
File: B		1/2	
Channel+	L 1	L 2	LEAR -N
Channel-	2	3	PARA
Voltage	0.20 kV	0.20 kV	Copy
Mode	Low L	Low L	Del.
Dummy pul.	4	4	EXIT
Test Pulse	1	1	
DUT No.	1	1	

Figure 5.5.4.1

Channel +/-: Press **S1** under Insulation Test Setting to enter High voltage Channel Setting text box. Use navigation key to move the cursor to the channel and press **S1** to start the setting. After the setting, press **S3** to confirm.

Voltage: Move the cursor to Voltage and use numeric key to set up voltage value, the maximum voltage is 5.0kV, the minimum voltage is 0.2kV

Mode: Impulse / Surge Testing is tested by waveform comparison. If L & Q values of DUT are too small than waveform, it cannot be determined correctly

Dummy Pulse: Move cursor to Dummy Pulse and use numeric key to set up times of dummy pulse, the maximum value is 16, the minimum value is 0

Test Pulse: Move cursor to Test Pulse and use numeric to set up. The maximum value is 16, the minimum value is 1

DUT No.: Use numeric key to set up, the maximum value is 4, the minimum value is 0. Use 0 at the first step, after the first step the minimum value should be 1. This function is to make users speed up testing.

Learn: Impulse / Surge Testing is tested by waveform comparison, according to this, the instrument has to learn standard waveform to compare waveform

of DUT. Move cursor to Learning and press **S2** to enter setting screen, after entering, connect standard sample with Hipot output terminal and press **S1** to learn. If the waveform is too wide or too narrow, press **S2** to widen or **S3** to narrow, or move the cursor to width and key the value directly. Under this mode, it can also adjust voltage and testing mode after learning, press **S6** to exit. After back to Impulse / Surge testing after learning, press **S6** to exit.

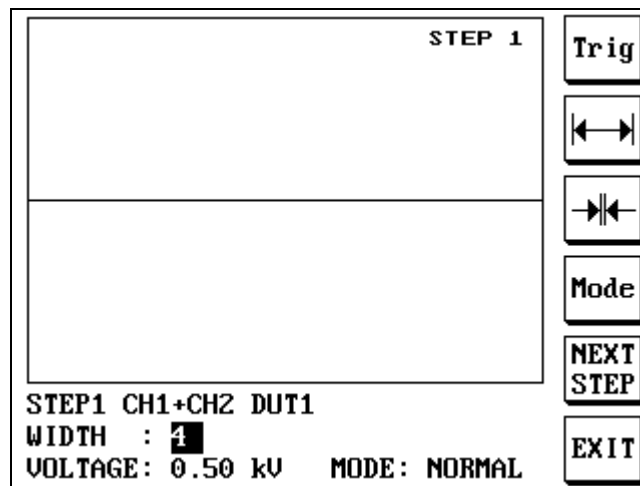


Figure 5.4.4.2

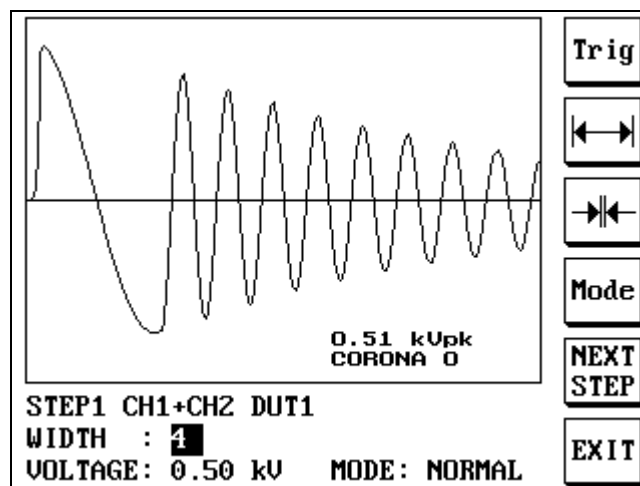


Figure 5.4.4.3

Testing Item: Press **S3** under Impulse / Surge Test Setting to enter Test Setting mode, these items are the standard of DUT, and it depends on DUT's feature to open or close the test items.

Impulse(Surge) Test Setting		
File: B		1/2
Area size	✓ ±10.0%	✓ ±10.0%
Diff. size	✓ 10.0%	✓ 10.0%
Flutter	✓ 500	✓ 500
Wave comp.	✓ 5	✓ 5
Corona	✓ 20	✓ 20

Figure 5.4.4.4

Area Size: This item is to check the difference between testing waveform and standard waveform. Move the cursor to Area Size and use numeric to set up tolerance rate and then press **S2** to enter Testing Mode (please note that the instrument need to learn standard waveform before enter this mode) and use **S2** ~ **S5** to set up the range. After the setting, press **S1** to start pre-test while there'll be a difference value displayed at the right corner and then press **S6** to exit the setting if all values are correct.

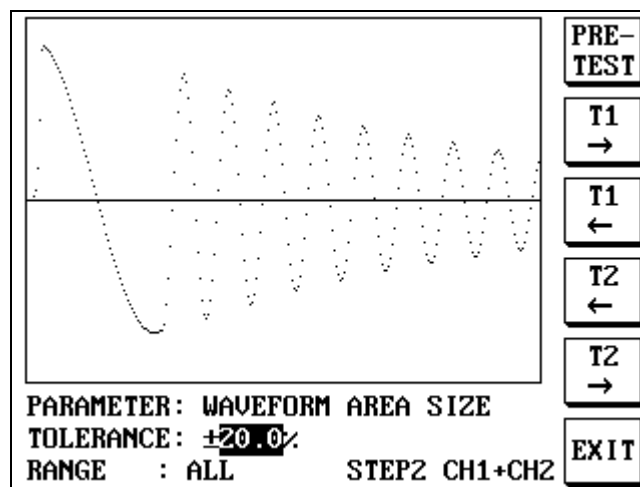


Figure 5.4.4.5

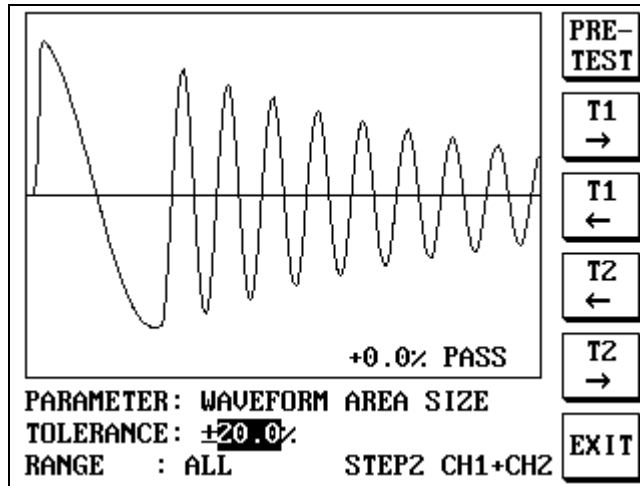


Figure 5.4.4.6

Differential Area Size: Move cursor to differential area size and press

S1 (testing option), and use numeric key to enter tolerance rate. Press **S2** to enter Testing Mode and use **S2~S5** to set up testing range. After the setting, press **S1** to start the pre-test. In the meantime, there' ll be a difference value displayed at the right corner, and then press **S6** to exit the setting if all the values are correct.

