EXTECH Electronics Co.,Ltd.

SPACE-9180

Electrical Safety & Functionality Test System

Operation manual

ER 1.00

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Chapter 1. INSTALLATION

This instrument control software was designed to provide you with a quick and easy way to utilize when using ESA、ESC、774X、7630、74XX. It offers you complete control of the instrument setups as well as the ability to capture test result & data analysis.

1.1 SYSTEM REQUIREMENTS

- National Instruments GPIB interface card.
- GPIB connection cables.
- Microsoft Windows 9x、2000、XP、Windows NT、Windows 7
- PC with Pentium or AMD Processor (Above 500MHz speed is recommended).
- CD-ROM Drive
- 256MB RAM minimum (512MB recommended).
- 40MB free disk space on you hard drive.

1.2 INSTALLATION PROCEDURE

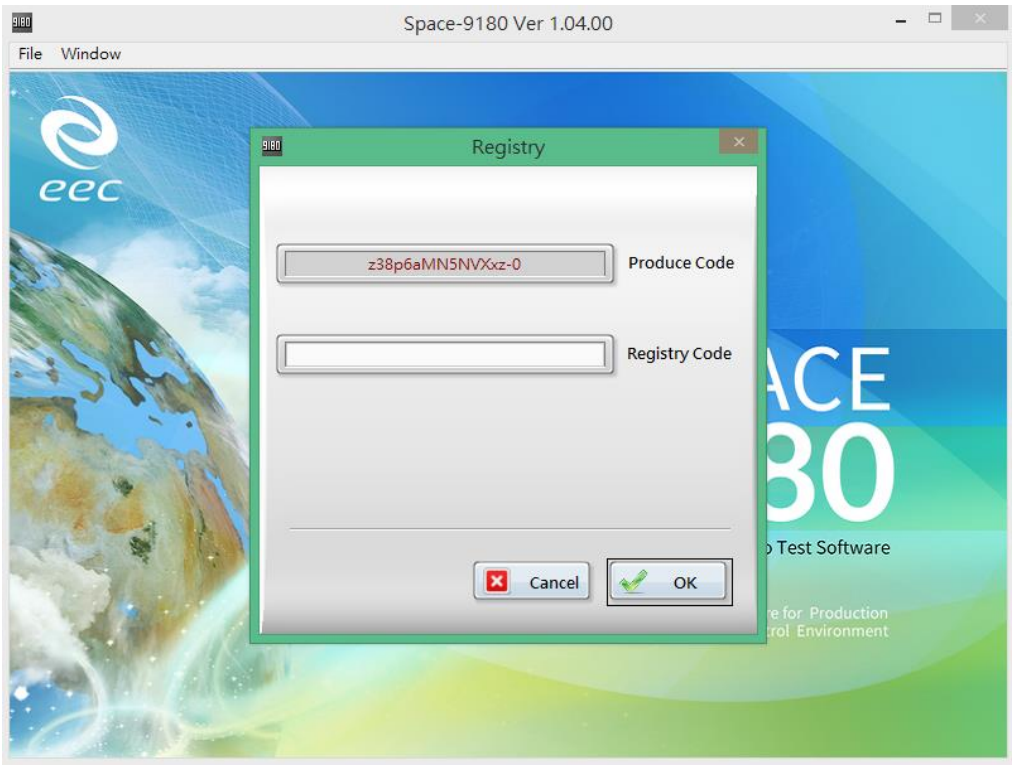
1. Insert the Space-9180 compact disk into your CD-ROM drive.
2. Select the Run command from the Start menu.
3. Click the browse button and select the CD-ROM drive.
4. Double click or run the program called Setup.exe.
5. Follow the instruction within the Setup Program window for a complete installation.

Please note: The National Instruments runtime engine will automatically be installed on your system during the installation of Space-9180. You can install National Instruments GPIB Card driver separately before or after install Space-9180 software. Space-9180 will not run without these programs.

6. After installation is complete a Space-9180 program group will be created with an icon labeled Space-9180. Click on the icon to run the software.
7. When first run the software, then you should go to the Setups System Parameters to set the value of communication parameters & etc.

1.3 Registration

When first to run the software, the following message will display, please contact our company right now, and please provide the Produce Code number, we will give you a set of Registry Code, this number input after registration is completed.



Chapter 2. MAIN START UP WINDOW

Space-9180 Main Menu Window

Two pull down selection in the menu bar are File and Window. Details are as follows.

2.1 File

The File pull down menu consists of the 3 selections: Login、Logout、Exit。

Login: When the system security is start-up, the system will need to users to login in with an user ID

Logout: When the user wants to Logout, it shall be implement the logout function to ensure the system security.

Exit is the leave SPACE - 9180 system program. When users do not use the SPACE - 9180 system, it should be Exit Space-9180 first, and then shut down the computer.

2.2 Window

The Window pull down menu consists of the 5 selections that will access 5 difference windows that are described below. The window pull down menu is also duplicated on all of the windows that are accessible from the Window menu. Therefore direct access to any one of these windows is available after one of the windows has been selected. Details are as follows.

Setup System: Setup the parameters about the System of S-9180 communication with compture.it's not necessary connect to the Safety tester when user Set these parameters, if you would perform hardware automatic to set system parameters, it need to be connect the instruments.

File Manager: This window is used to manage the setup files. You can work with files stored in the instrument memory or in the PC file.

Setup Test : This window is used to setup and store test parameters as well as recall test setups from exiting files from PC or instrument memory

Perform Tests: This window allows you to initiate and reset tests. You will also be able to monitor result of the test, & can also use barcode scanning to compare product code with current load file & duplicate product serial in the test result file.

Test Results: This window allow you to see actual test results, summary report & graph results by category.

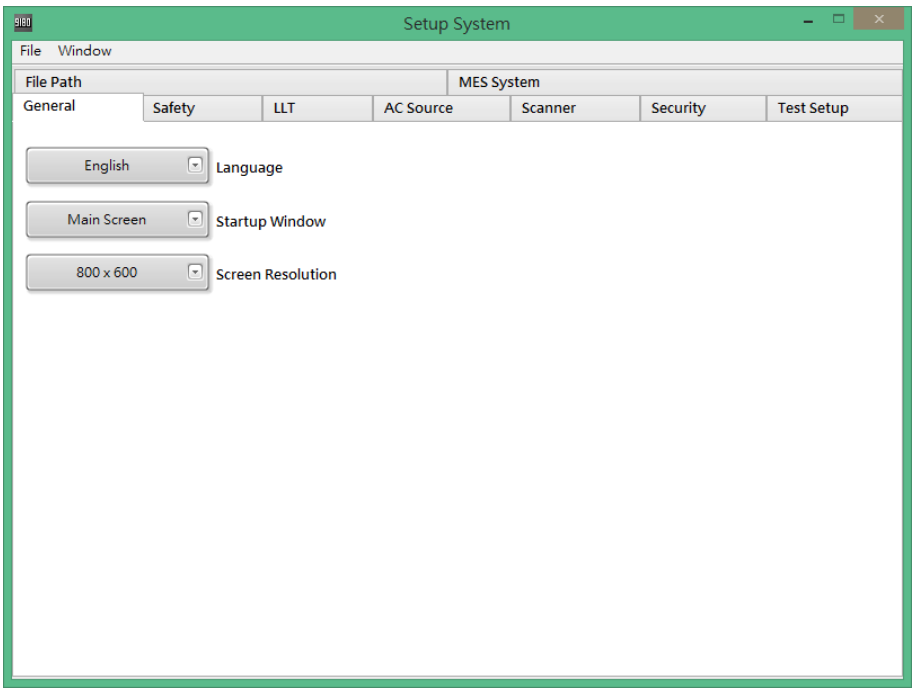
Chapter 3. SETUP SYSTEM

When first run the Space-9180 software, then you should go to this window. The first option on this window is titled “Instrument Configuration”. This control allows you to select which instruments you which to control. This control is used to select difference combinations of instruments and system settings to tailor your testing environment for difference situations.

There are 9 tabs on this window that will take you a difference page of system settings. The tabs are labeled; General、Safety、LLT、AC Source、Scanner、Security、Test Setup、File Path、MES System, Please refer to the following sections for description of the parameters on each page.

3.1 General

If you select the tab labeled “General” you will see the settings show below.



General Page

- Language

English、Traditional Chinese、Simplified Chinese

- Startup Windows

When enter system, Setup Startup windows as following item：

1. Main Screen
2. Setup System
3. File Manager
4. Setup Tests
5. Perform Tests
6. Test Results

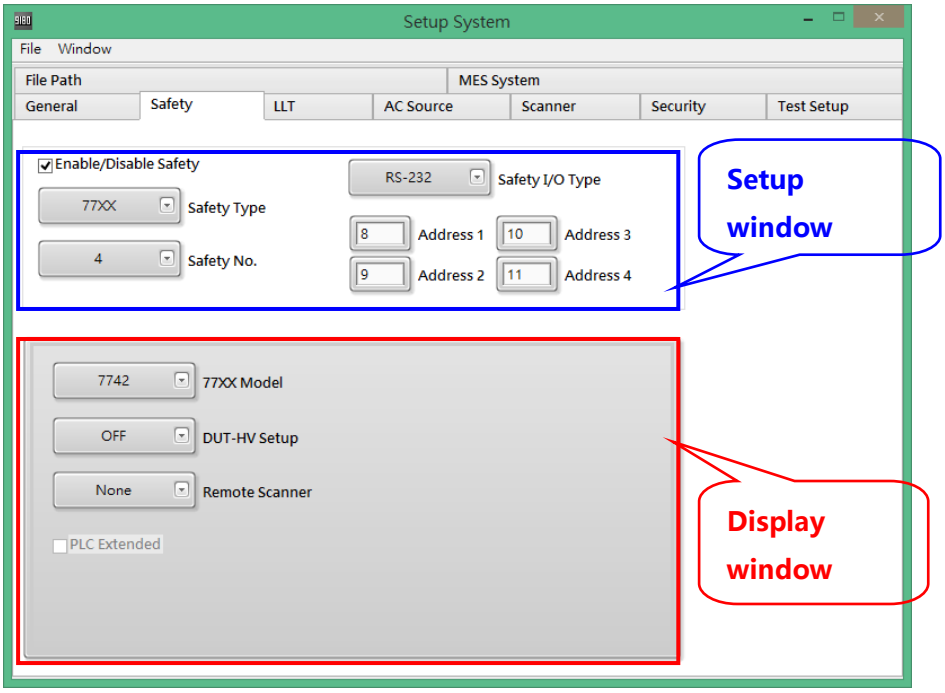
- Screen Resolution

800 x 600 and full screen。

If parameter have any change, please save the files before exit, unless the setting parameters will not work

Save process: File→Save or File→ Save & Close

3.2 Safety



3.2.1 Setup windowns

- Safety Type

Select the Safety Model: ESA、77XX、SE 74XX, 7630 and 74XX

- Safety I/O Type

GPIB、RS232 can be selected

Note: it is recommend to use the GPIB interface and it does not appear transmission speed too slow

- Safety No.

Set the number of safety tester, maximum safety is 4 units。

Note: Its should be same model

- Address 1 - 4

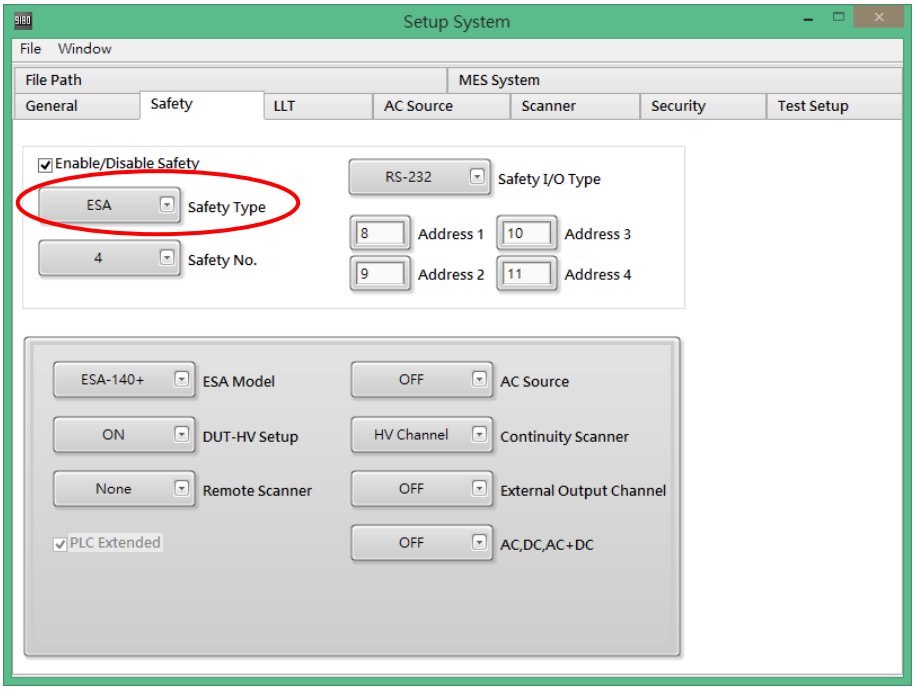
GPIB address setting for EXTECH-safety that should also match the same address as the setting from the software for successful link control.

Note: if select RS23 interface, the address Settings need to be the same as the COM port.

3.3 Display Windows

When safety tester is (Safety Type) set the model, the column will follow change.

Safety tester (Safety Type) select the ESA, the widow will show as follows



- ESA Model

Model have ESA-140、ESA-140+Opt.767、ESA-140+Opt.768、ESA-140+Opt.769、ESA-150、ESA-150+Opt.767、ESA-150+Opt.768、ESA-150+Opt.769，Please select the model that have connection

Opt.767：RUN
Opt.768：RUN + LLT
Opt.769：RUN + LLT + AC Source

- AC Source

Set whether use internal AC source or not. If set ON, then it will be used by ESA’ s internal AC source; if set OFF, then it will be used by external AC source
DUT-HV Setup
Set the DUT output of back whether there will be a high voltage output.

- Continuity Scanner

Set the Channel of Continuity test is GND channel or HV channel

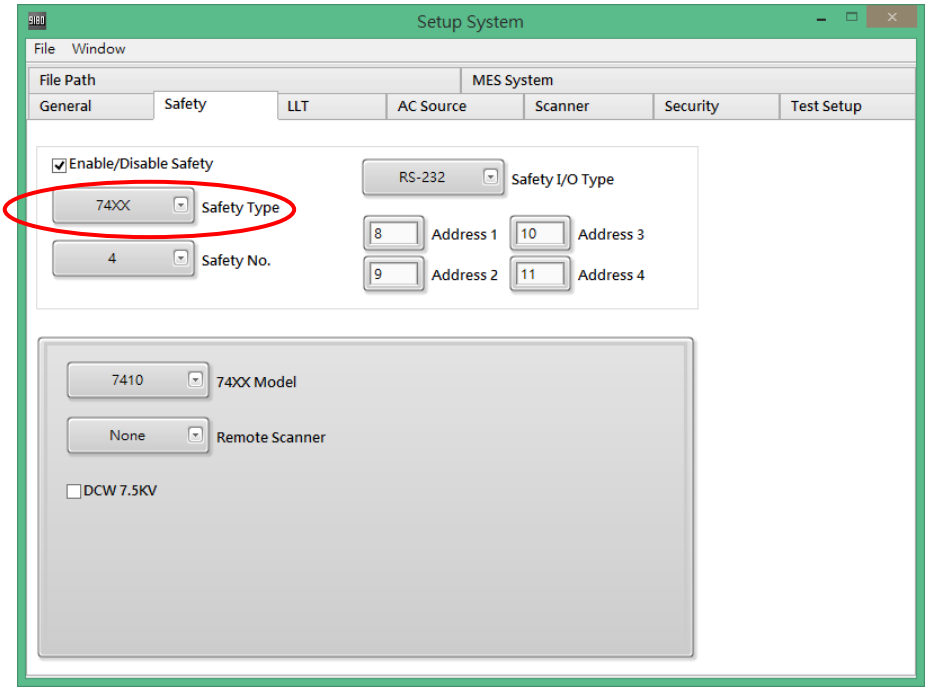
- Remote Scanner

Set system whether there are Remote scanner function .it can be set 8 channel, 16 channel or turn off this function.

- PLC Extended

Through the way of memory recall to control external AC source output voltage and frequency.

Safety tester (Safety Type) select the 74XX, the widow will show as follows



- 74XX Model

Model have 7410、7420、7430、7440、7451、7452, Please choose the model that have connection

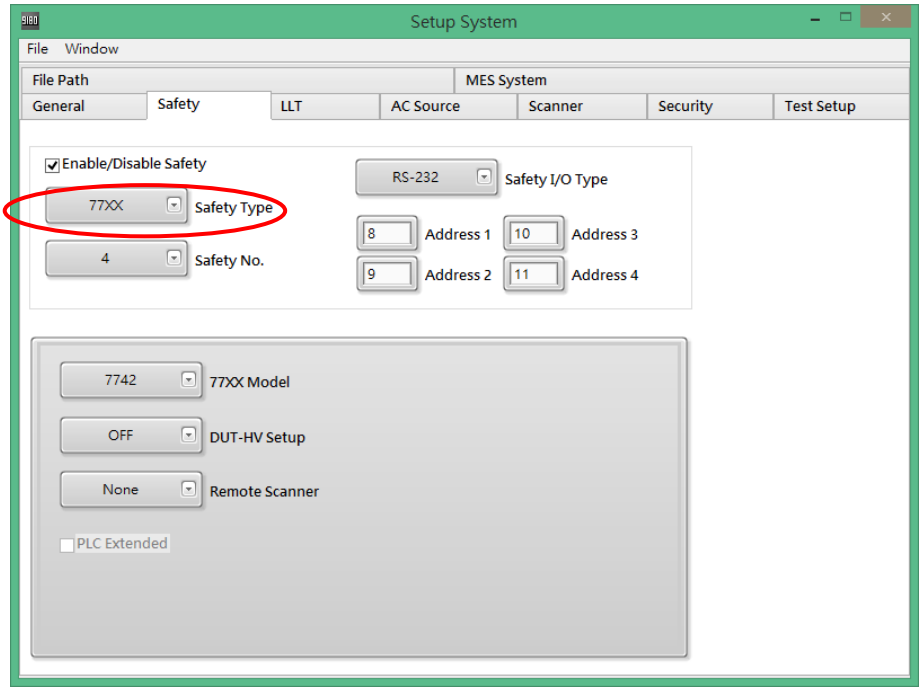
- Remote Scanner

Set system whether there is remote scanner function .it can be set 8 channel, 16 channel or turn off this function.