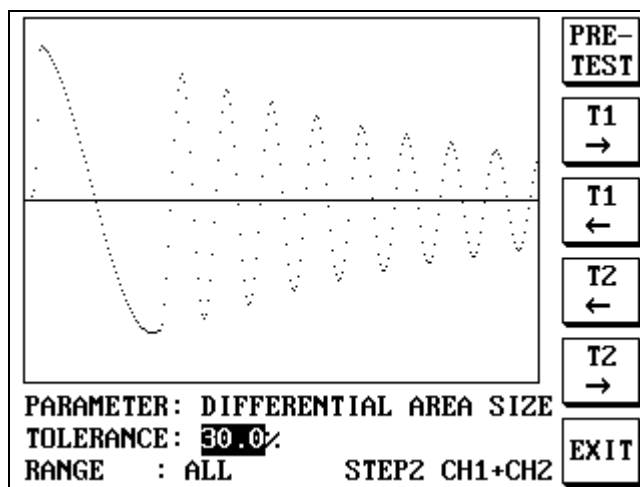


Figure 5.4.4.7

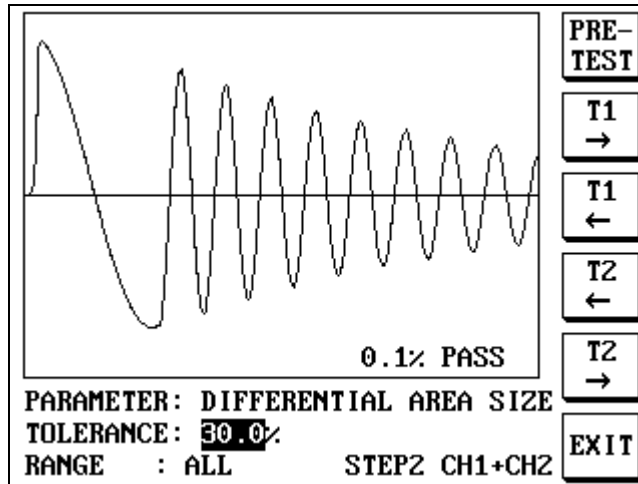


圖 5.4.4.8

Flutter Value: Move cursor to Flutter value and press **S1** (Test Selecting) key, use numeric key to enter standard values, if the test result is larger than the value, the result is fail. Press **S2** to enter Testing Mode and use **S2~S5** to set up testing range, after the setting, press **S1** to start pre-test. In the meantime, there'll be a flutter value display at the right corner to determine if the results are in the range, press **S6** to exit setting.

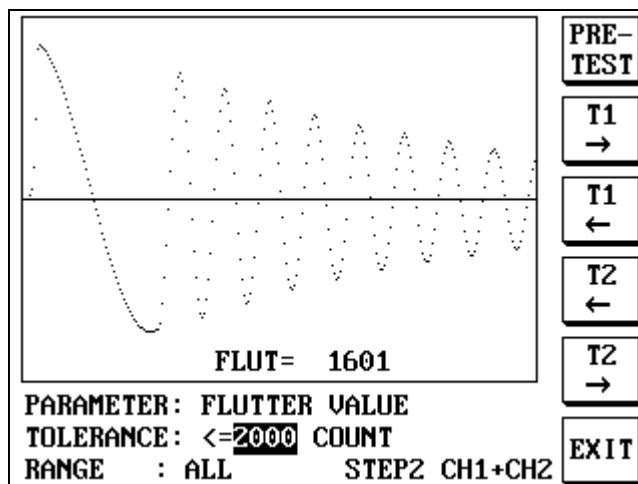


Figure 5.4.4.9

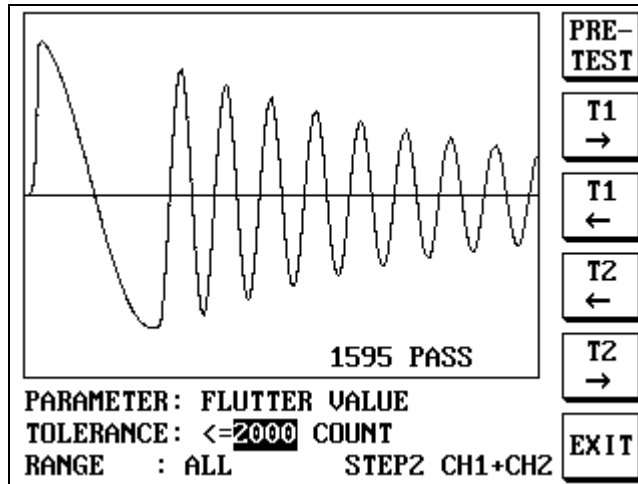


Figure 5.4.4.10

Waveform Comparison: Move the cursor to Waveform Comparison and press **S1** (testing option), and use numeric key to enter tolerance rate. Press **S2** to enter Testing Mode and use **S2~S5** to set up testing range, after the setting, press **S1** to start pre-test. In the meantime,

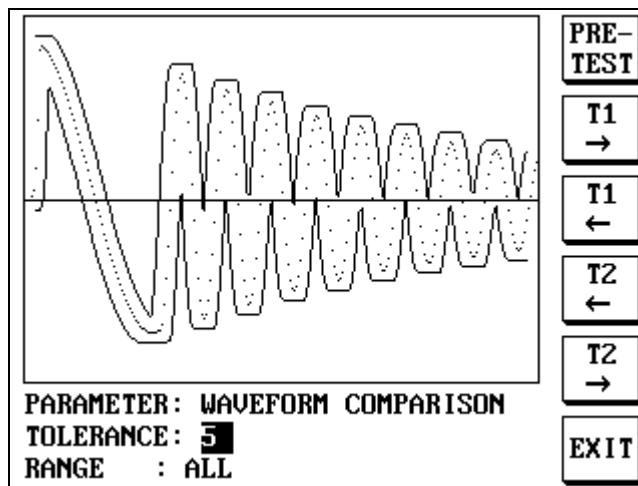


Figure 5.4.4.11

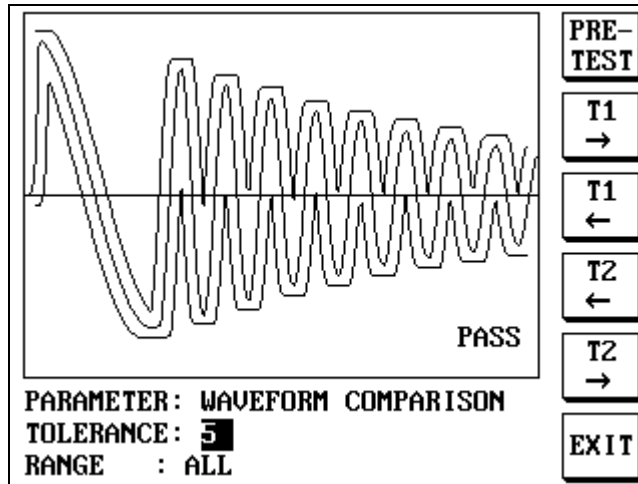


Figure 5.4.4.12

Corona Value: Move the cursor to Corona Value and press **S1** (Testing Option), using numeric key to enter the standard value. Press **S2** to enter Pre-Testing Mode and then press **S1** to start the pre-test, in the meantime there'll be a corona value displayed at the right corner and then press **S6** to exit the setting mode if all values are correct.

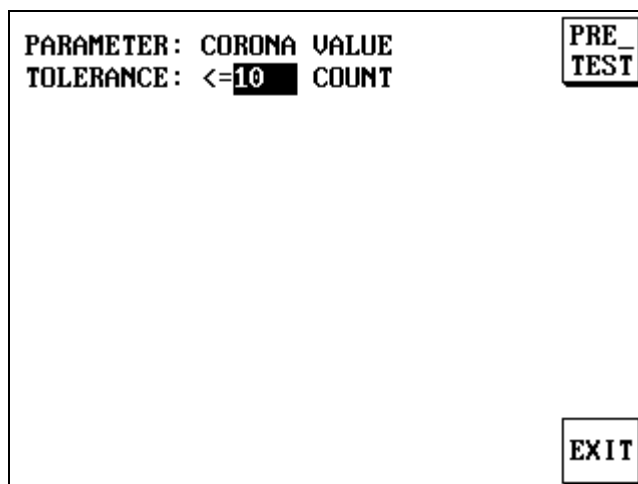


Figure 5.4.4.13

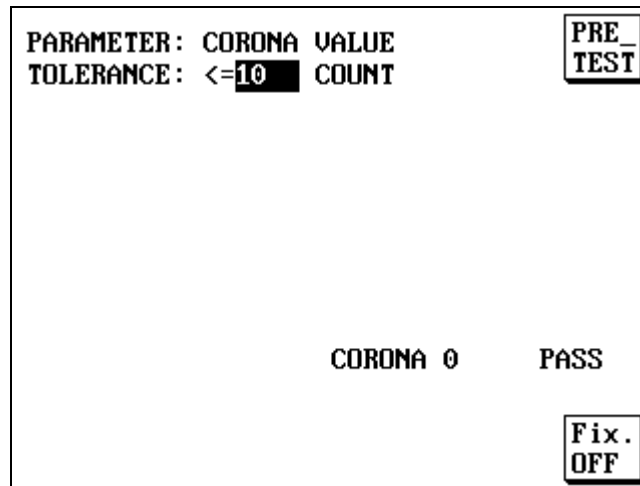


Figure 5.4.4.14

5.5.5 Circuit Resistance Setting

Press **S4** under Testing Item Setup mode to enter Circuit Resistance Setting

Rdc Test Setting				
File: B			1/2	
CH+	1	2		Meas
CH-	2	3		
Std	2.000	2.000		Copy
Max	2.200	2.200		
Min	1.900	1.900		Del.
Unit	Ω	Ω		
Rate	FAST	FAST		EXIT
Dly	0 mS	0 mS		
Offs	0.0000 Ω	0.0000 Ω		
DUT#	1	1		

Channel+/- : Use numeric key to set up the value for the channel under RDC Test Setting Mode. After entering [CH+], the instrument will automatically set up the next channel.

Standard: Set up a standard RDC of DUT. Move the cursor to Standard and key in the standard value directly or press **S2** to fill in the value automatically. If select **S2** function, connect the standard samples with all testing channels and press **S2** to get the value and press **S3** to fill in the blank automatically.

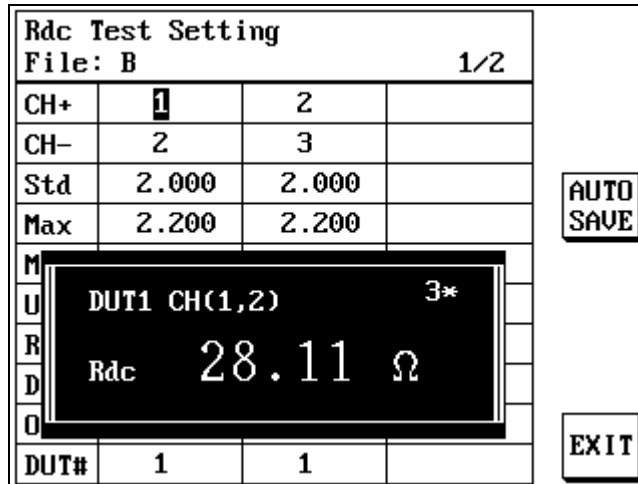


Figure 5.5.5.2

Max / Min Value: Move the cursor to Max or Min and key in the value of the standard range, or press **S3** conversion key to key in percentage rate directly, the instrument will convert the value and fill in Max / Min blank automatically.

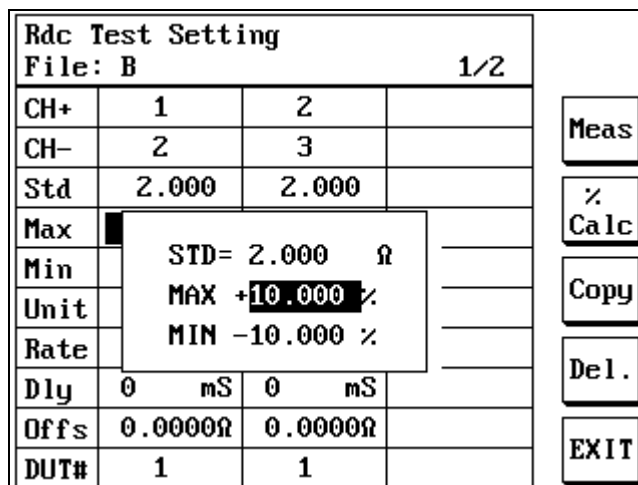


Figure 5.5.5.3

Unit: Move the cursor to Unit and press **S1** to select 4 kinds of unit mΩ / Ω / kΩ / MΩ

Rate: Use navigation key to move the cursor to Rate and press **S1** to select FAST/ MED / SLOW.

Fast → Test result shows immediately but the last digit is unstable

Slow → Test result show slowly but stable

Delay: Use navigation key to move cursor to Delay, and use numeric key to setup delay time

Zero: Use numeric keys to enter value or press **S2** to offset automatically. If press **S2**, there'll be an remind text box to ask user to short the channels which want to offset. Press any key to start offset and press **S3** to fill in the testing value automatically