If parameter have any change, please save the files before exit, unless the setting parameters will not work

Save process: File→Save or File)→ Save & Close

Safety tester (Safety Type) select the 77XX, the widow will show as follows



- 77XX Model

Model have 7742、7742 + Opt.736、7742 + Opt.738、7742 + Opt.739，Please select the model that have connection

Opt.736：8 Channel Scanner
Opt.738：RUN
Opt.739：RUN + LLT

- DUT-HV Setup

Set the DUT output of back whether there will be a high voltage output.

- Remote Scanner

Set system whether there are Remote scanner function .it can be set 8 channel, 16 channel or turn off this function.

- PLC Extended

Through the way of memory recall to control external AC source output

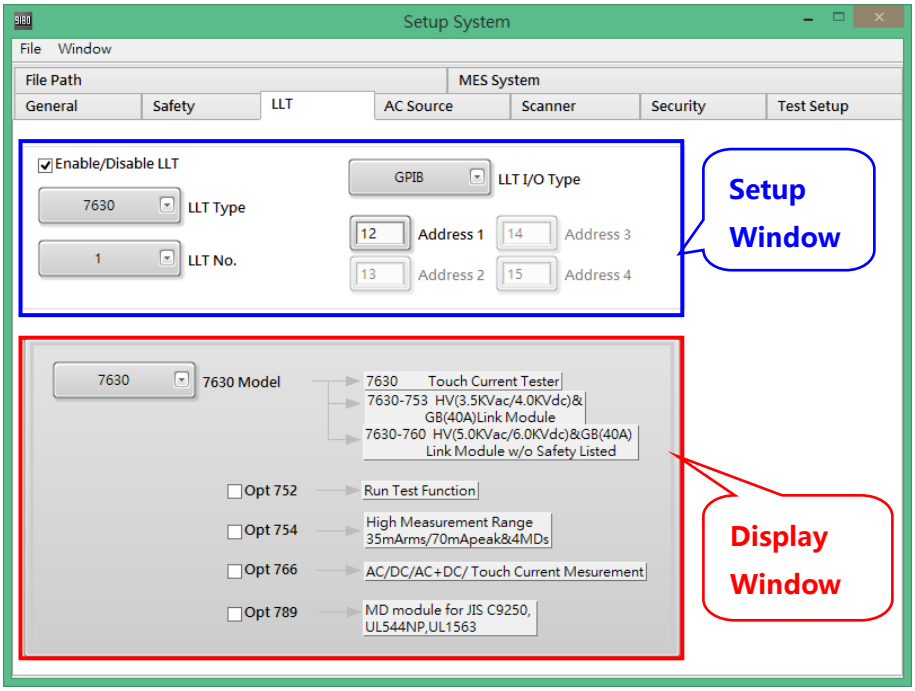
voltage and frequency.

If parameter have any change, please save the files before exit, unless the setting parameters will not work.

Save process: File→Save or File)→ Save & Close

3.3 Line Leakage Tester

When system need to connect to Line Leakage tester, it need to setup the touch current tester is Enable or Disable. Please mark ticks (√), it means this function is ON



3.3.1 Setup Window

- LLT Type

Select Line Leakage tester model:7630 and ESC。

- LLT I/O Type

GPIB and RS232 interface selectable

Note: it is recommended to use GPIB interface so that it won't appear the problem of transmission speed too slow.

- LLT No.

Set Line Leakage tester number，maximum is 4 units

Note：Need same model

- Address 1 - 4

GPIB address setting for EXTECH-safety that should also match the same address as the setting from the software for successful link control.
Note: when select RS-232 interface, the address should be same with COM port.

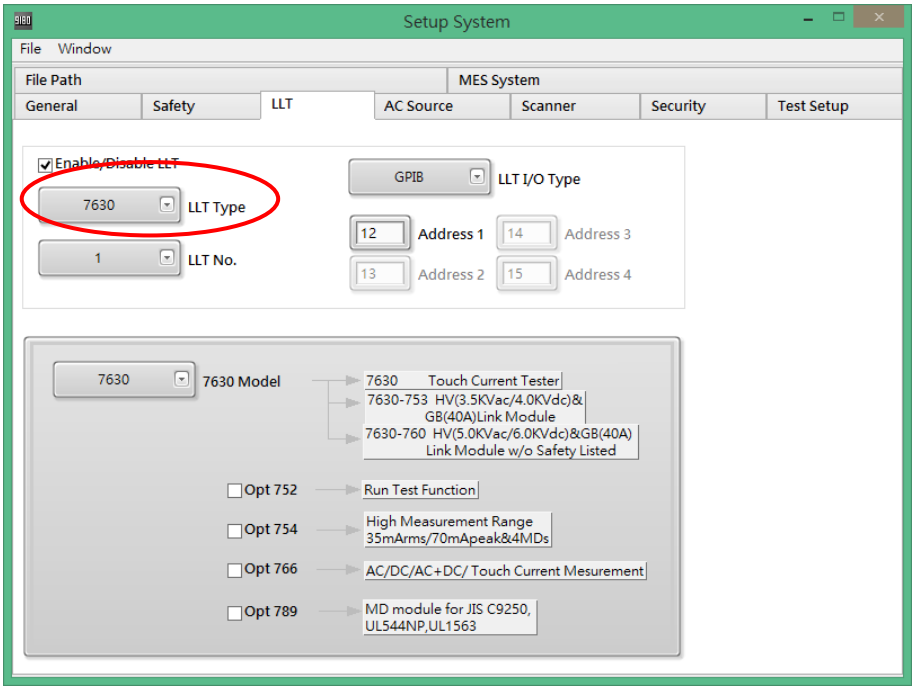
If parameter have any change, please save the files before exit, unless the setting parameters will not work

Save process: File→Save or File)→ Save & Close

3.3.2 Display Window

After LLT type setup the model, This column will follow change

LLT Type select 7630, the widow will show as follows



- 7630 Model

The Model have 7630、7630 + Opt.753、7630 + Opt.760, Please select the model that
have connection

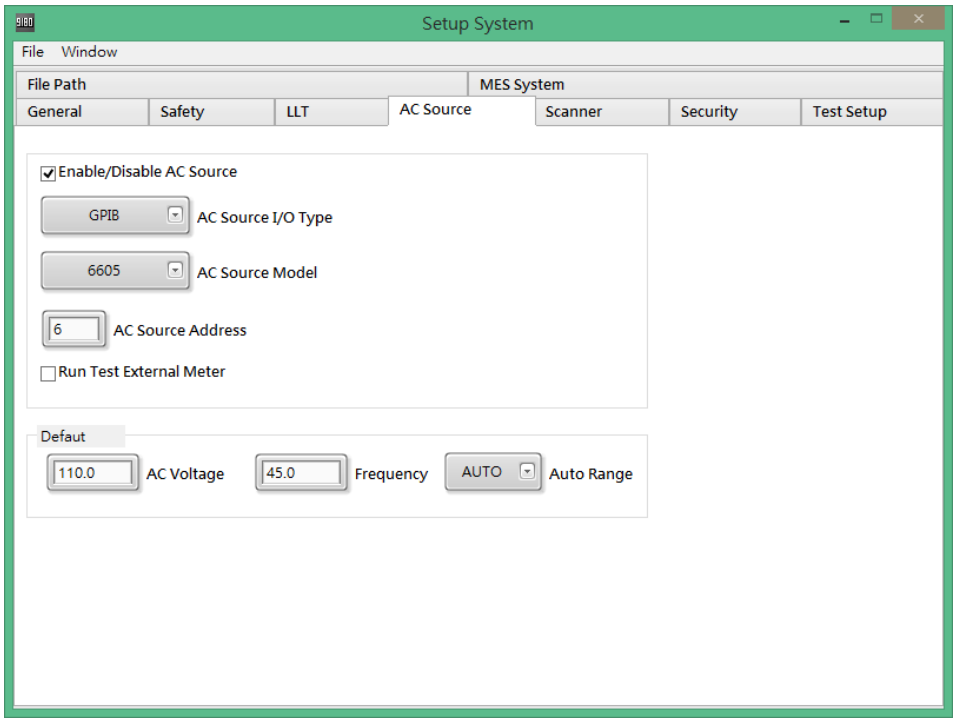
7630: Complete Touch Current Tester
7630 + Opt.753 : 7630 + HV Module, linkable to EXTECH Hipot Testers. This HV module could withstand 3.5KV AC and 3.5KV DC (Max).
7630 + Opt.760 : 7630 + HV Module, linkable to EXTECH Hipot Testers. This HV module could withstand 5KV AC and 6KV DC (Max).
Opt.752: RUN Test
Opt.754: High measurement Range 35mArms / 70mApeak
Opt.789：MD Module (5MDS) JIS C9250

If parameter have any change, please save the files before exit, unless the setting parameters will not work

Save process: File→Save or File)→ Save & Close

3.4 AC Source

If you select the tab labeled “AC Source” you will see the settings show below.
When AC Source is connected, please tick Enable/Disable AC Source in the selection.



- AC Source I/O Type

GPIB、RS232 can be selected
Note: it is recommend to use the GPIB interface and it does not appear transmission speed too slow

- AC Source Model：Select the model that you have connected to AC source

- AC Source Address：

GPIB address setting for AC Source that should also match the same address as the setting from the software for successful link control.

Run Test External Meter： When this selection is ticked, the system will read the measurement values of voltage, current, power, power factor from the AC Source. If it is not ticked, the system will read those measurement values from the Hipot Tester.

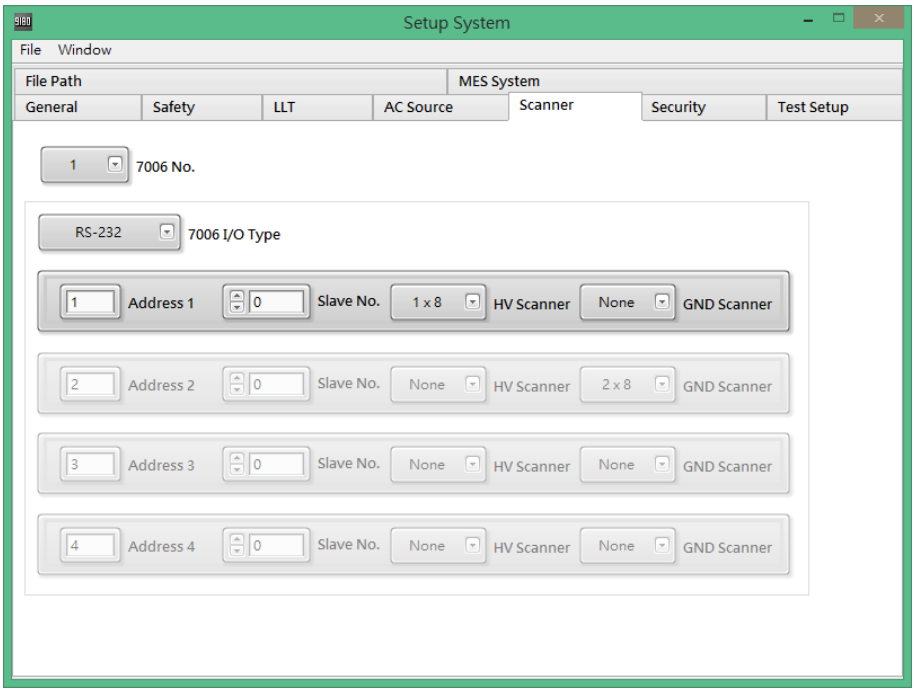
Note: if you need a higher resolution, this item can be tick.

- Default Setting：It presets the common values of voltage, frequency and Auto range parameters of AC Source.

If parameter have any change, please save the files before exit, unless the setting parameters will not work

Save process: File→Save or File)→ Save & Close

3.5 Scanner



- 7006 No.

Setup scanner 7006 number，maximum 4 units Master scanner be control

- 7006 I/O Type

GPIB、RS232 can be selected

Note: Recommend using the GPIB interface and it does not appear transmission speed too slow

- Address 1 - 4

GPIB address setting for Scanner that should also match the same address as the setting from the software for successful link control and Not set with Safety, LLT, AC Source addresses conflict.

Note: when select RS-232 interface, the address should be same with COM port.

- Slave No.

Set each Master scanner can connect the salve number, maximum is 4 units

salve

- HV Scanner

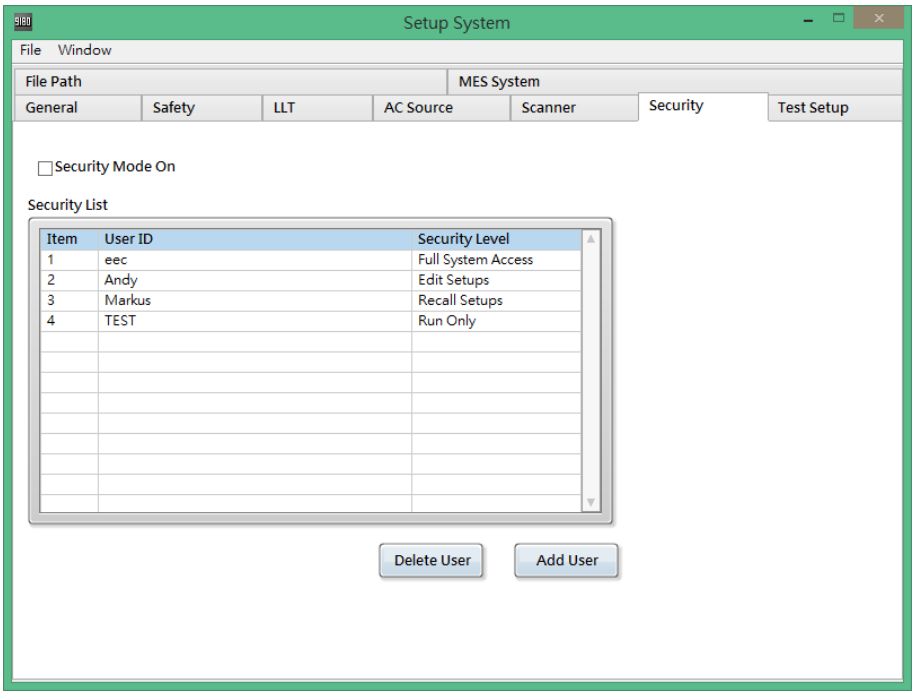
Set HV channel number and it can set be 1*8Port and 2*8Port, Please confirm with hardware configuration is the same or not

- GND Scanner

Set GND channel number and it can set be 1*8Port and 2*8Port, Please confirm with hardware configuration is the same or not

If parameter have any change, please save the files before exit, unless the setting parameters will not work
Save process: File→Save or File)→ Save & Close

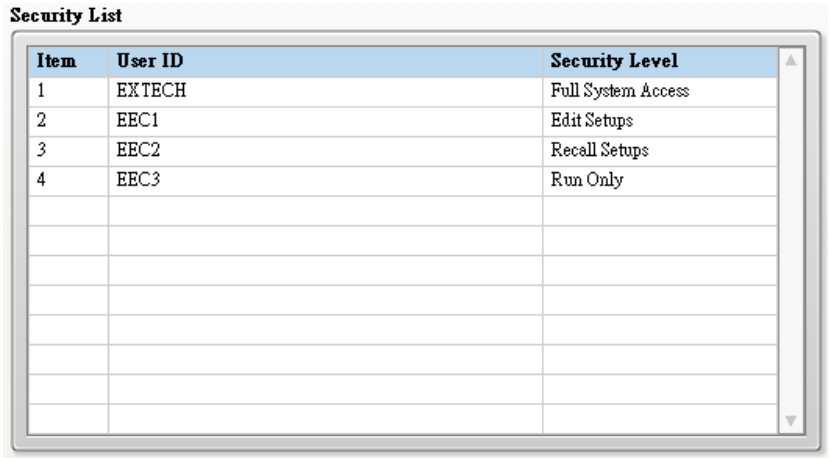
3.6 Security



- Security Mode On

When checked, namely into the security mode. When entering this system, the user needs to do the login action to execute the program.

Security List： this system has been set by the user name and access.



- Delete User

Select the User name and press the "Delete User" Delete selected User.

- Add User

Click on the "Add User", namely add the new User name.

Click on the "Add User”, the display will show as below

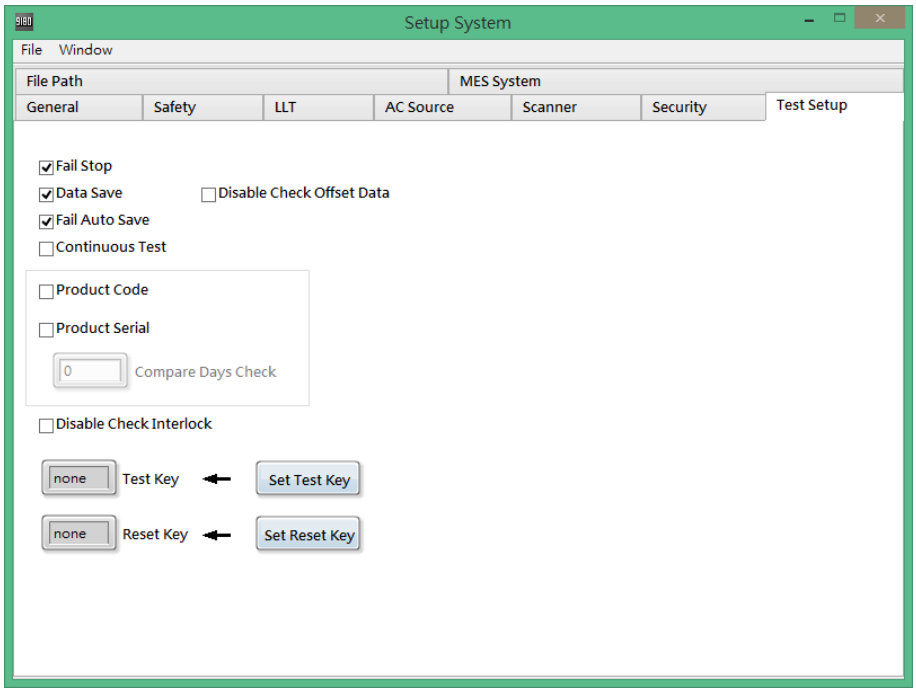
- User ID
- Password
- Password Confirmation
- Security Level
  1. Full System Access：the user has full access level to all function
  2. Edit Setups：the user can edit test parameters
  3. Recall Setups：the user can recall files and perform run test
  4. Run Only：The user can only initiate run test。

NOTE: if the system be used first time and in order to turn on the Security Mode, be sure that Security Level must have at least one Full System Access of User ID, and then others access will be permissions.

If parameter have any change, please save the files before exit, unless the setting parameters will not work

Save process: File→Save or File)→ Save & Close

3.7 Test Setup



- Fail Stop

This feature is mainly used for multiple test steps are connected into a test program. Tick this function, the TEST will stop testing when there is a test step of DUT is failure, if has not completed the TEST steps, intends to continue to finish the TEST, you can again according to the TEST switch, the TEST program will continue to carry out the unfinished TEST steps. If you press the RESET switch, and then according to the TEST switch, the TEST program will return to the first step, start testing; if not check this function, no matter whether failed in the test procedure steps, the program will continue to test on, until the entire test program is finished.

- Save Data

Whether the archive set test result. Check this function, the test result data will be stored.

- Fail Auto Save

Setting when test to the bad product and whether the test result is save or not.

Check this function, the bad product test results will be save

- Continuous Test

This function for the loop test, such as setting 4 test steps, system will be in accordance with the test step 1 and step 2, step 3 and step 4 back to test step 1, infinite loop testing, until the RESET will stop.

- Product Serial

If open this function in Perform Tests, after press the TEST, there will be pop up message window requires user input product serial number, after the completion of the input and it will Perform the TEST; If shut down this function in Perform Tests, it will immediately perform after the press TEST.

- Product Code

  If open this function in Perform Tests, after press the TEST, there will be pop up message window requires user input Product Code after the completion of the input and it will perform the TEST; If shut down this function in Perform Tests, it will immediately perform after the press TEST.

- First Fields

  After the Product Serial and Product Code both are open, this feature can be set, the field has a Code and the Serial two options, if choose Code, then when entering the test frame, system will ask the user to scan Code first and then the Serial number; If choose the Serial, when entering the test frame, system will ask the user to scan the Serial first, then sweep Code

  If the Product Serial or the Product Code of scanning function is open, after the test is over, the screen will display scan window again, waiting for user input bar Code, the system will automatically execute the test after input the number.

- Interlock (Disable Check Interlock)

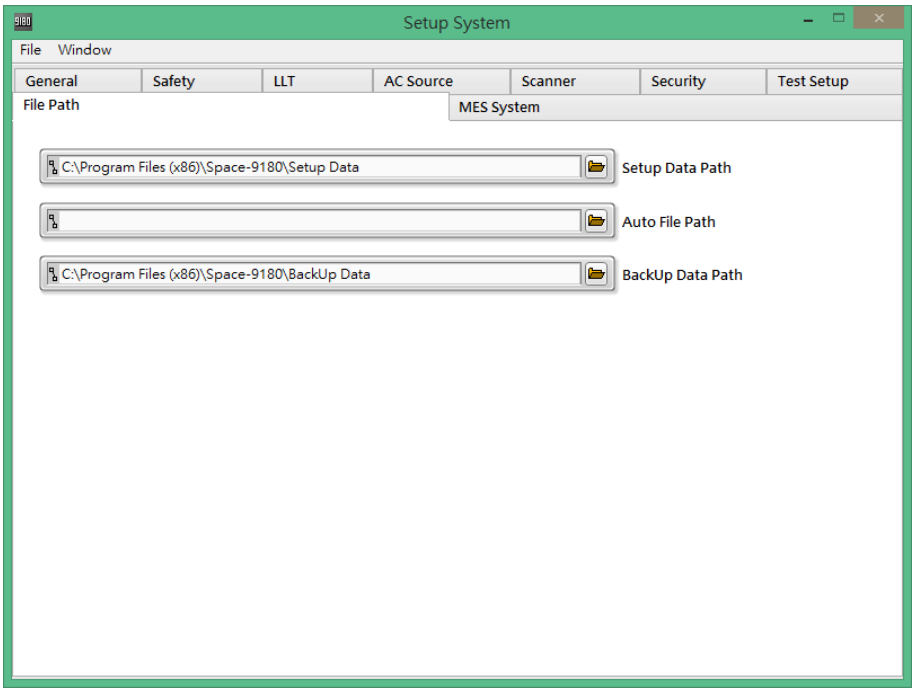
Before perform test, the system will detect the signal of Interlock, each time detection takes 100 ms,

If you will not remove the Interlock in the testing process ,this feature can be closed (tick), it can save the time you ask every time

If parameter have any change, please save the files before exit, unless the setting parameters will not work

Save process: File→Save or File)→ Save & Close

3.8 File Path



- Setup Data Path

Select test parameters data file path.

- Test Data Path

Select test date data file path.

- Auto File Path

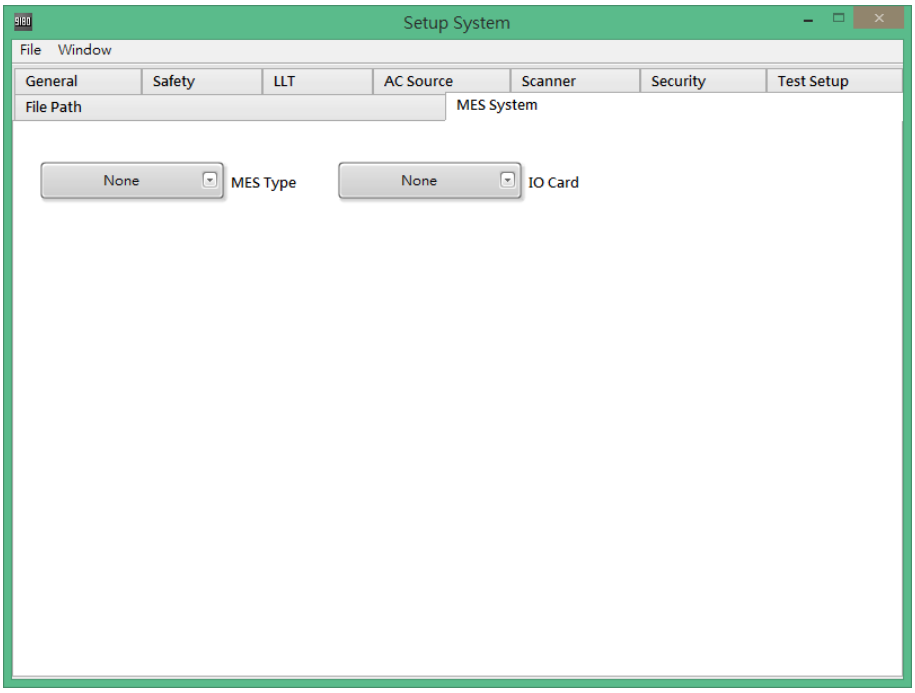
When entering the Perform Tests, the system will automatically load the specified test parameters file.

Note: when Security function is ON, before the Run Only identity login, the manager Full System Access identity must set this option. Because when the user of Run only login, it goes straight to the test frames, other options can't operate.

If parameter have any change, please save the files before exit, unless the setting parameters will not work

Save process: File→Save or File)→ Save & Close

3.9 MES System



- MES Type

Select MES system。

- IO Card

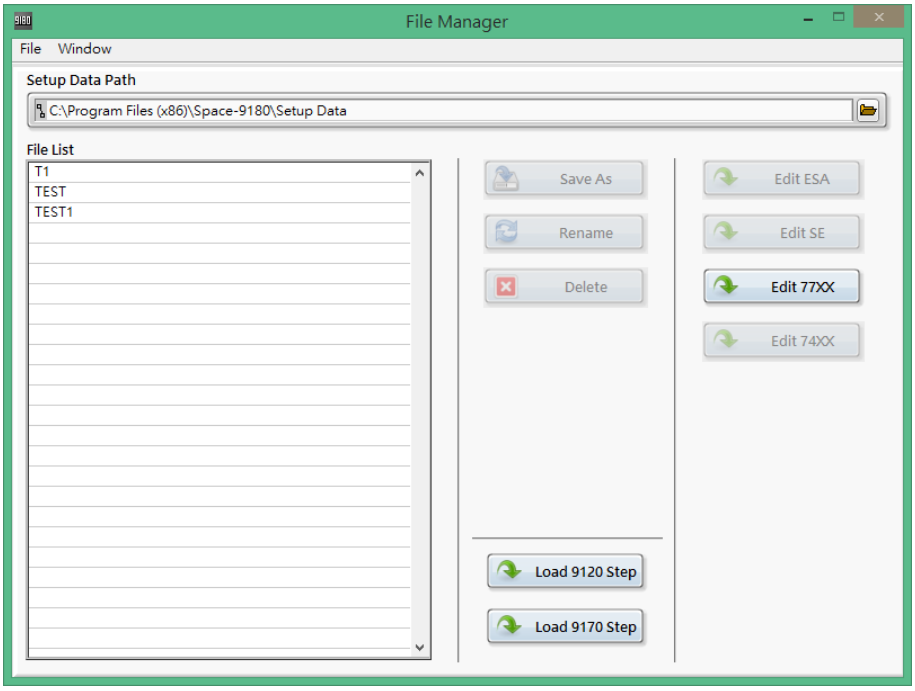
PCI-7230 and PCI-1761 can be selection

Note: this function should be provided by the customer, it can be to connect after revised.

If parameter have any change, please save the files before exit, unless the setting parameters will not work

Save process: File→Save or File)→ Save & Close

Chapter 4. File Manager



- Setup Data Path

Test parameter file access path

- File List

The file name set by users

- Save As

After click a file in the File List, click saves as, then a new File can be stored into the specified File name.

- Rename

After click on a File in the File list, Click rename this File can be changed to other names.

- Delete

After click on a File in the File list, After click on a File in the File list,Click

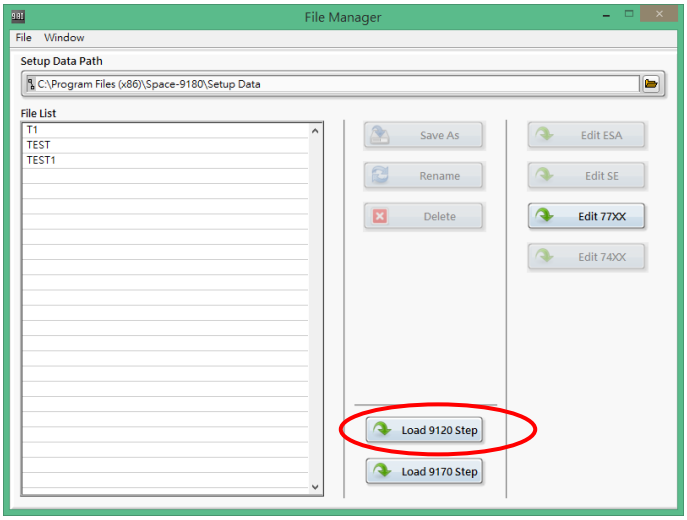
Delete ,then this file can be delete.

- Load 9120 Step

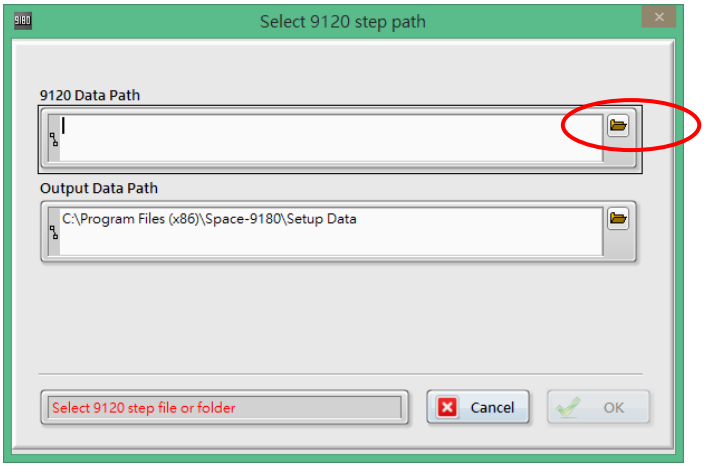
  If you use SPACE - 9120 before and set the related parameters in the computer, you can use this function to load parameters into SPACE - 9180 format, the user does not need to set parameters again.

  Operate Steps

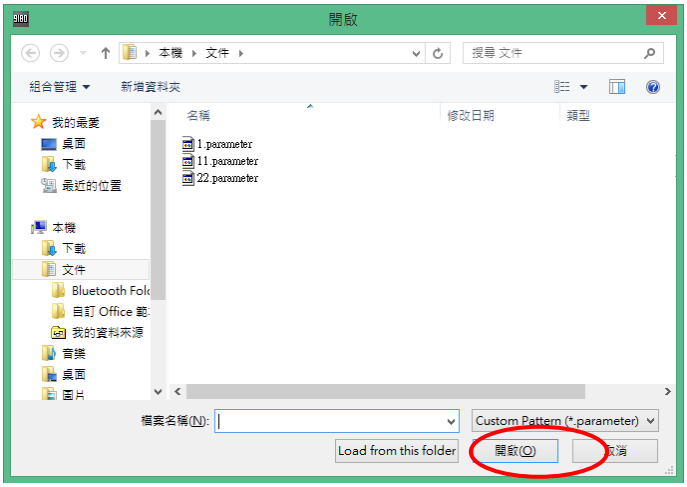
1. After Click on the Load 9120 Step, shown as follows



2. Click below location , then choose file path.

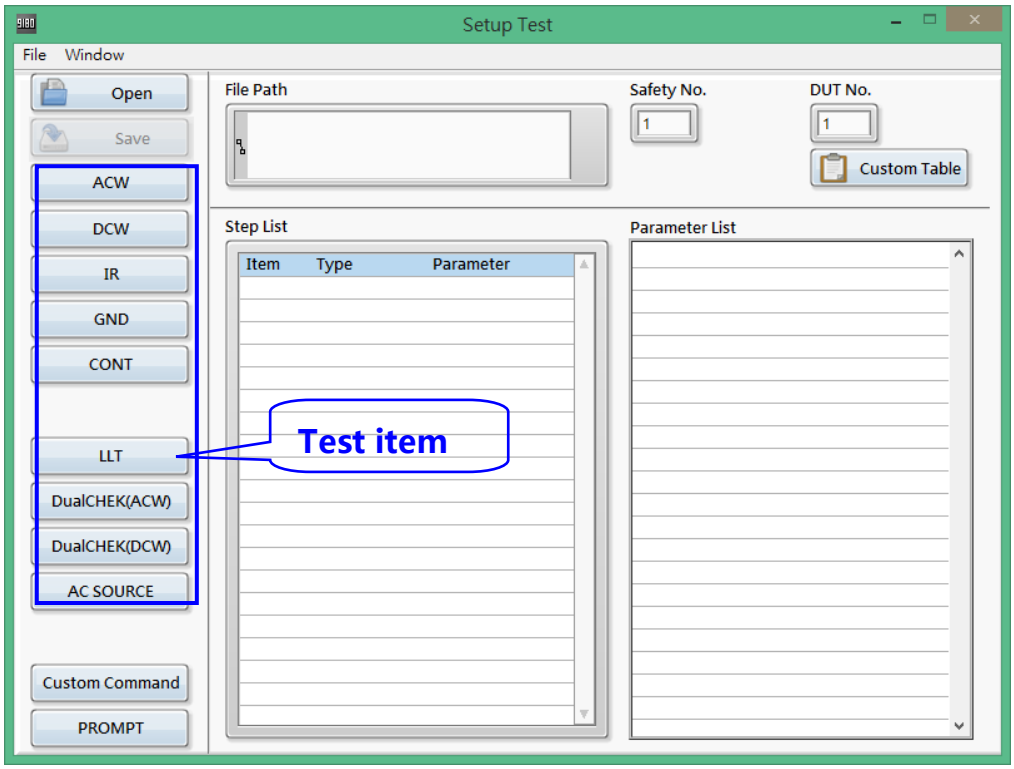


3. To determine the file path, and then press the confirmation key press open.



Chapter 5.Setup Test

Setup Test can let users set the parameters of the test data, and organize test sequence of steps.



- File path

Store the path of the test parameters.

- Safety No.

Set the number of Hipot tester, range: 0-4

- DUT No.