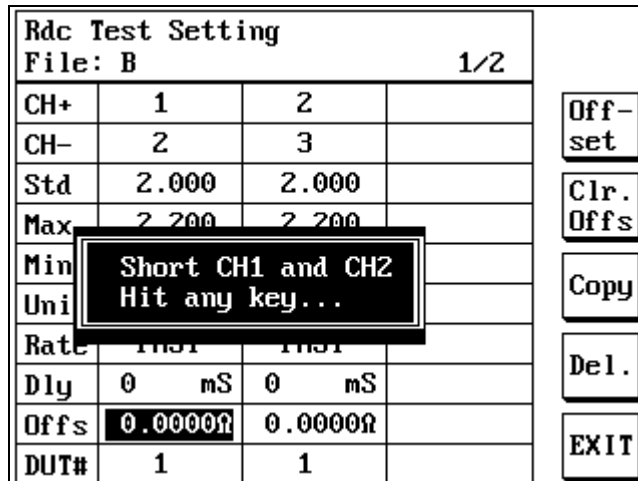


Figure 5.5.5.4

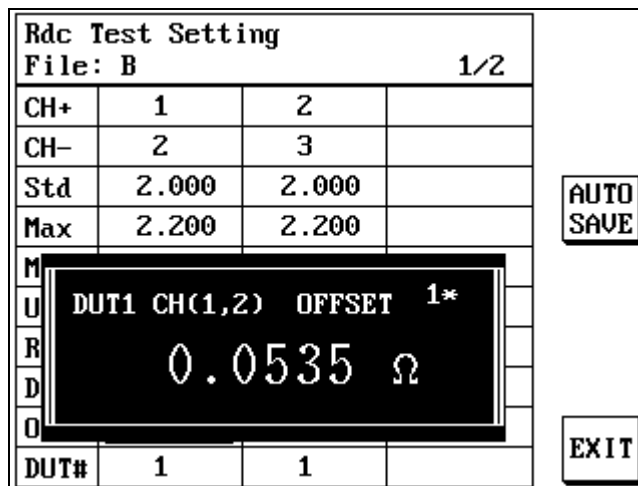


图 5.5.5.5

DUT No.: Use numeric key to set up, the maximum value is 4, the minimum value is 0. Use 0 at the first step, after the first step the minimum value should be 1. This function is to make users speed up testing.

5.5.6 Resistance Balance Setting

Test the difference value of 2 sets of coils. Press **S5** under Testing Item Setup to enter Resistance Balance Test Setting

R Balance Test Setting			
File: B			1/0
RefA	CH 1-2		
RefB	CH 2-3		
Max	100.000		
Min	0.000		
Unit	mΩ		

Prog

Copy

Del.

EXIT

圖 5.5.6.1

RefA / Ref B: RefA & RefB must be 2 groups of coils which are going to compare.

Press **S1** to under Balance Test Setting to select coils

Max / Min Value: Move the cursor to Max or Min and key in the value of the range you desired

Unit: Move the cursor to Unit and press S1 to select 4 kinds of unit mΩ / Ω / kΩ / MΩ

5.5.7 Test Sequence Setting

The function can open, close and adjust the testing sequences. Press **S6** under Test Item Setup mode to enter Test Sequence Setting

Test Sequence Setting		
File: B		
Seq	Function	Test
1	D/S	
2	INSULATION	✓
3	HIPOT	✓
4	SURGE(L/S)	✓
5	RESISTANCE & BALANCE	✓

ON/OFF

Forward

Backward

EXIT

Figure 5.5.7.1

On / Off: Used navigation key to move the cursor and selected open or close testing items by pressing **S1** soft key

Forward / Backward: Use navigation key to move the cursor to test item and press **S3** to forward, **S4** to backward, after the setting press **S6** to exit

5.6 Start Testing

Put DUT on the fixture after confirm there's no voltage output and the indicator light of voltage is not lightening

5.6.1 Test Progress Procedure

1. Press TEST under Main screen. After see READY TO TEST, press TRIG to start the combination testing

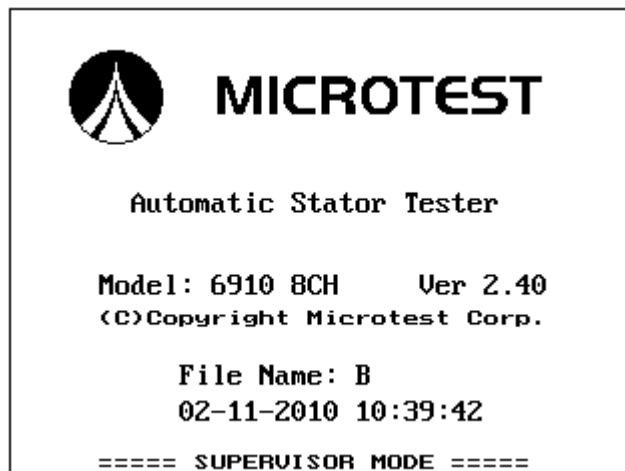


Figure 5.6.1.1

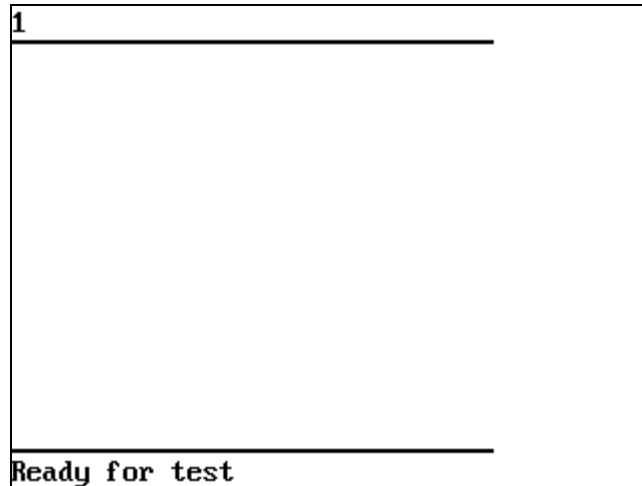


Figure 5.6.1.2

2. When press TRIG, Hipot will be outputted and the indicator light will be lightened. After testing, the test results will be shown on the screen also the Test Completed description
3. If Impulse / Surge short is opened, press **S6** after the testing in order to check the waveform and related values. Press **S6** again to check another testing result