Set the number of DUT, range: 1-4

- Open

Open the parameters of the stored file and edit.

- Save

Save the file of edited

Note: save the file name is the the string of Product Code. If products need to scan the Product Code to be tested, please named the file name directly to the Product Code of the string when set a test parameter file, and Convenient to the subsequent setting and testing.

- Step List

Show the test item of every step

If you need to modify the test steps that have been established, please move the cursor to the testing step, and double-click the left of mouse, the system will open the editor window for this test step, modified and press OK, which can finish the modification.

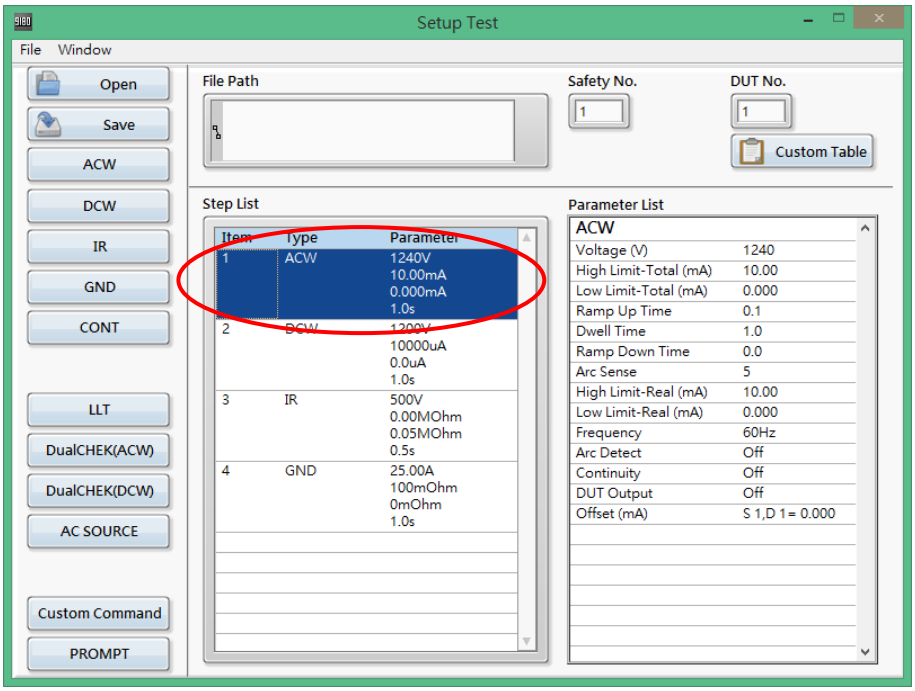
If you want to change the sequence of the test steps, please move the cursor to the testing step, click and drag the mouse to change and let go of then the change is completed.

If you want to delete the test steps that have been established, please move the cursor to the testing step, click and drag to Step List field outside the area, let go of the left; Or click to Delete the test steps, press the Delete key on the keyboard, the system will ask whether you want to Delete this test step, if you would like to Delete please click OK.

- Parameter List

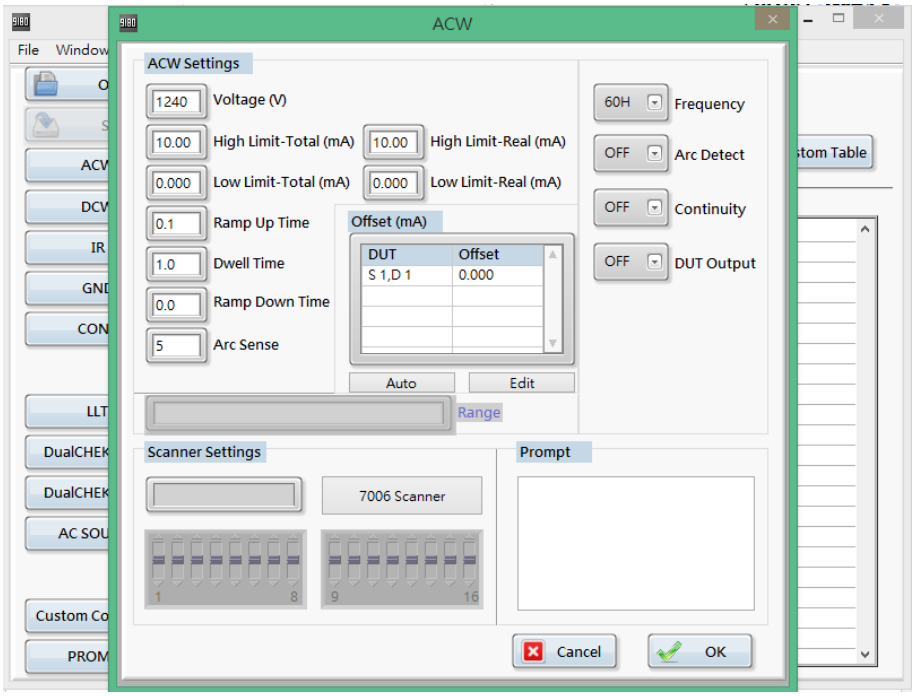
Click on any test steps of Step List, this field will display detail information of the testing steps.

If the parameters setting, move the cursor to the Step List to select a test Step, the following figure, will showed a full set of parameters in the Parameter List.


Setup Test
File Window
Open
Save
ACW
DCW
IR
GND
CONT
LLT
DualCHEK(ACW)
DualCHEK(DCW)
AC SOURCE
Custom Command
PROMPT
File Path
Safety No.
1
DUT No.
1
Custom Table
Step List
Item Type Parameter
1 ACW 1240V 10.00mA 0.000mA 1.0s
2 DCW 1200V 10000uA 0.0uA 1.0s
3 IR 500V 0.00MOhm 0.05MOhm 0.5s
4 GND 25.00A 100mOhm 0mOhm 1.0s
Parameter List
ACW
Voltage (V) 1240
High Limit-Total (mA) 10.00
Low Limit-Total (mA) 0.000
Ramp Up Time 0.1
Dwell Time 1.0
Ramp Down Time 0.0
Arc Sense 5
High Limit-Real (mA) 10.00
Low Limit-Real (mA) 0.000
Frequency 60Hz
Arc Detect Off
Continuity Off
DUT Output Off
Offset (mA) S 1,D 1= 0.000

5.1 ESA series

5.1.1 ACW



Voltage：output voltage setting

High Limit-Total：total leakage of high limit setting

Low Limit-Total： total leakage of low limit setting

Ramp Up Time：Ramp up time setting

Dwell Time：Test time setting

Ramp Down Time：Ramp down time setting

Arc Sense：Arc Detect level setting

High Limit-Real：Real leakage of high limit setting

Low Limit- Real：Real leakage of low limit setting

Offset： offset value setting

Auto：Automatic perform offset leakage value

Edit：Manually input offset leakage value

Range：the scope of the parameters setting

Frequency：setup output frequency

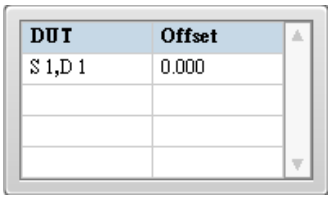
Arc Detect：Setup Arc Detect mode

Continuity：setup continuity test

DUT Output：DUT Output：L,N output of DUT of rear panel setting

Scanner Settings：Setup Scanner channel

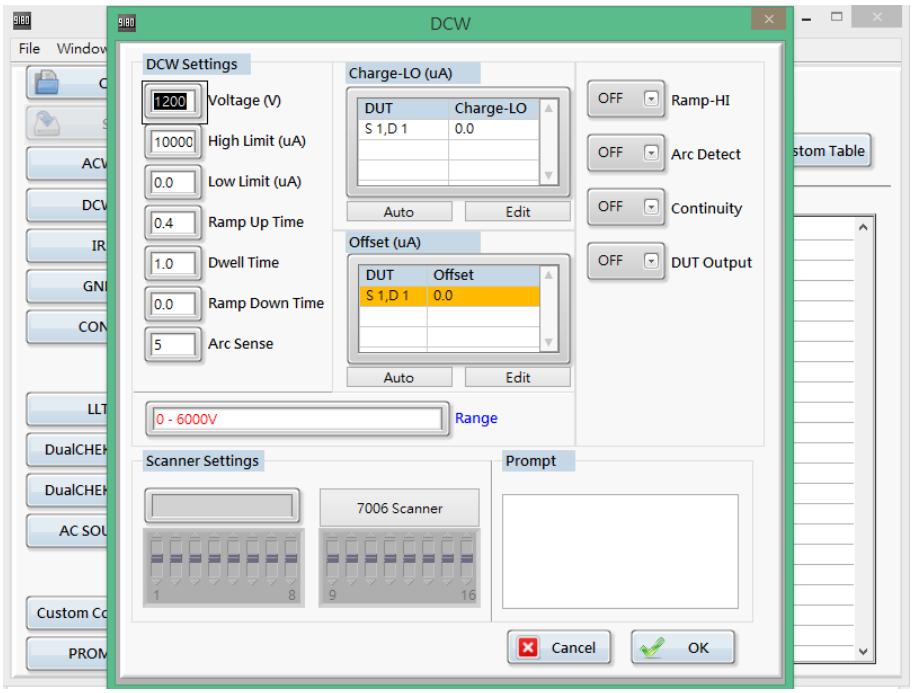
Prompt：Prompt information function



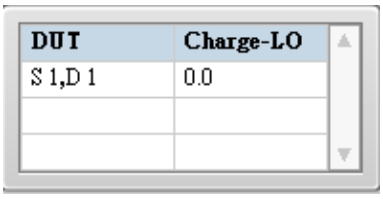
Above column S1, D1 field is mean the offset Value of the leakage current between safety tester 1 (Safety1) and(DUT1), when there connect multi safety tester or DUT at the same times, this column system will automatically increase the number.

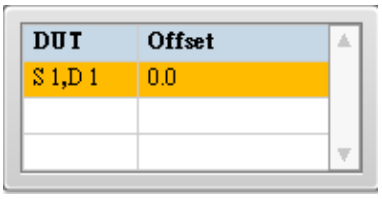
After finished setting, please click OK, the system will automatically store the parameters and exit.

5.1.2 DCW



Voltage：output voltage setting
High Limit：leakage of high limit setting
Low Limit：leakage of low limit setting
Ramp Up Time：Ramp up time setting
Dwell Time：Test time setting
Ramp Down Time：Ramp down time setting
Arc Sense：Arc Detect level Setting
Charge-LO：Charge-LO setting
Auto：Automatic setup Charge-LO
Edit：Manually setup Charge-LO
Offset：offset value setting
Auto：Automatic perform offset leakage value
Edit：Manually input offset leakage value Range：the scope of the parameters setting
Ramp-HI：Setup Ramp-hi mode
Arc Detect：Setup Arc-Detect mode
Continuity：setup continuity test mode
DUT Output：L,N output of DUT of rear panel setting
Scanner Settings：Setup Scanner channel
Prompt：Prompt information function

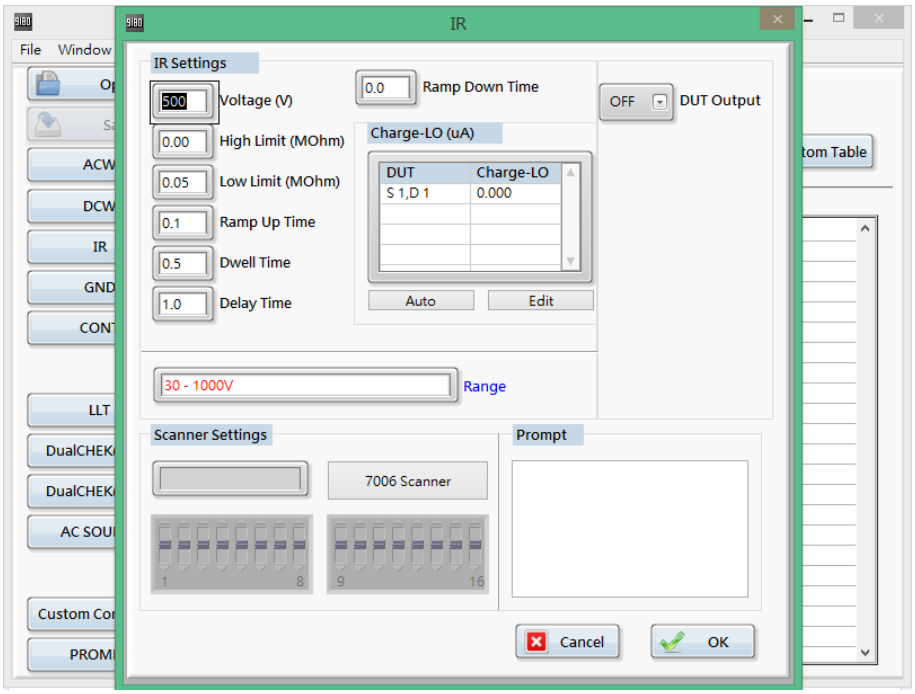




Above column S1, D1 field are mean the offset Value of the leakage current and Charge_LO value between safety tester 1 (Safety1) and(DUT1), when there connect multi safety tester or DUT at the same times, this column system will automatically increase the number.

After finished setting, please click OK, the system will automatically store the parameters and exit.

5.1.3 IR



Voltage：setup output voltage

High Limit：setup IR of High limit

Low Limit：setup IR of Low limit

Ramp Up Time：Ramp up time setting

Dwell Time：Test time setting

Delay Time：Delay time setting

Ramp Down Time：Ramp down time setting

Charge LO：Charge-LO setting

Auto：Automatic setup Charge-LO

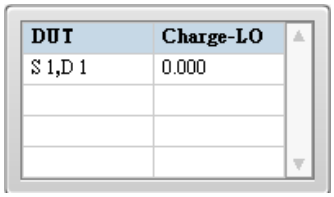
Edit: Manually setup Charge-LO

Range：the scope of the parameters setting

DUT Output：L,N output of DUT of rear panel setting

Scanner Settings：Setup Scanner channel

Prompt：Prompt information function

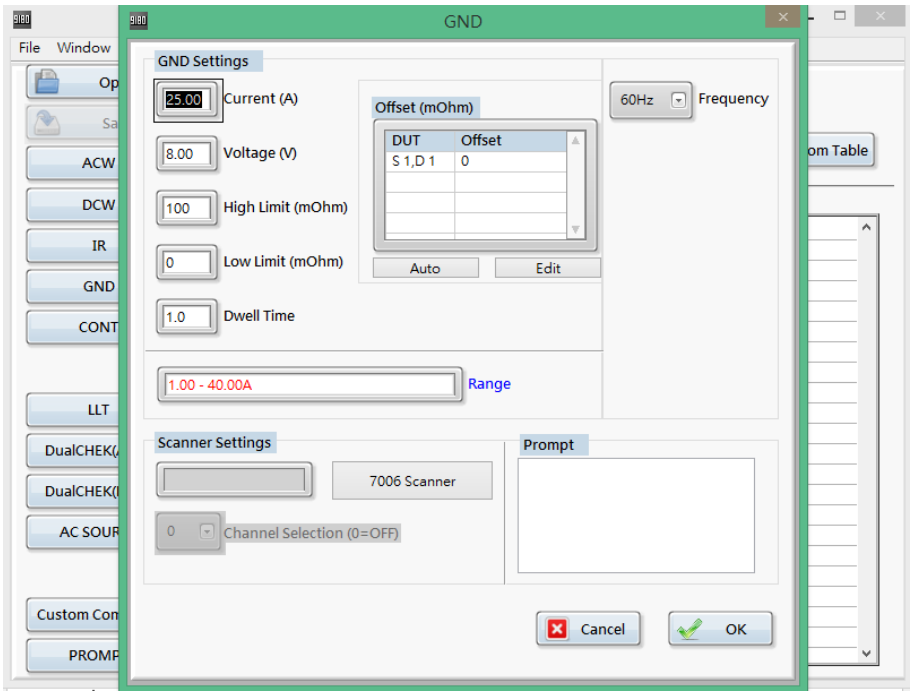


Above column S1, D1 field are mean Charge_LO value between safety tester 1 (Safety1) and (DUT1), when there connect multi safety tester or DUT at the

same times, this column system will automatically increase the number.

After finished setting, please click OK, the system will automatically store the parameters and exit.

5.1.4 GND



Current：setup output current

Voltage：setup output voltage

High Limit：setup impedance of high limit

Low Limit：setup impedance of low limit

Dwell Time: Test time setting

Offset：offset value setting

Auto：Automatic perform offset value

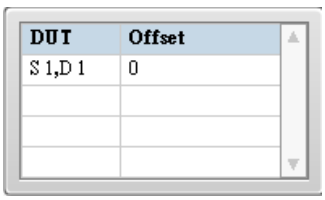
Edit：Manually input offset value

Range：the scope of the parameters setting

Frequency：setup output frequency

Scanner Settings：Setup Scanner channel

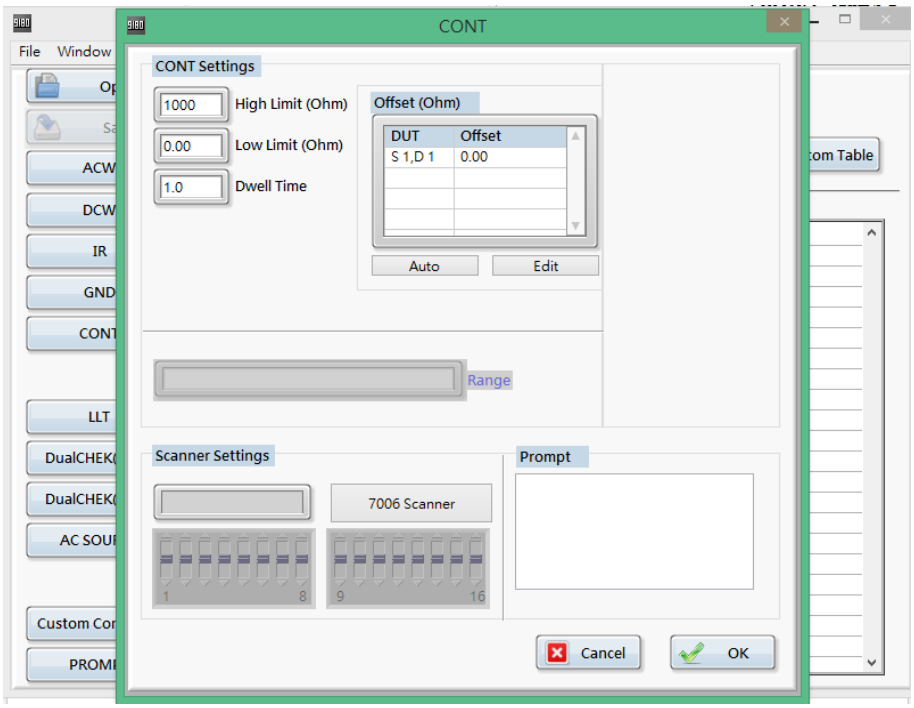
Prompt：setup prompt information function



Above column S1, D1 field are mean the offset Value of test cable between safety tester 1 (Safety1) and(DUT1), when there connect multi safety tester or DUT at the same times, this column system will automatically increase the number.

After finished setting, please click OK, the system will automatically store the parameters and exit.

5.1.5 DC Continuity



High Limit：setup impedance of high limit

Low Limit：setup impedance of low limit

Dwell Time：Test time setting

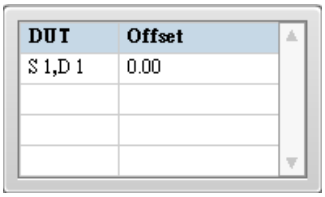
Offset：offset value setting

Auto：Automatic perform offset value

Edit：Manually input offset value

Range：the scope of the parameters setting

Prompt：Prompt information function

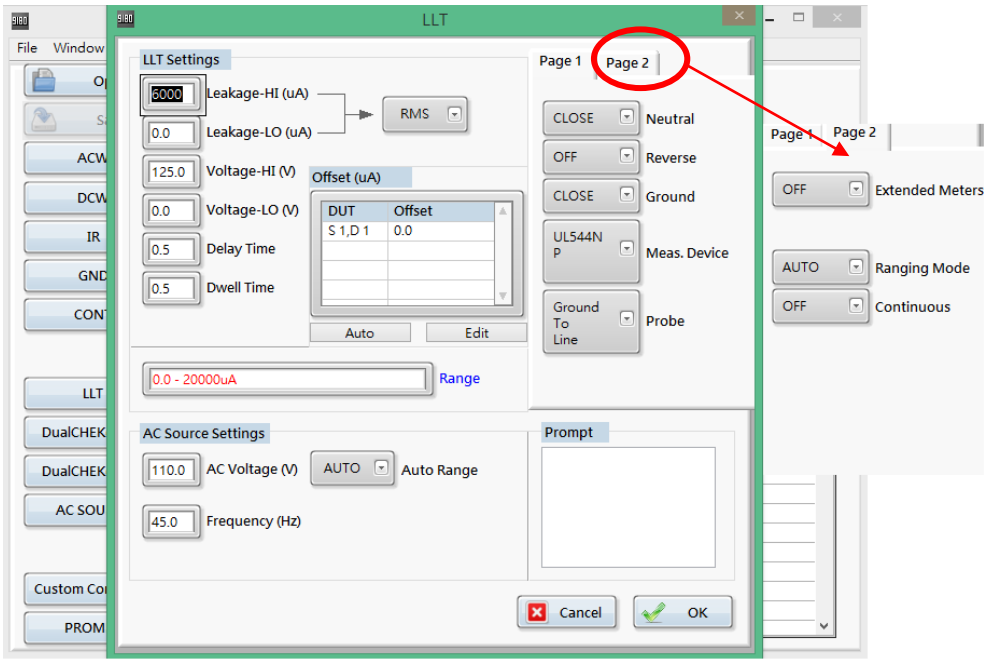


Above column S1, D1 field are mean the offset Value of test cable between safety tester 1 (Safety1) and(DUT1), when there connect multi safety tester or DUT at the same times, this column system will automatically increase the number.

After finished setting, please click OK, the system will automatically store the

parameters and exit.

5.1.6 LLT



Leakage-HI (uA)：Leakage High limit setting

Leakage-LO (uA)：Leakage low limit setting

Voltage-HI (V)：Voltage High Limit setting

Voltage-LO (V)：Voltage low Limit setting

Dwell Time：Test time setting

Delay Time：Delay time setting

Offset (uA)：Line leakage offset

Auto：Automatic perform offset value

Edit：Manually input offset value

Neutral：The working state of power supply of DUT

Reverse：The working state of power supply of DUT

Ground：The working state of power supply of DUT

Meas.Device：Human body impedance setting

Probe：Test type setting

Continuous：setup DUT Power continuous output

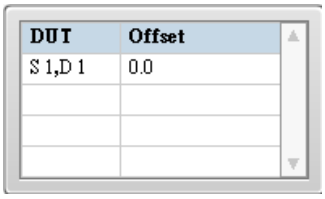
Ranging Mode：Automatic shift setting

Range：the scope of the parameters setting

Prompt：Prompt information function

AC Source Settings：

AC Voltage：output voltage setting Auto Range：Voltage gears setting
Frequency：out frequency setting Output N/G：Setup neutral/Ground
A-HI：current of high limit setting short or open
OC-Fold：Over current fold Settings

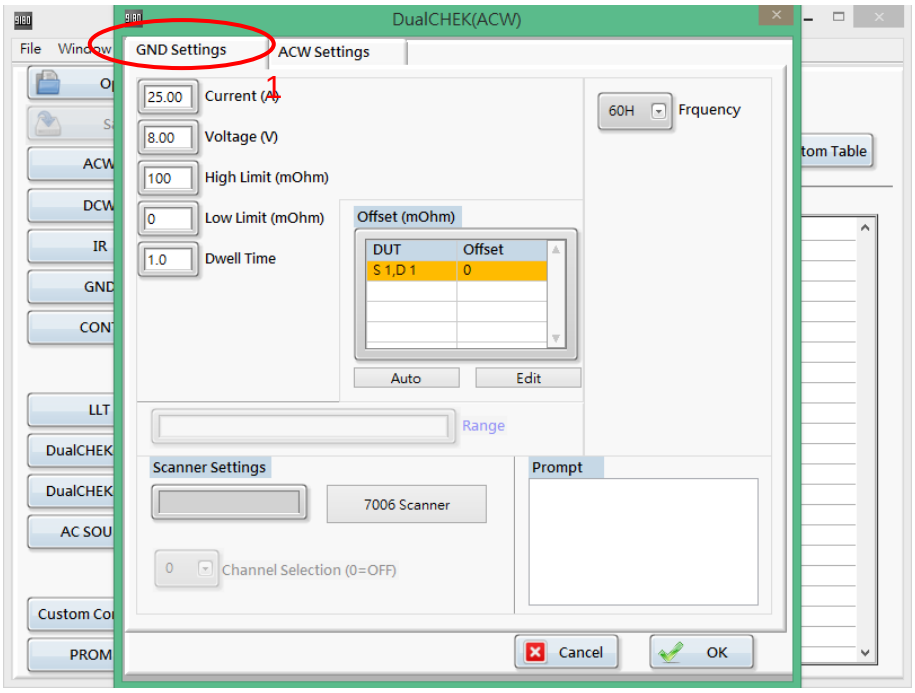


Above column S1, D1 field is mean the offset Value of the line leakage current between safety tester 1 (Safety1) and(DUT1), when there connect multi safety tester or DUT at the same times, this column system will automatically increase the number.

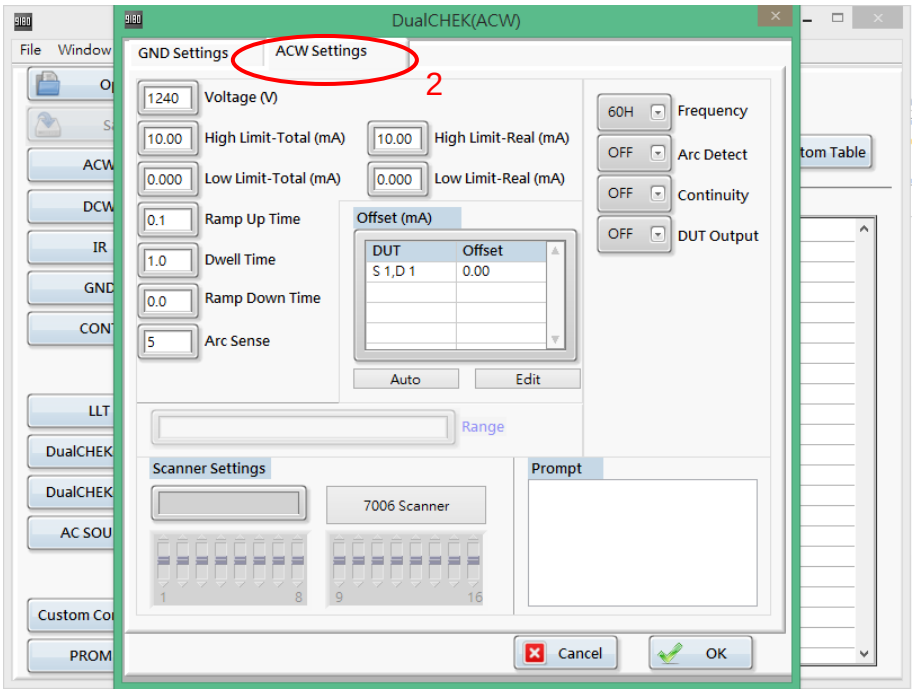
After finished setting, please click OK, the system will automatically store the parameters and exit.

5.1.7 DualCHEK (ACW)

1. GND setting：Please refer to 5.1.4 GND setting

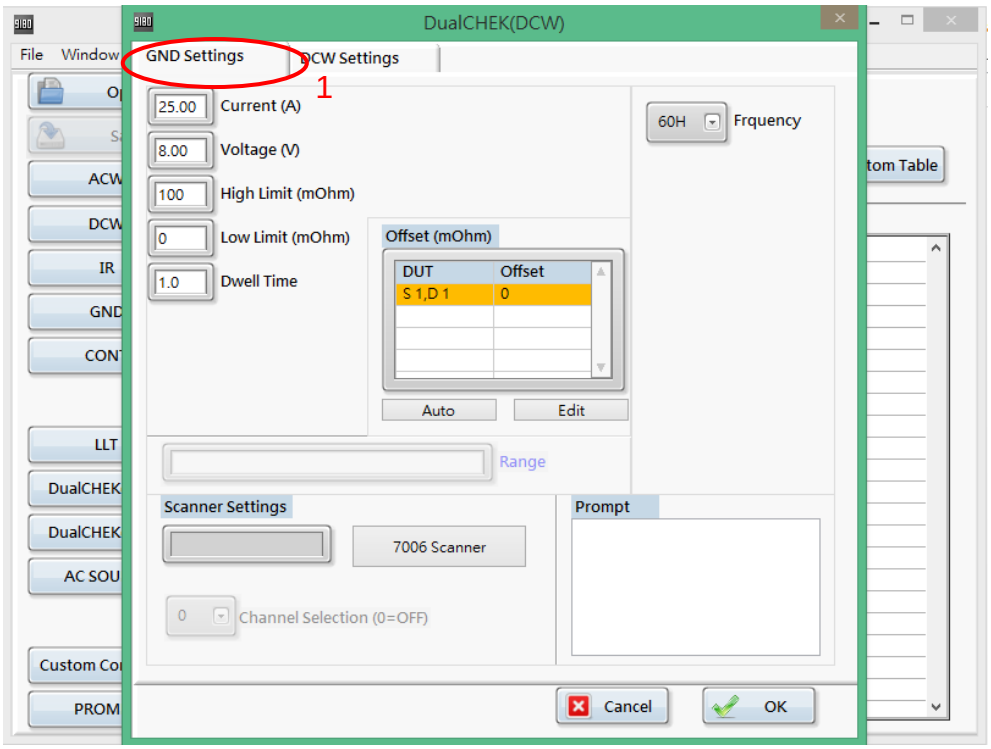


2. ACW setting：Please refer to 5.1.1 ACW setting

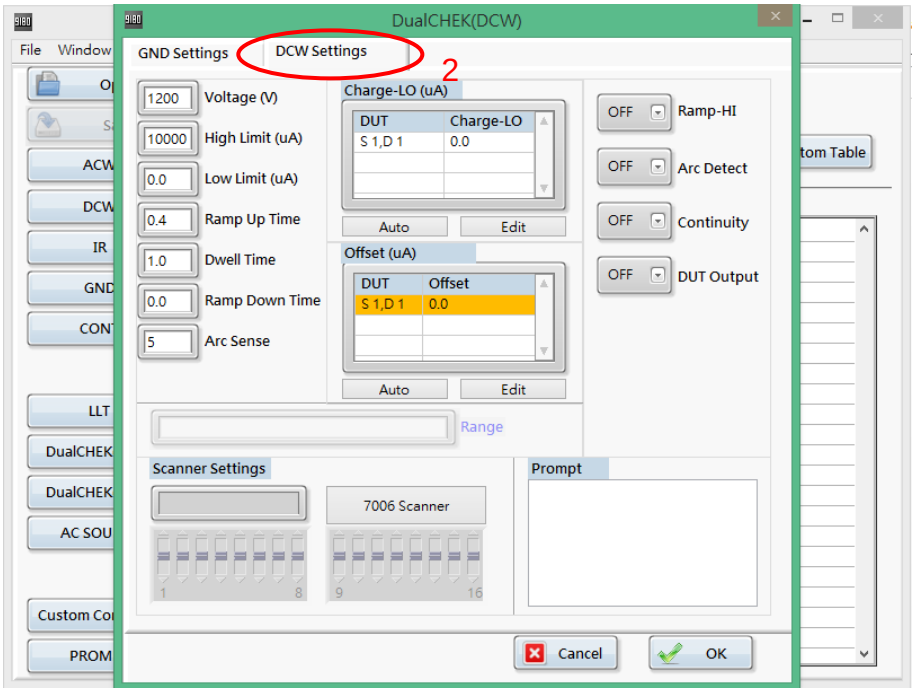


5.1.8 DualCHEK (DCW)

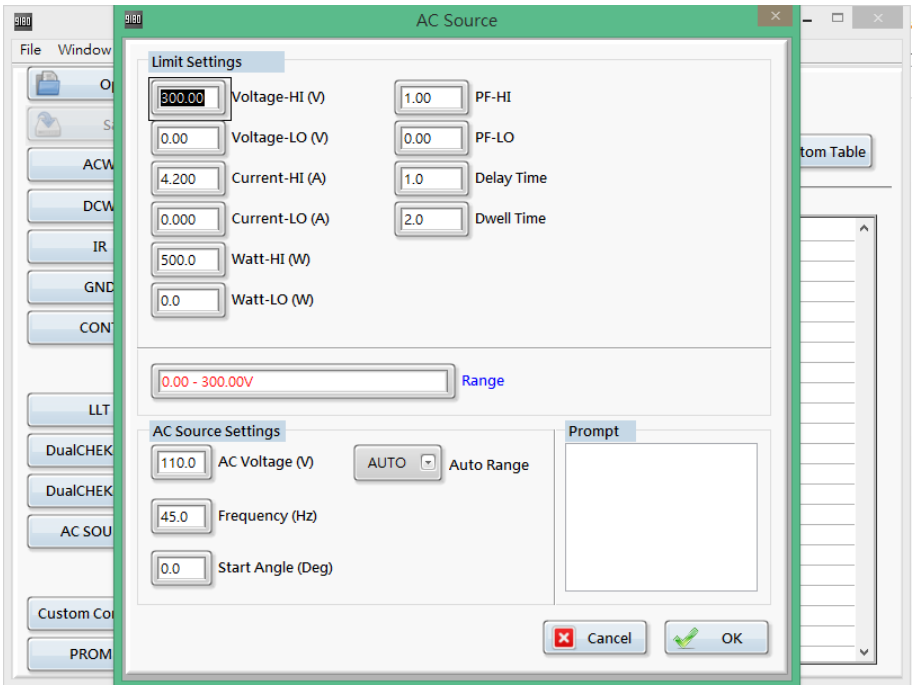
1. GND setting：Please refer to 5.1.4 GND setting



2. DCW setting：Please refer to 5.1.2 DCW setting



5.1.9 AC Source



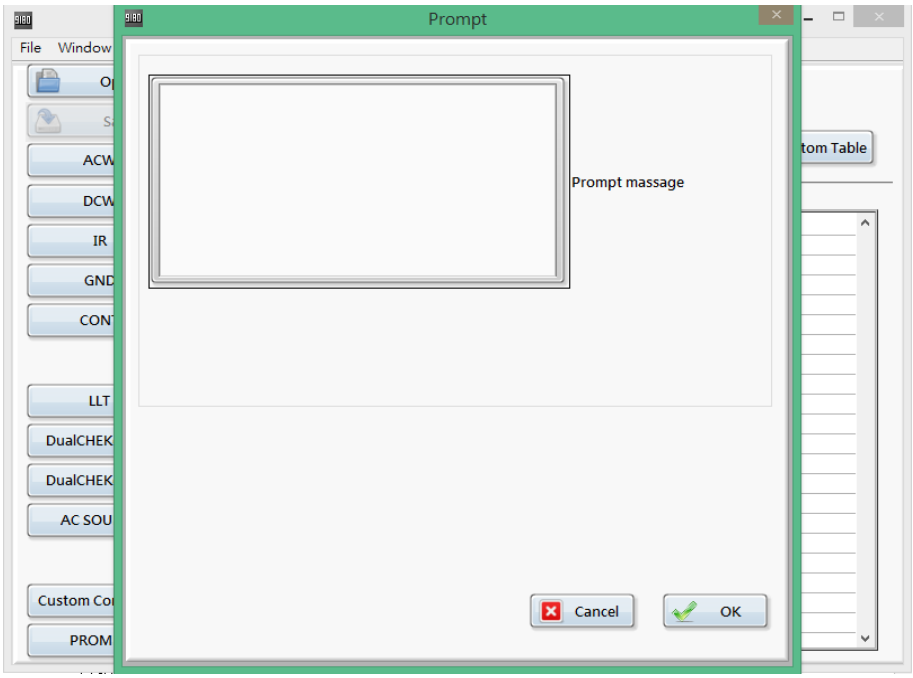
Voltage-HI (V) : voltage of high limit
Voltage-LO (V) : Setup voltage of low limit
Amp-HI (A) : setup high Leakage Current
Amp-LO (A) : setup low Leakage Current
Dwell Time : setup test time
Delay Time : setup delay time
Leakage-HI (mA) : Setup high line Leakage Current
Leakage -LO (mA) : Setup low line Leakage Current
Power-HI (W) : setup Power of high limit
Power-LO (W) : setup Power of low limit
PF-HI : setup Power Factor of high limit
PF-LO : setup Power Factor of low limit
Range : the scope of the parameters setting
Continuous : setup DUT Power continuous output
Prompt : Prompt information function

AC Source Settings：

AC Voltage：output voltage setting
Frequency：out frequency setting
A-HI：current of high limit setting
Auto Range：Voltage gears setting
Output N/G：Setup neutral/Ground short or open
OC-Fold：Over current fold Settings

After finished setting, please click OK, the system will automatically store the parameters and exit.