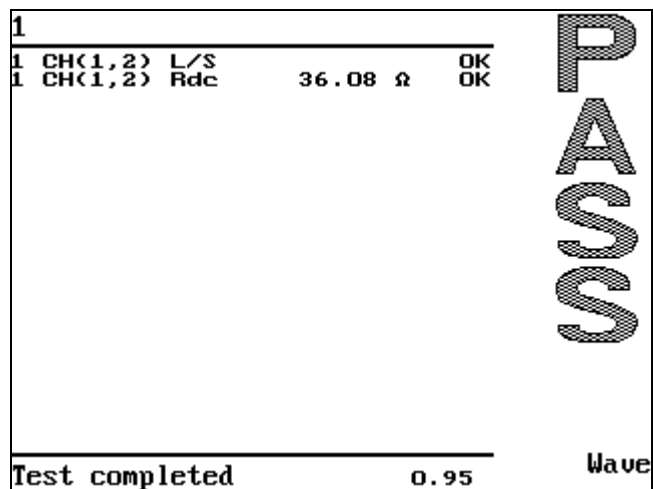


Figure 5.6.1.3

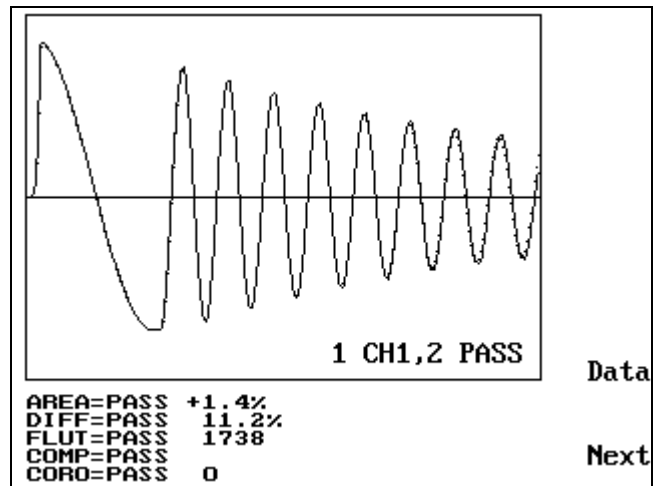


Figure 5.6.1.4

4. If the test result is failed, it will be marked to let the operator easy to identify

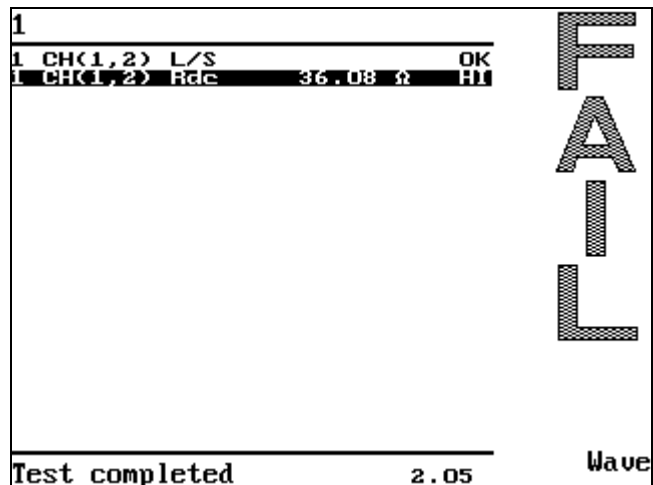


圖 5.6.1.5

5.6.2 Testing Message Analysis

Hipot

Test Result	Description
HI	Current is over the standard value
LO	Current is below the standard value
BREAK DOWN	DUT Hi-Pot is fail
ARCING	DUT have corona value
LINK ERR	De-connected with 6905

Insulation

Test Result	Description
HI	Current is over the standard value
LO	Current is below the standard value
BREAK DOWN	DUT Hi-Pot is fail
ARCING	DUT have corona value
LINK ERR	De-connected with 6905

Resistance Coils and Balance

Test Result	Description
HI	Current is over the standard value
LO	Current is below the standard value

6. REMOTE INSTRUCTION

6.1 Introduction

MT-6910 inhabit with remote control, it can be controlled by exterior signal and output test result. To get test result more thoroughly and use test items as signal or classifying the fail DUT automatically, please purchase the remote box additionally.

6.2 Interior Remote Instruction

6.2.1 Remote Drive Ability

Interior Power Output: DC 5V, 40mA

Interior Power Output: DC 12V, 40mA

Interior Signal Output: Exterior Power DC 3V~26V, 100mA

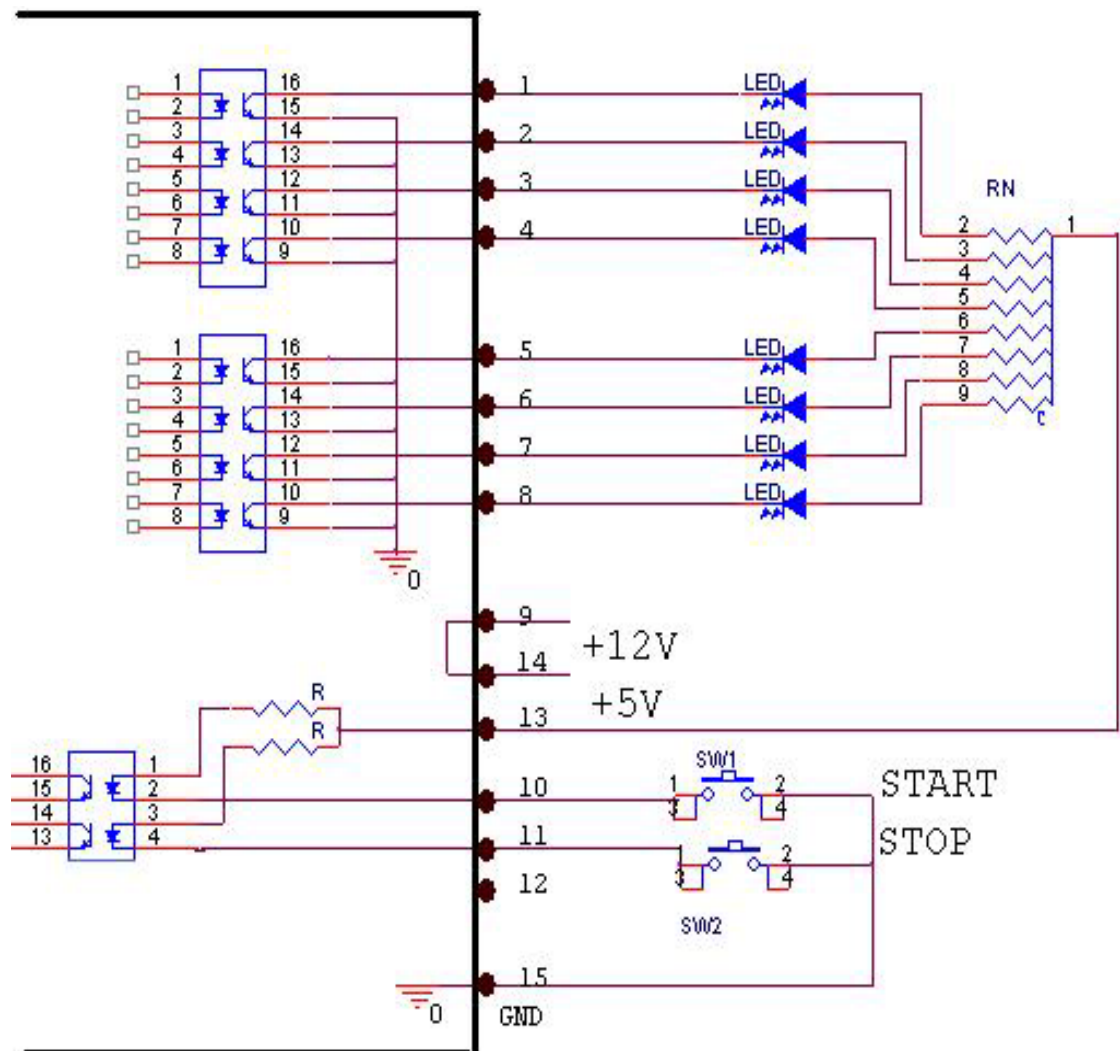
6.2.2 Pin Instruction

PI N	SIGNAL	OUT/IN	説明
1	PASS	OUT	If all DUT test results are pass, output is LOW
2	DUT1_FAIL	OUT	If DUT 1 test result is fail, DUT 1 output is LOW
3	DUT2_FAIL	OUT	If DUT 2 test result is fail, DUT 2 output is LOW
4	DUT3_FAIL	OUT	If DUT 3 test result is fail, DUT 3 output is LOW
5	DUT4_FAIL	OUT	If DUT 4 test result is fail, DUT 4 output is LOW
6	DCR_FAIL	OUT	DCR test result is fail, DCR output is LOW
7	LS/IR/HIPOT_FAIL	OUT	Impulse Short, Insulation, Hipot results are fail
8	Electromagnetic	OUT	Test pin connect DUT automatically. Testing output is Low. Setup delay function and electromagnetic must be connected with exterior DC power and the exterior power negative terminal must be connected with Pin 15
9			
10	START	IN	Exterior start the instrument signal, the action of