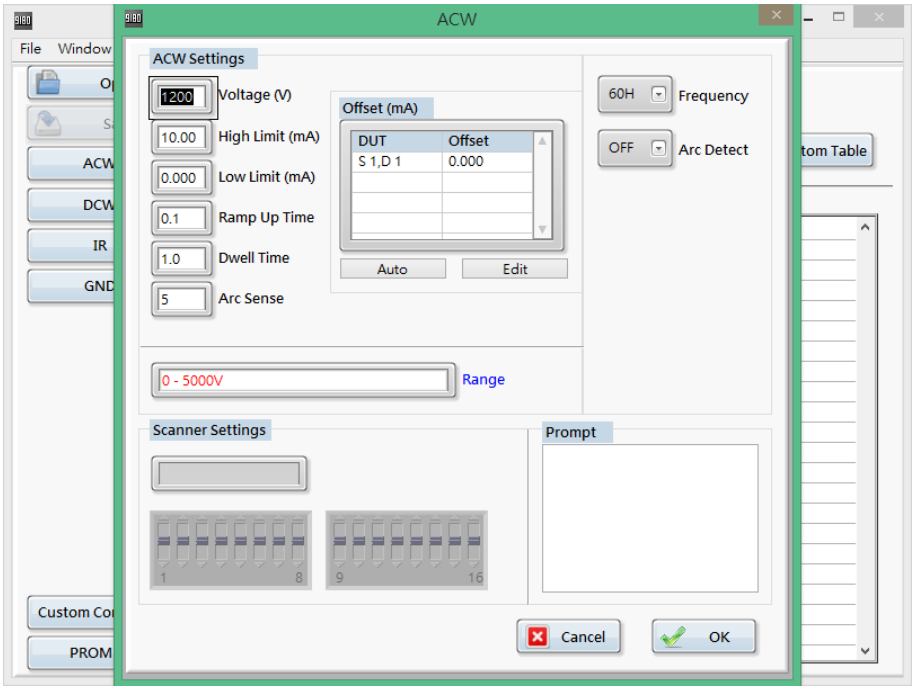
5.1.10 Prompt



To display information that can be input in this field, when the test to this step, the screen will pop up message window as a reminder.

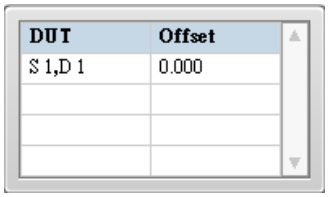
5.2 74XX Series

5.2.1 ACW



Voltage：setup output voltage
High Limit：setup leakage of high limit
Low Limit：setup leakage of low limit
Ramp Up Time：setup ramp up time
Dwell Time：setup test time
Ramp Down Time：setup ramp down time
Arc Sense：setup Arc Detect level
Offset：offset value setting

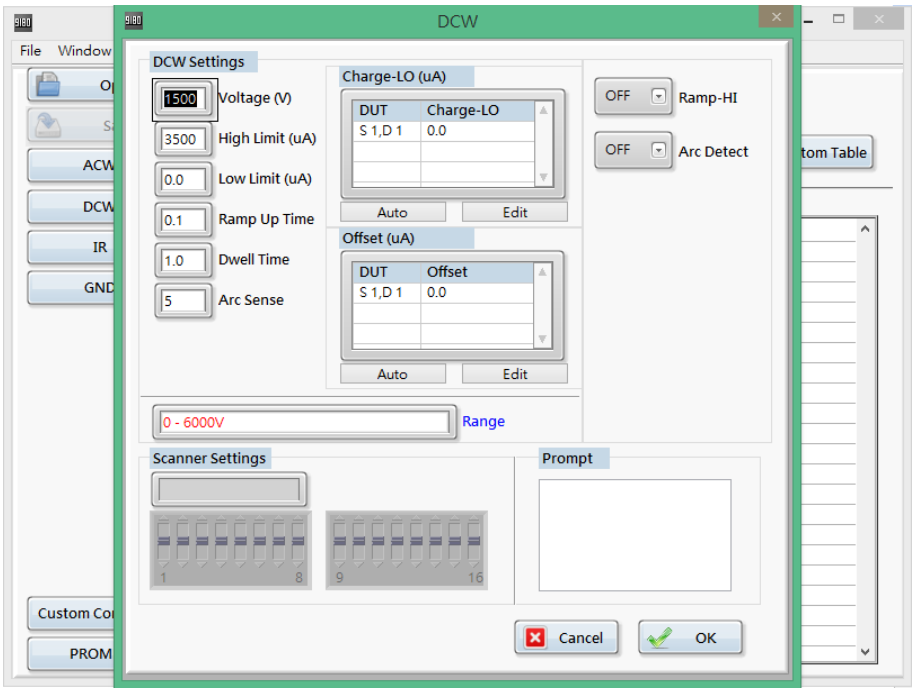
Auto：Automatic perform offset leakage value
Edit：Manually input offset leakage value
Range：the scope of the parameters setting
Frequency：setup output frequency
Arc Detect：Setup Arc Detect mode
Scanner Settings：Setup Scanner channel



Above column S1, D1 field is mean the offset Value of the leakage current between safety tester 1 (Safety1) and(DUT1), when there connect multi safety tester or DUT at the same times, this column system will automatically increase the number.

After finished setting, please click OK, the system will automatically store the parameters and exit.

5.2.2 DCW



Voltage：setup output voltage

High Limit：setup leakage of high limit

Low Limit：setup leakage of low limit

Ramp Up Time：setup ramp up time

Dwell Time：setup test time

Arc Sense：setup Arc Detect level

Charge-LO：Charge-LO setting

Auto：Automatic charge-LO

Edit：Manually setup Charge-LO

Offset：Offset：offset value setting

Auto：Automatic perform offset leakage value

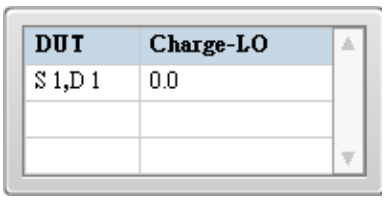
Edit：Manually input offset leakage value

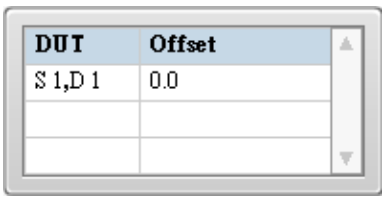
Range：the scope of the parameters setting

Ramp-HI：Setup Ramp-hi mode

Arc Detect：Setup Arc-Detect mode

Scanner Settings：Setup Scanner channel

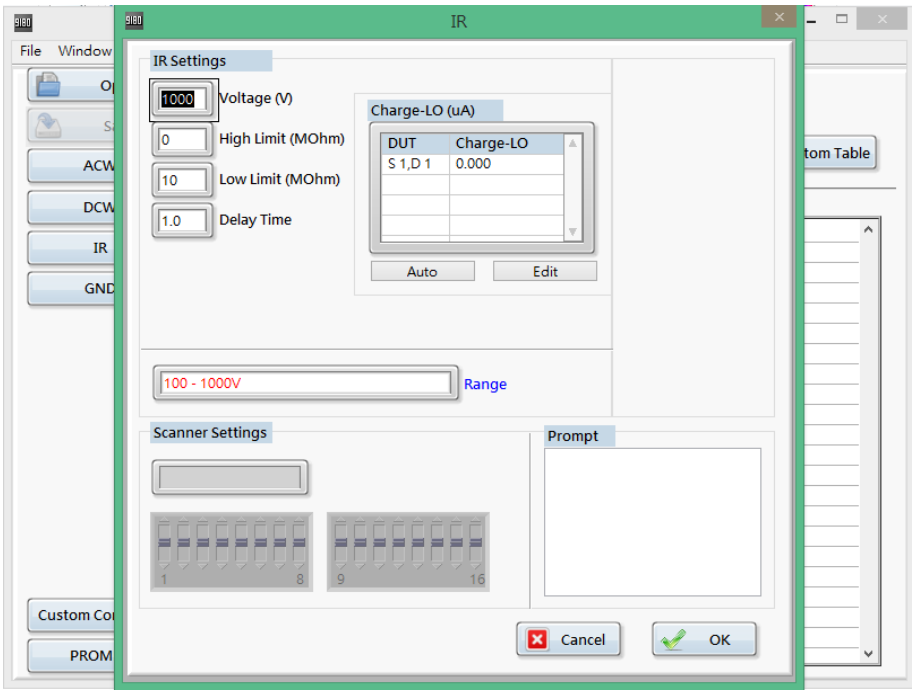




Above column S1, D1 field are mean the offset Value of the leakage current and Charge_LO value between safety tester 1 (Safety1) and(DUT1), when there connect multi safety tester or DUT at the same times, this column system will automatically increase the number.

After finished setting, please click OK, the system will automatically store the parameters and exit.

5.2.3 IR



Voltage：setup output voltage

High Limit：setup IR of High limit

Low Limit：setup IR of Low limit

Ramp Up Time：setup ramp up time

Delay Time：setup Delay time

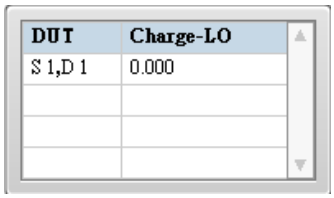
Charge LO：setup leakage of charge_LO

Auto：Automatic setup leakage of charge LO

Edit: Manually input leakage of charge_Lo

Range：the scope of the parameters setting

Scanner Settings：Setup Scanner channel

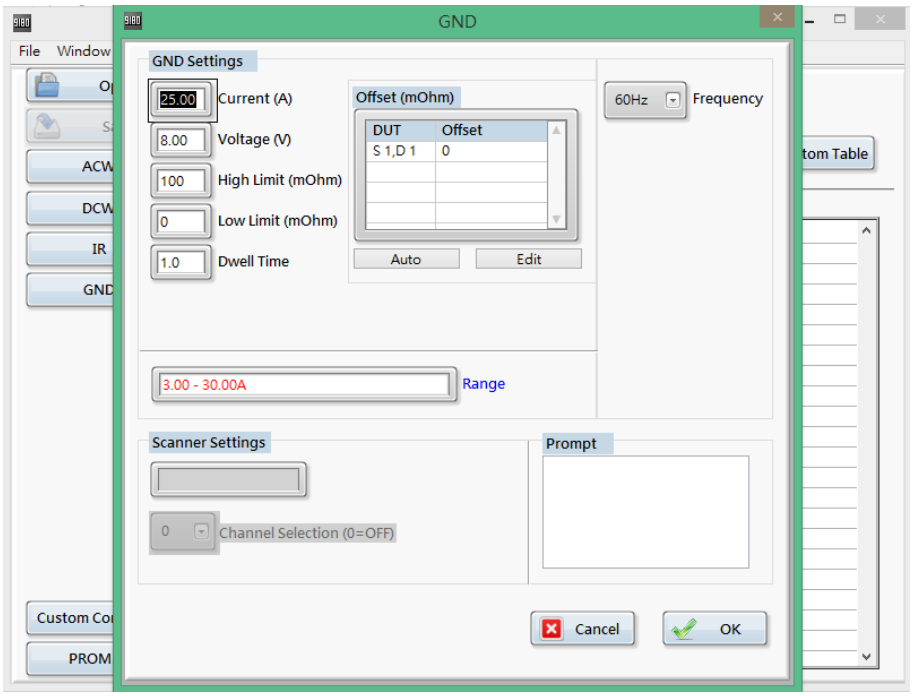


Above column S1, D1 field are mean Charge_LO value between safety tester 1 (Safety1) and (DUT1), when there connect multi safety tester or DUT at the

same times, this column system will automatically increase the number.

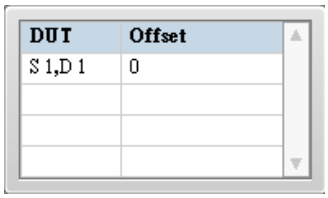
After finished setting, please click OK, the system will automatically store the parameters and exit.

5.2.4 GND (7440、7452 Only)



Current：setup output current
Voltage：setup output voltage
High Limit：setup impedance of high limit
Low Limit：setup impedance of low limit
Dwell Time：setup test time
Offset：Offset：offset value setting

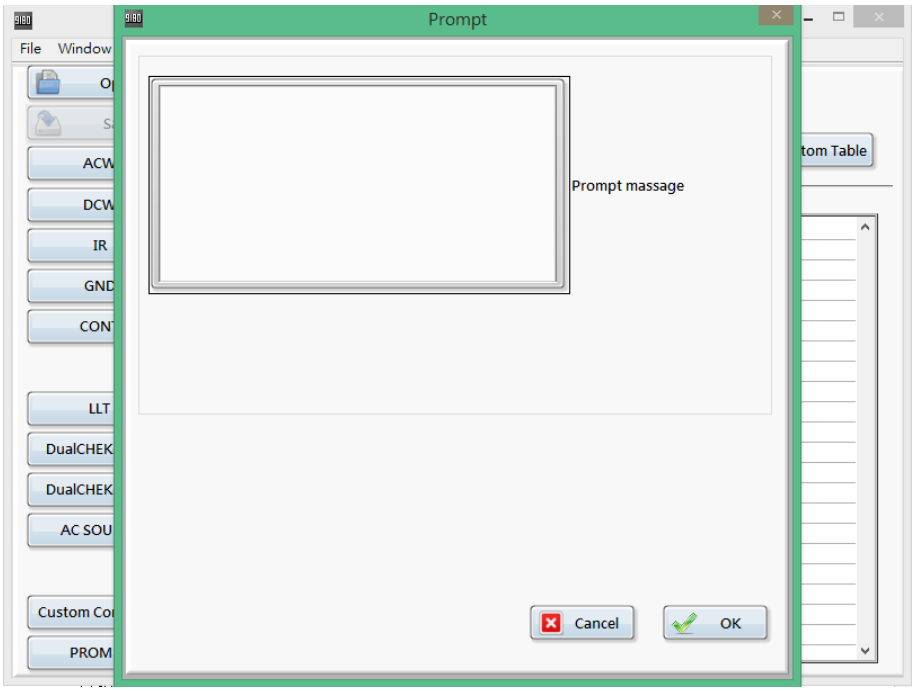
Auto：Automatic perform offset value
Edit：Manually input offset value
Range：the scope of the parameters setting
Frequency：setup output frequency
Scanner Settings：Setup Scanner channel



Above column S1, D1 field are mean offset value of test cable between safety tester 1 (Safety1) and(DUT1), when there connect multi safety tester or DUT at the same times, this column system will automatically increase the number.

After finished setting, please click OK, the system will automatically store the parameters and exit.

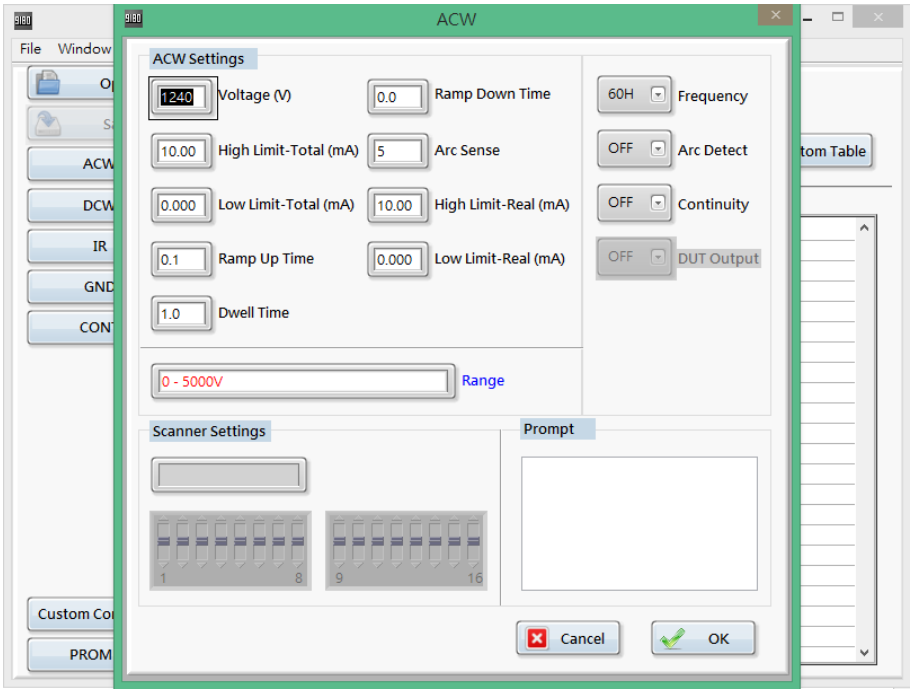
5.2.5 Prompt



To display information that can be input in this field, when the test to this step, the screen will pop up message window as a reminder.

5.3 77XX Series

5.3.1ACW

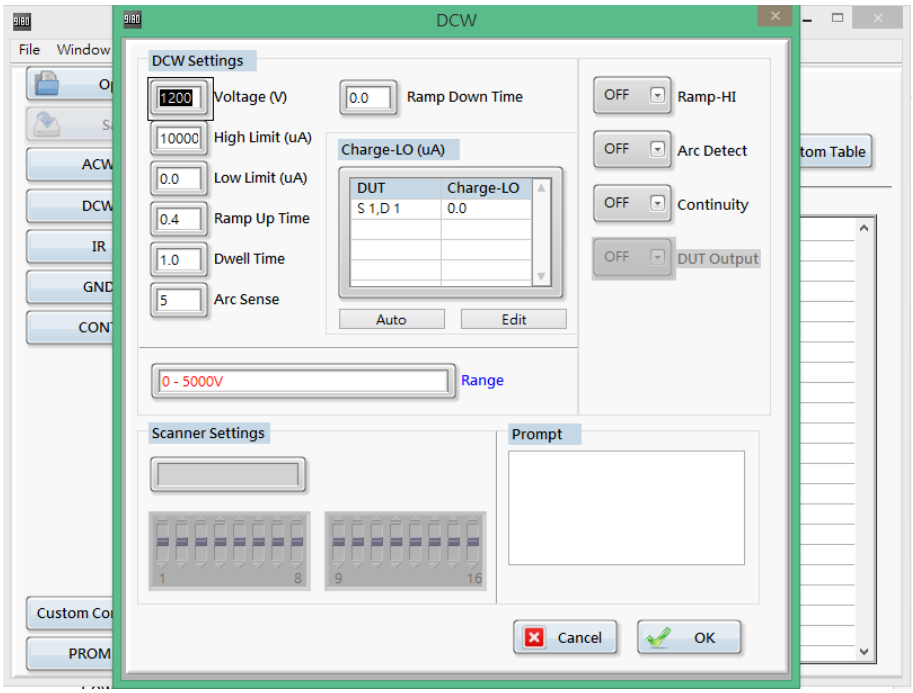


Voltage：setup output voltage
High Limit-Total：Total leakage of high limit setting
Low Limit-Total：Total leakage of low limit setting
Ramp Up Time：Ramp up time setting
Dwell Time：Test time setting
Ramp Down Time：Ramp down time setting
Arc Sense：Arc Detect level setting
High Limit-Real：Real leakage of high limit setting
Low Limit- Real：Real leakage of low limit setting
Range：the scope of the parameters setting
Frequency：setup output frequency
Arc Detect：Arc Detect setting
Continuity：setup continuity test
DUT Output：DUT output of rear panel setting
Scanner Settings：Setup Scanner channel
Prompt：Prompt information function

After finished setting, please click OK, the system will automatically store the

parameters and exit.

5.3.2 DCW



Voltage：setup output voltage

High Limit：setup leakage of high limit

Low Limit：setup leakage of low limit

Ramp Up Time：setup ramp up time

Dwell Time：setup test time

Ramp Down Time：setup ramp down time

Arc Sense：Arc Detect level setting

Charge-LO：Charge-LO setting

Auto：Automatic setup charge-LO

Edit：Manually setup Charge-LO

Range：the scope of the parameters setting

Ramp-HI：Setup Ramp-hi mode

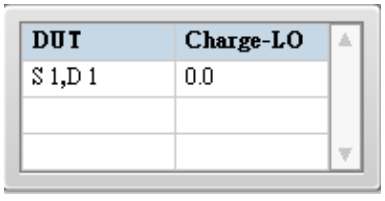
Arc Detect：Arc-Detect mode setting

Continuity：setup continuity test mode

DUT Output：setup L,N out of DUT of rear panel

Scanner Settings：Setup Scanner channel

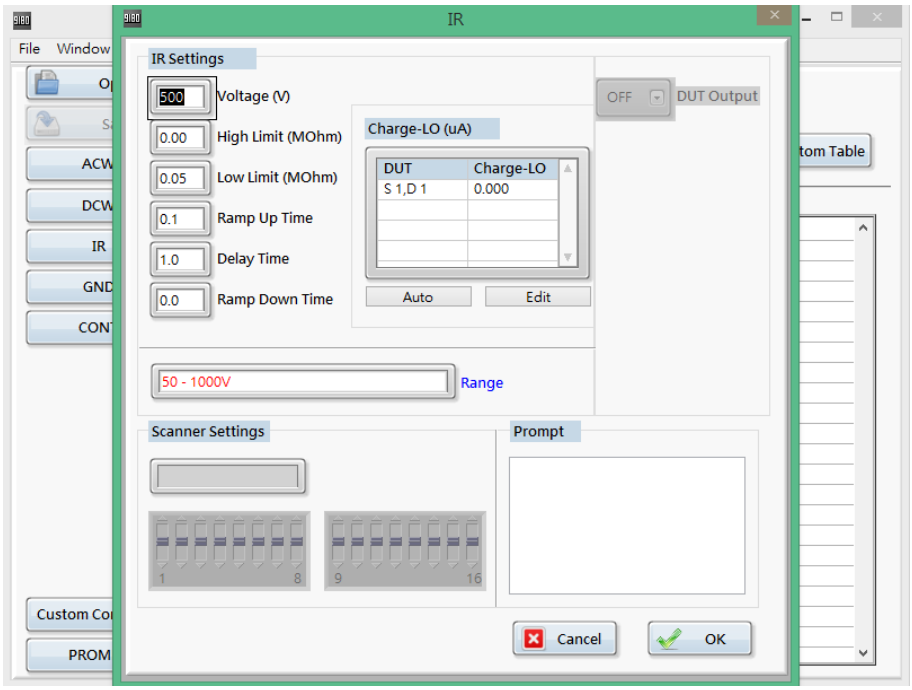
Prompt：Prompt information function



Above column S1, D1 field are mean the offset Value of the leakage current and Charge-LO value between safety tester 1 (Safety1) and(DUT1), when there connect multi safety tester or DUT at the same times, this column system will automatically increase the number.

After finished setting, please click OK, the system will automatically store the parameters and exit.

5.3.3IR



Voltage：setup output voltage

High Limit：setup IR of High limit

Low Limit：setup IR of Low limit

Ramp Up Time：setup ramp up time

Delay Time：setup Delay time

Ramp Down Time：setup Ramp down time

Charge LO：Charge-LO setting

Auto：Automatic setup Charge-LO

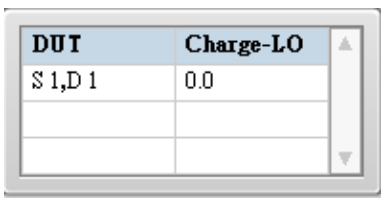
Edit: Manually setup Charge-LO

Range：the scope of the parameters setting

DUT Output：setup L,N out of DUT of rear panel

Scanner Settings：Setup Scanner channel

Prompt：Prompt information function

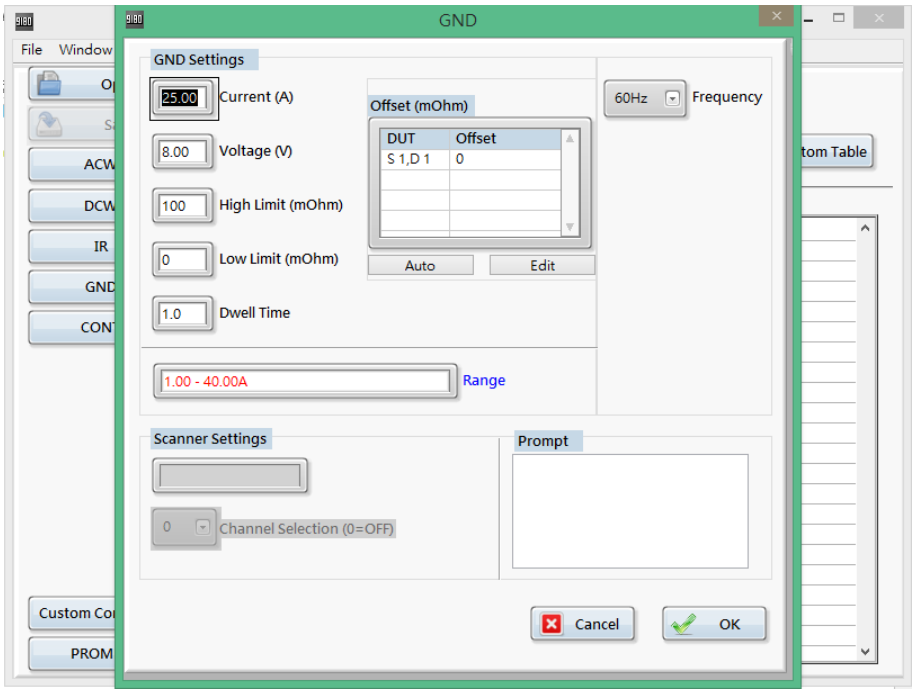


Above column S1, D1 field are mean the offset Value of the leakage current

and Charge-LO value between safety tester 1 (Safety1) and(DUT1), when there connect multi safety tester or DUT at the same times, this column system will automatically increase the number.

After finished setting, please click OK, the system will automatically store the parameters and exit.

5.3.4GND



Current：setup output current

Voltage：setup output voltage

High Limit：setup impedance of high limit

Low Limit：setup impedance of low limit

Dwell Time：Test time setting

Offset：offset value setting

Auto：Automatic perform offset value

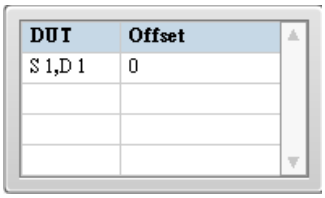
Edit：Manually input offset value

Range：the scope of the parameters setting

Frequency：setup output frequency

Scanner Settings：Setup Scanner channel

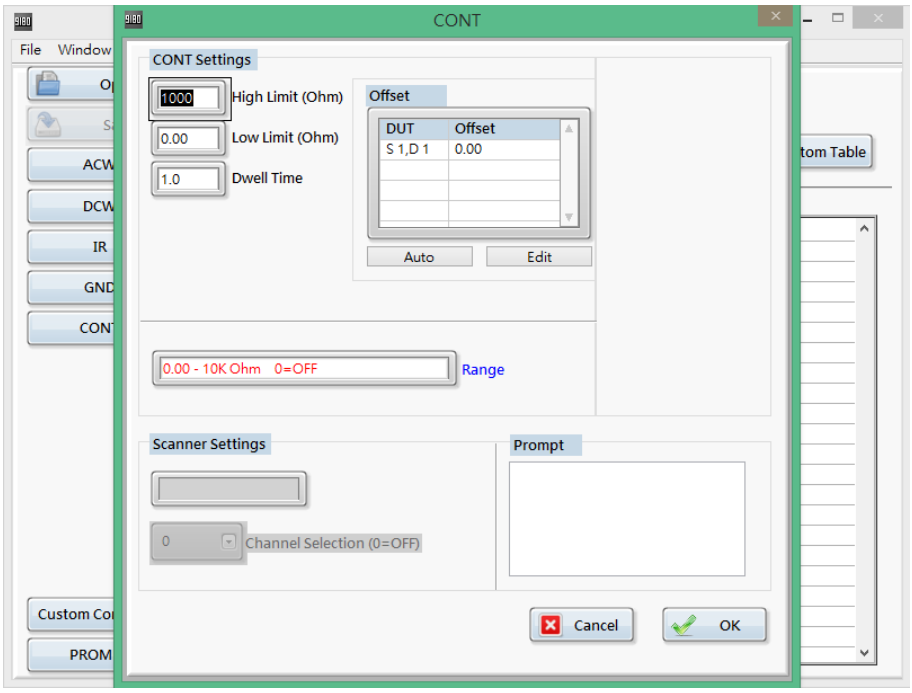
Prompt：Prompt information function



Above column S1, D1 field are mean offset value of test cable between safety tester 1 (Safety1) and (DUT1), when there connect multi safety tester or DUT at the same times, this column system will automatically increase the number.

After finished setting, please click OK, the system will automatically store the parameters and exit.

5.3.5DC Continuity



High Limit：setup impedance of high limit

Low Limit：setup impedance of low limit

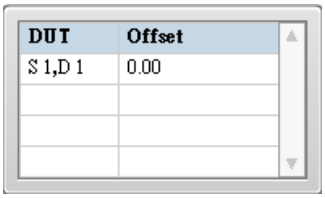
Dwell Time：setup test time

Offset：offset value setting

Auto：Automatic perform offset value Edit：Manually input offset value

Range：the scope of the parameters setting

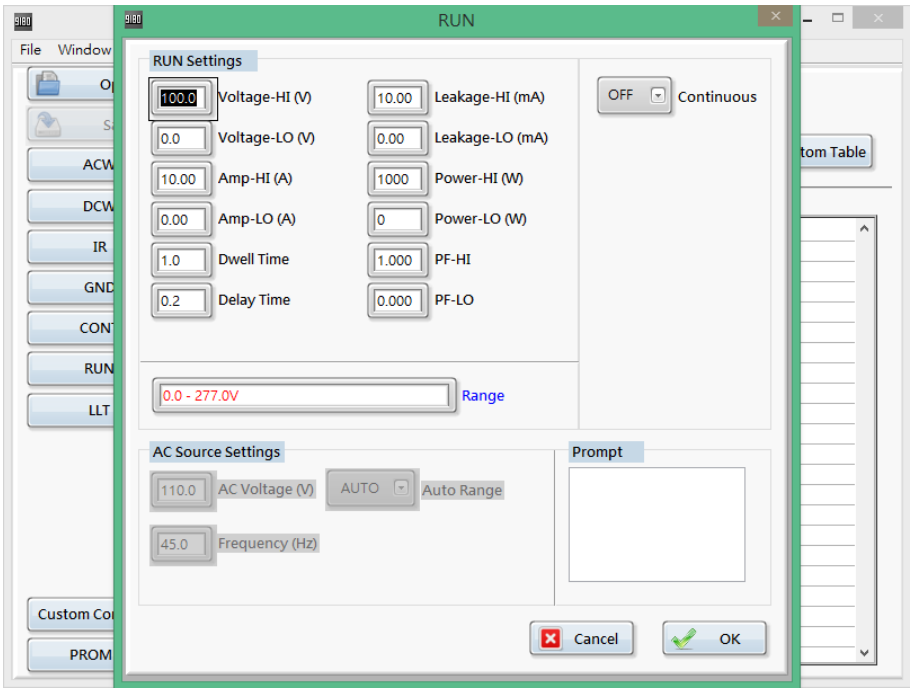
Prompt：Prompt information function



Above column S1, D1 field are mean offset value of test cable between safety tester 1 (Safety1) and (DUT1), when there connect multi safety tester or DUT at the same times, this column system will automatically increase the number.

After finished setting, please click OK, the system will automatically store the parameters and exit.

5.3.6Run Test



Voltage-HI (V) : Setup voltage of high limit

Voltage-LO (V) : Setup voltage of low limit

Amp-HI (A) : setup high Leakage Current

Amp-LO (A) : setup low Leakage Current

Dwell Time : setup test time

Delay Time : setup delay time

Leakage-HI (mA) : Setup high line Leakage Current

Leakage -LO (mA) : Setup low line Leakage Current

Power-HI (W) : setup Power of high limit

Power-LO (W) : setup Power of low limit

PF-HI : setup Power Factor of high limit

PF-LO : setup Power Factor of low limit

Range : the scope of the parameters setting

Continuous : setup DUT Power continuous output

Prompt : Prompt information function

AC Source Settings：

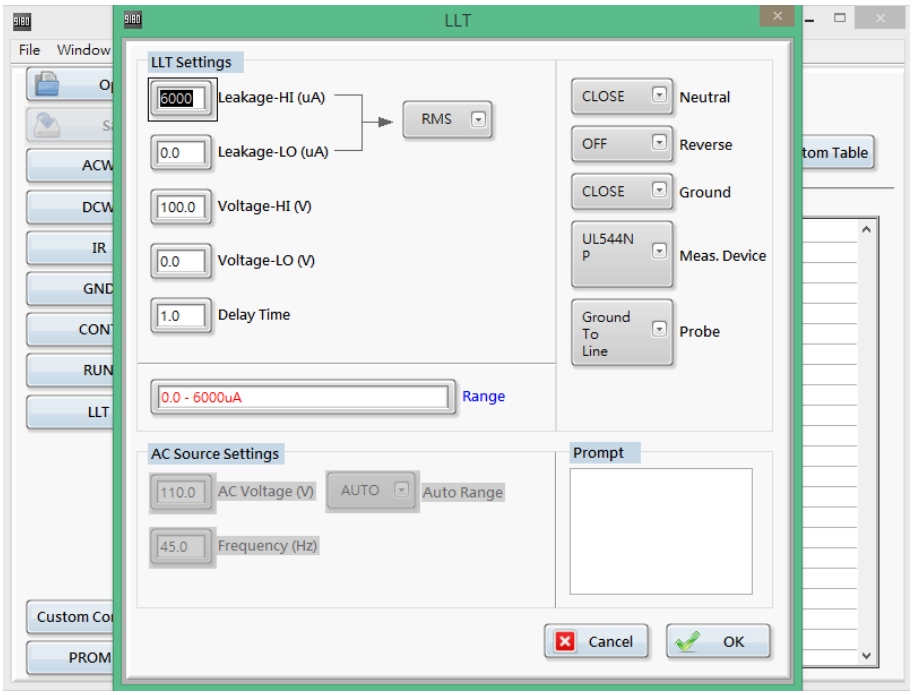
AC Voltage：output voltage setting Auto Range：Voltage gears setting

Frequency：out frequency setting

A-HI：current of high limit setting

After finished setting, please click OK, the system will automatically store the parameters and exit.