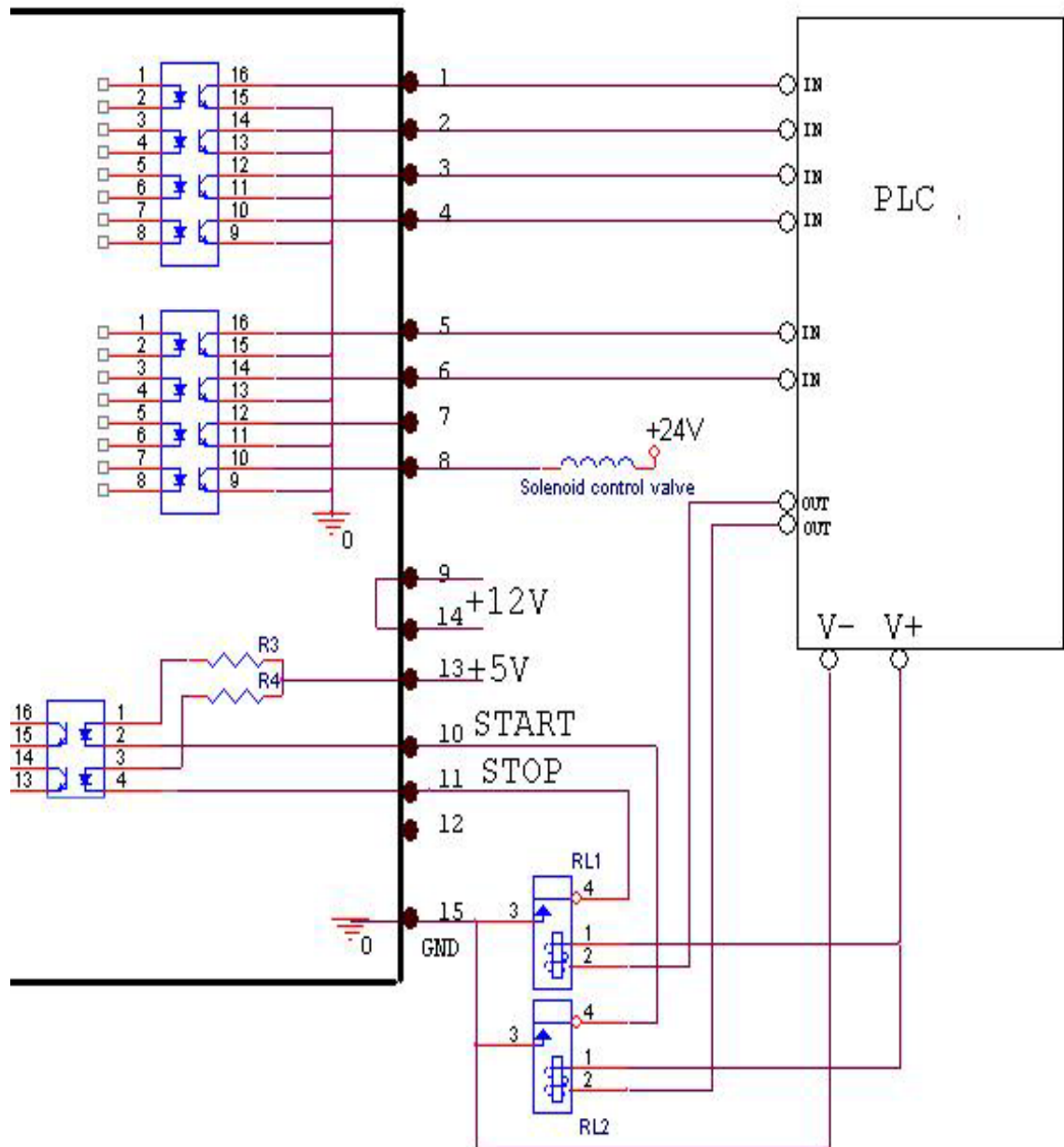
			signal is LOW
11	STOP	IN	Exterior start the instrument signal, the action of signal is LOW
12	—		
13	+5V	OUT	Interior DC5V Output
14	+12V	OUT	Interior DC12V Output
15	GND	—	

6.2.3 Circuit Illustration

Signal Illustration



PLC Control Range



6.3 Exterior Remote Instruction

6.3.1 Remote Drive Ability

Power Output Spec: DC5V, 40mA

Signal Out put Spec: Exterior power DC3V~36V, 100mA

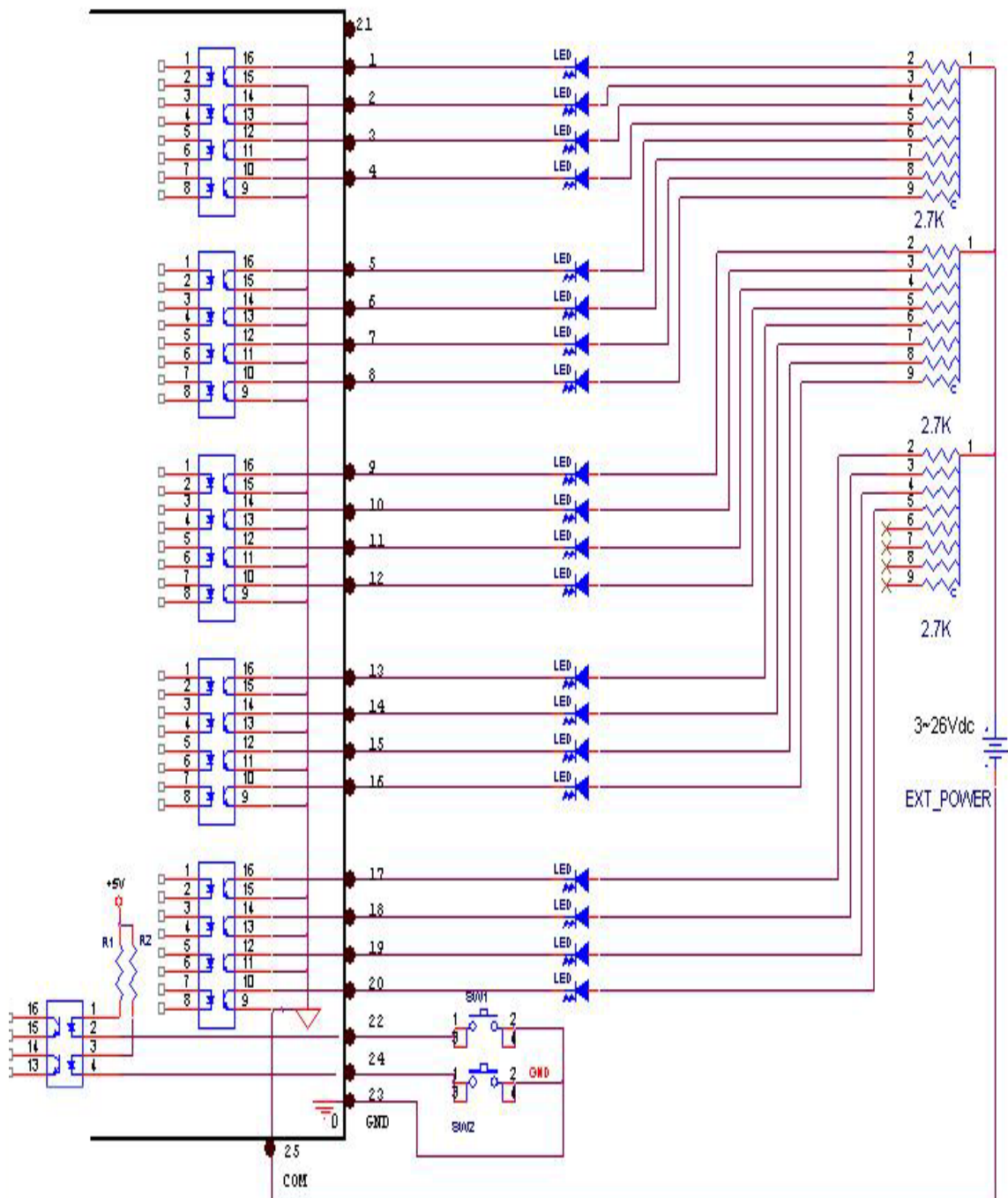
PIN	SIGNAL	OUT/IN	DESCRIPTION
1	PASS	OUT	If all DUT test results are pass, out put is LOW
2	DUT_1DCR FAIL	OUT	DUT 1 DCR test result is fail, output is LOW
3	DUT_2DCR FAIL	OUT	DUT 2 DCR test result is fail, output is LOW
4	DUT_3DCR FAIL	OUT	DUT 3 DCR test result is fail, output is LOW
5	DUT_4DCR FAIL	OUT	DUT 4 DCR test result is fail, output is LOW
6	DUT_1 L/S FAIL	OUT	DUT 1 L/S test result is fail, output is LOW
7	DUT_2 L/S FAIL	OUT	DUT 2 L/S test result is fail, output is LOW
8	DUT_3 L/S FAIL	OUT	DUT 3 L/S test result is fail, output is LOW
9	DUT_4 L/S FAIL	OUT	DUT 4 L/S test result is fail, output is LOW
10	DUT_1 H/P FAIL	OUT	DUT 1 Hipot test result is fail, output is LOW
11	DUT_2 H/P FAIL	OUT	DUT 2 Hipot test result is fail, output is LOW
12	DUT_3 H/P FAIL	OUT	DUT 3 Hipot test result is fail, output is LOW
13	DUT_4 H/P FAIL	OUT	DUT 4 Hipot test result is fail, output is LOW
14	DUT_1 IR FAIL	OUT	DUT 1IR test result is fail, output is LOW
15	DUT_2 IR FAIL	OUT	DUT 2IR test result is fail, output is LOW
16	DUT_3 IR FAIL	OUT	DUT 3IR test result is fail, output is LOW
17	DUT_4 IR FAIL	OUT	DUT 4IR test result is fail, output is LOW
18			

MICROTEST

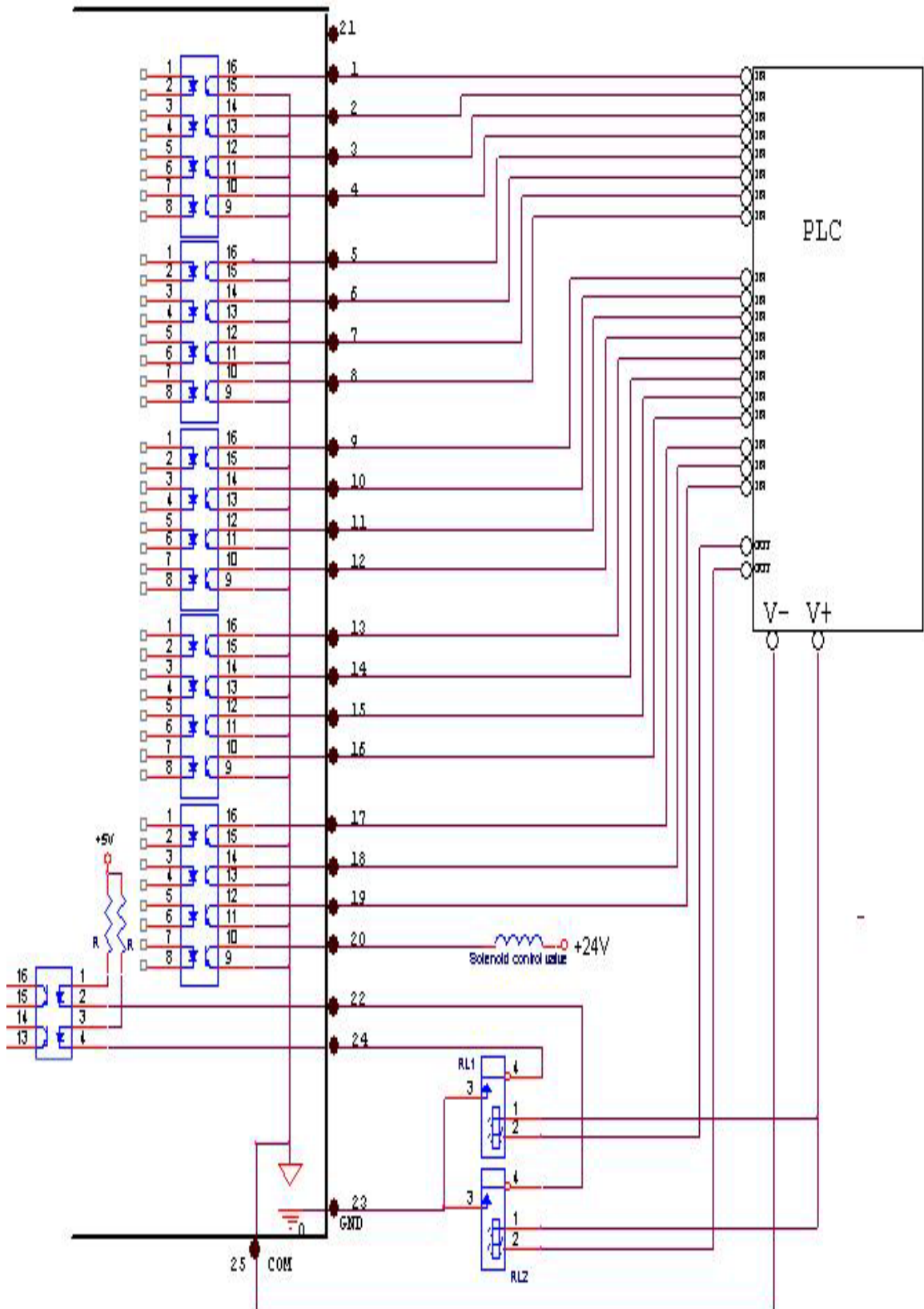
19	FINISHED		Finished all DUT testing, output is LOW
20	Electromagnetic	OUT	Test pin connect DUT automatically. Testing output is Low. Please setup Delay function and electromagnetic must be connected with exterior DC power and the exterior power negative terminal must be connected with Pin 15
21	+5V	OUT	Interior power output DC5V
22	START	IN	Exterior start the instrument testing signal input is Low
23	GND		
24	STOP	IN	Exterior stop the instrument testing signal input is LOW
25	COM		

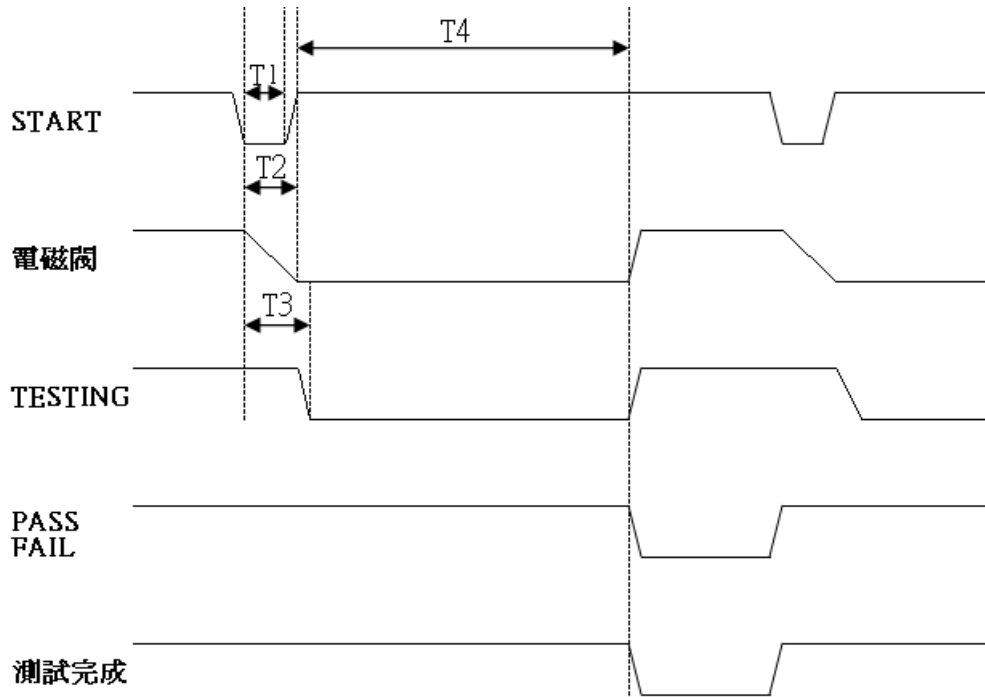
6.3.3 Circuit Illustration

Signal Illustration



PLC Control






TIME	LIMIT	DESCRIPTION
T1	>10mS	The limit time of start exterior signal must over 10mS
T2	>200mS	Delay time. If not using this function the value should be 0
T3	-	Start testing of output signal
T4	-	Testing time

7 CALIBRATION PROCEDURE

DC calibration available, please ensure to warm up the instrument at least 30 minutes in order to make the testing value correct.

7.1 Enter Configuration Procedure

Press FUNC key under main menu and then press S2 to enter H/V CAL. The password must be keyed in when using H/V CAL

 **Warning:** When using the function, please do not touch output terminal or connect any load into the output terminal

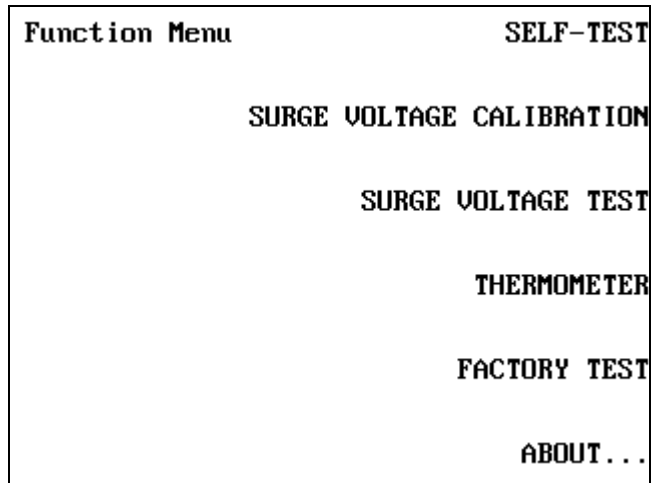


Figure 7.1.1

H/V CAL.			UP
VOLTAGE	CODE	READING	DOWN
0.5 kV	8321	01500000	
1.0 kV	715		
1.5 kV	1069		
2.0 kV	1427		
2.5 kV	1785		
3.0 kV	2143		
3.5 kV	2501		DONE
4.0 kV	2860		DEF-
4.5 kV	3220		AULT
5.0 kV	3581		QUIT
LAST PERFORMED : 11-05-2009			

Figure 7.1.2

7.2 High Voltage Output Calibration

Use **S1** and **S2** to adjust the voltage, and please adjust the value of CODE and READING the same if possible. After the adjustment, press ENTER to move next time

H/V CAL.			UP
VOLTAGE	CODE	READING	DOWN
0.5 kV	3321	075000kV	
1.0 kV	715		
1.5 kV	1069		
2.0 kV	1427		
2.5 kV	1785		
3.0 kV	2143		
3.5 kV	2501		DONE
4.0 kV	2860		DEF-
4.5 kV	3220		AULT
5.0 kV	3581		QUIT
LAST PERFORMED : 11-05-2009			

Figure 7.2.1

UP: Press **S1** to increase CODE value

DOWN: Press **S2** to decrease CODE value

SAVE: Press **S4** to save CODE

DEFAULT: Press **S5** to reset default

QUIT: Press **S6** to quit the calibration

7.3 High Voltage Output Testing

Connect the positive terminal of DC meter to CH7 of the instrument and negative terminal to CH8. The result should be minus value due to the voltage is negative while testing

7.3.1 High Voltage Output Setting

Press FUNC under the main menu to enter System mode, and then press S3 to enter H/V Test mode

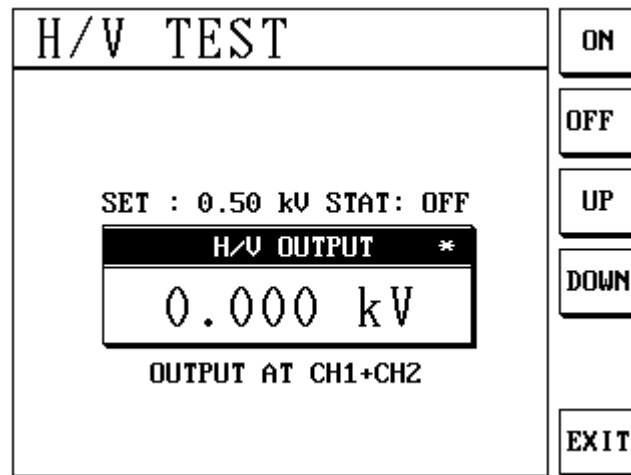


Figure 7.3.1.1

7.3.2 High Voltage Value Setting

Use numeric key to setup high voltage value. High voltage range is 0.2kV~5KV.

If the setting value smaller than 0.2kV and larger than 5KV, the instrument will insert 0.2kV and larger than 5KV, the instrument will insert 0.2kV and 5KV automatically

ON: Press **S1** to show setting voltage

OFF: Press **S2** to close output voltage

UP: Press **S3** to increase voltage value 0.1kV

DOWN: Press **S4** to decrease voltage value 0.1kV

EXIT: Press **S6** to exit voltage testing mode



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