5.3.7 LLT



Leakage-HI (uA) : Leakage High limit setting

Leakage-LO (uA) : Leakage low limit setting

Voltage-HI (V) : Voltage High Limit setting

Voltage-LO (V) : Voltage low Limit setting

Delay Time : Delay time setting

Neutral : The working state of power supply of DUT

Reverse : The working state of power supply of DUT

Ground : The working state of power supply of DUT

Meas. Device : Human body impedance setting

Probe : Test type setting

Continuous : setup DUT Power continuous output

Ranging Mode : Automatic shift setting

Range : the scope of the parameters setting

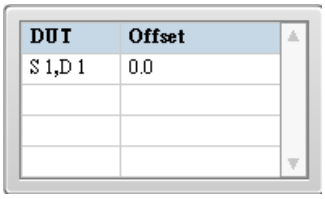
Prompt : Prompt information function

AC Source Settings :

AC Voltage：output voltage setting Auto Range：Voltage gears setting

Frequency：out frequency setting

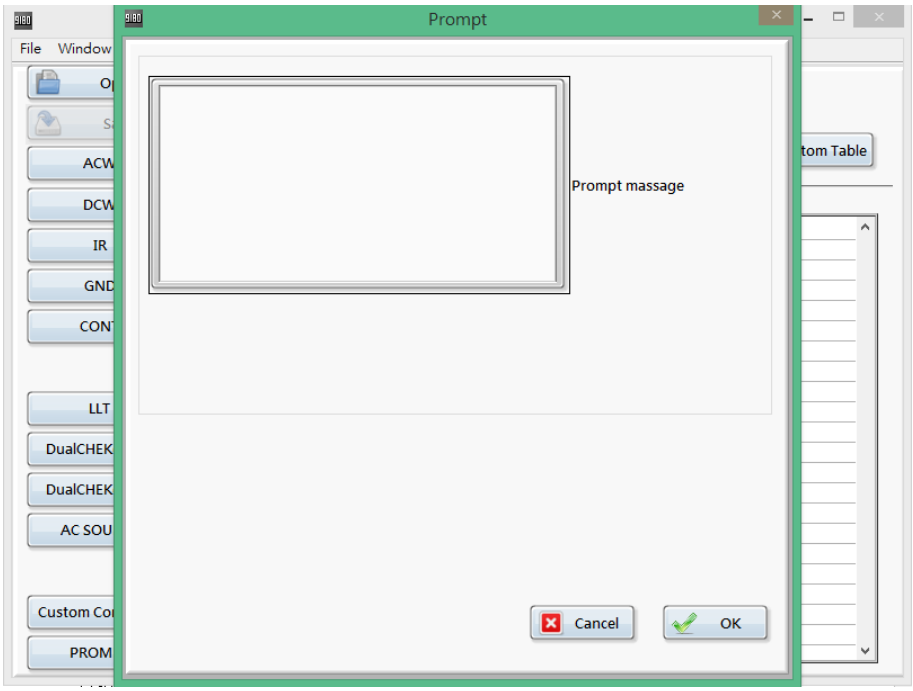
A-HI：current of high limit setting



Above column S1, D1 field is mean the offset Value of the line leakage current between safety tester 1 (Safety1) and(DUT1), when there connect multi safety tester or DUT at the same times, this column system will automatically increase the number.

After finished setting, please click OK, the system will automatically store the parameters and exit.

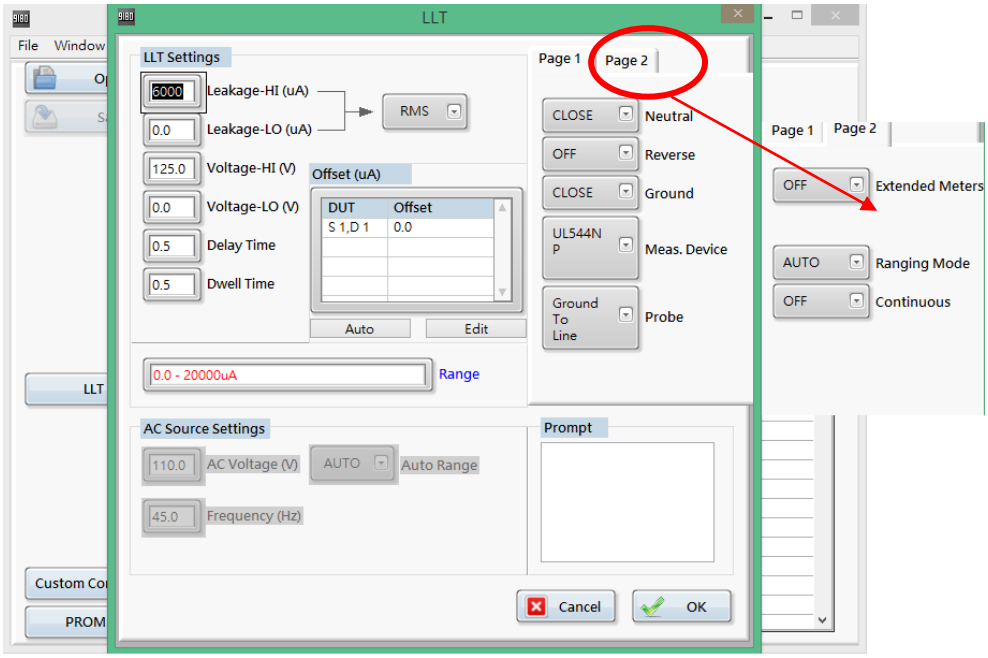
5.3.8 Prompt



To display information that can be input in this field, when the test to this step, the screen will pop up message window as a reminder.

5.4 LLT ：Link 7630

5.4.1 LLT



Leakage-HI (uA)：Leakage High limit
setting
Leakage-LO (uA)：Leakage low limit setting
Voltage-HI (V)：Voltage High Limit setting
Voltage-LO (V)：Voltage low Limit setting
Dwell Time：Test time setting
Delay Time：Delay time setting
Offset (uA)：Line leakage offset
Auto：Automatic perform offset value
Edit：Manually input offset value

Neutral：The working state of power supply of DUT
Reverse：The working state of power supply of DUT
Ground：The working state of power supply of DUT
Device：Human body impedance setting
Probe：Test type setting
Continuous：setup DUT Power continuous output
Ranging Mode：Automatic shift setting
Range：the scope of the parameters setting
Prompt：Prompt information

function

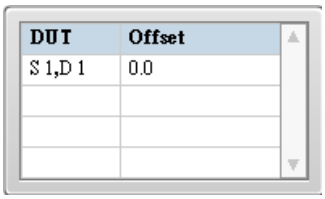
Extened Meter :

AC Source Settings :

AC Voltage : output voltage setting Auto Range : Voltage gears setting

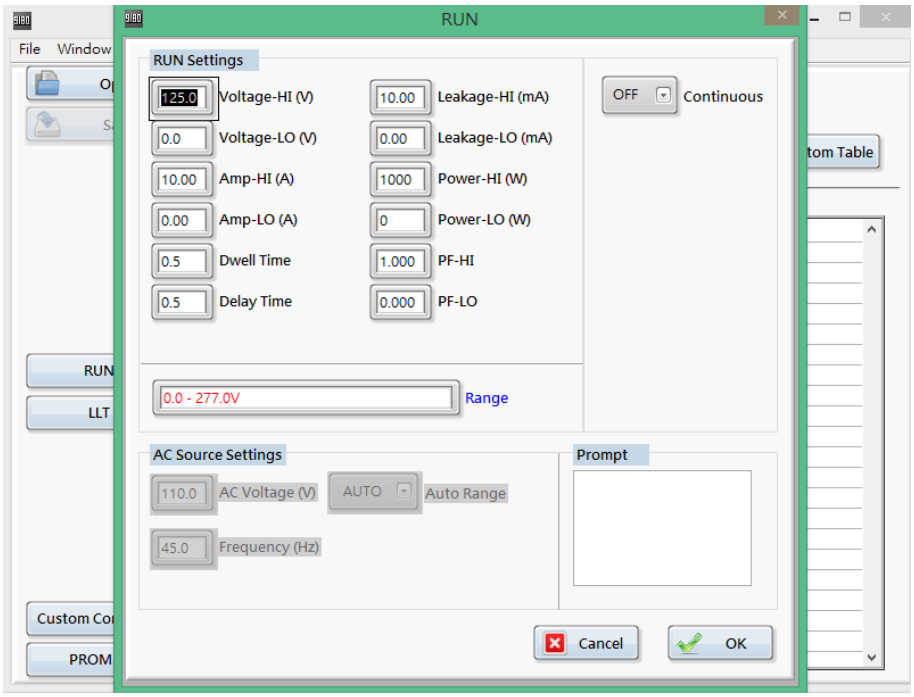
Frequency : out frequency setting

A-HI : current of high limit setting



Above column S1, D1 field are mean the offset Value of the line leakage current between safety tester 1 (Safety1) and(DUT1), when there connect multi safety tester or DUT at the same times, this column system will automatically increase the number.

5.4.2RUN



Voltage-HI (V)：Setup voltage of high limit

Voltage-LO (V)：Setup voltage of low limit

Amp-HI (A)：setup high Leakage Current

Amp-LO (A)：setup low Leakage Current

Dwell Time：setup test time

Delay Time：setup delay time

Leakage-HI (mA)：Setup high line Leakage Current

Leakage -LO (mA)：Setup low line Leakage Current

Power-HI (W)：setup Power of high limit

Power-LO (W)：setup Power of low limit

PF-HI：setup Power Factor of high limit

PF-LO：setup Power Factor of low limit

Range：the scope of the parameters setting

Continuous：setup DUT Power continuous output

Prompt：Prompt information function

AC Source Settings：

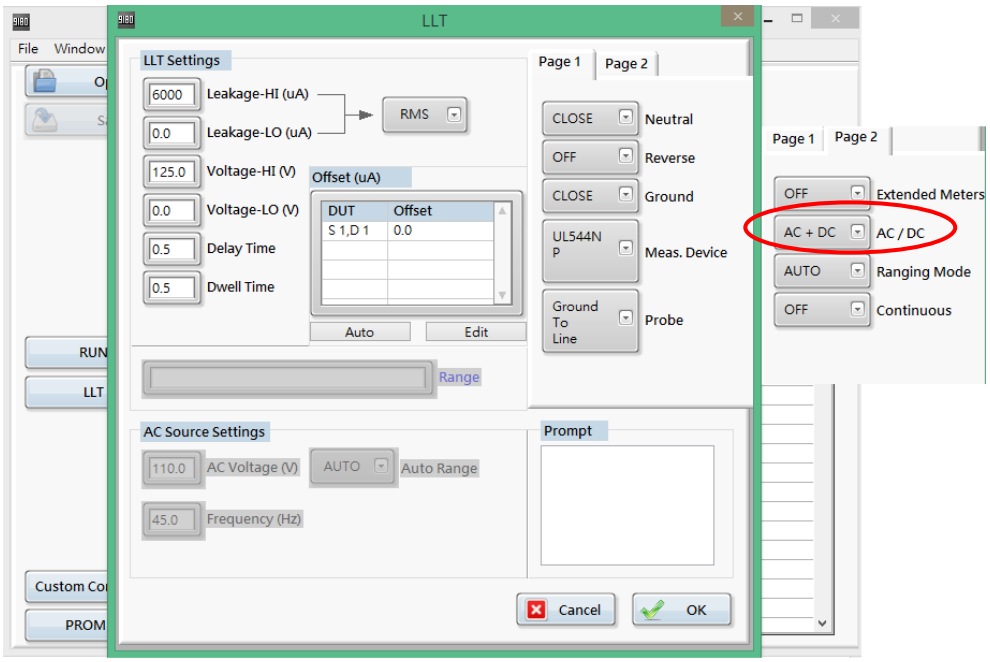
AC Voltage：output voltage setting Auto Range：Voltage gears setting

Frequency：out frequency setting

A-HI：current of high limit setting

After finished setting, please click OK, the system will automatically store the parameters and exit.

5.4.3 Opt.766 AC、DC、AC+DC Touch Current Measurement



Leakage-HI (uA)：Leakage High limit setting

Leakage-LO (uA)：Leakage low limit setting

Voltage-HI (V)：Voltage High Limit setting

Voltage-LO (V)：Voltage low Limit setting

Dwell Time：Test time setting

Delay Time：Delay time setting

Offset (uA)：Line leakage offset

Auto：Automatic perform offset value

Edit：Manually input offset value

Neutral：The working state of power supply of DUT

Reverse：The working state of power supply of DUT

Ground：The working state of power supply of DUT

Meas.Device：Human body impedance setting

Probe：Test type setting

Continuous：setup DUT Power continuous output

Ranging Mode：Automatic shift setting

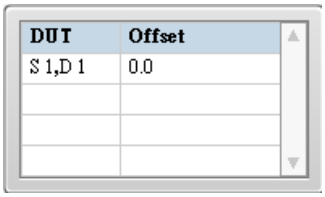
Range：the scope of the parameters setting

Prompt：Prompt information function

Extened Meter：

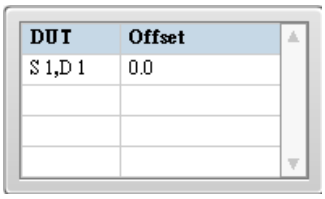
AC Source Settings：

AC Voltage：output voltage setting Auto Range：Voltage gears setting
Frequency：out frequency setting
A-HI：current of high limit setting



Above column S1, D1 field are mean the offset Value of the line leakage current between safety tester 1 (Safety1) and(DUT1), when there connect multi safety tester or DUT at the same times, this column system will automatically increase the number.

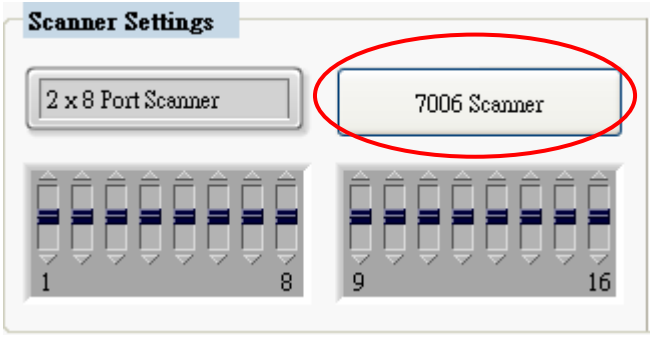
After finished setting, please click OK, the system will automatically store the parameters and exit.



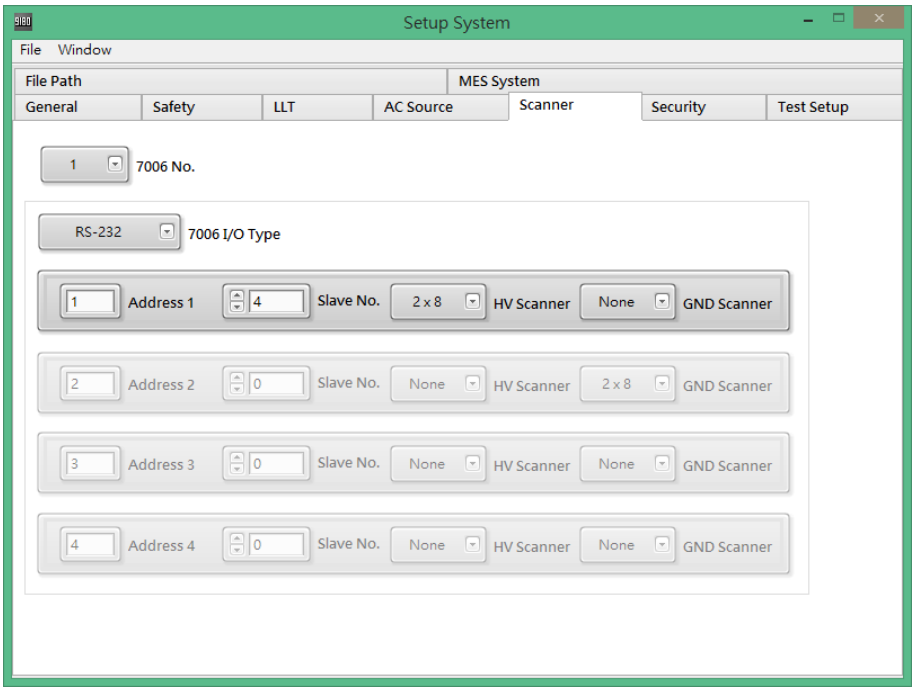
Above column S1, D1 field are mean the offset Value of the line leakage current between safety tester 1 (Safety1) and(DUT1), when there connect multi safety tester or DUT at the same times, this column system will automatically increase the number.

5.6 Link Scanner 7006

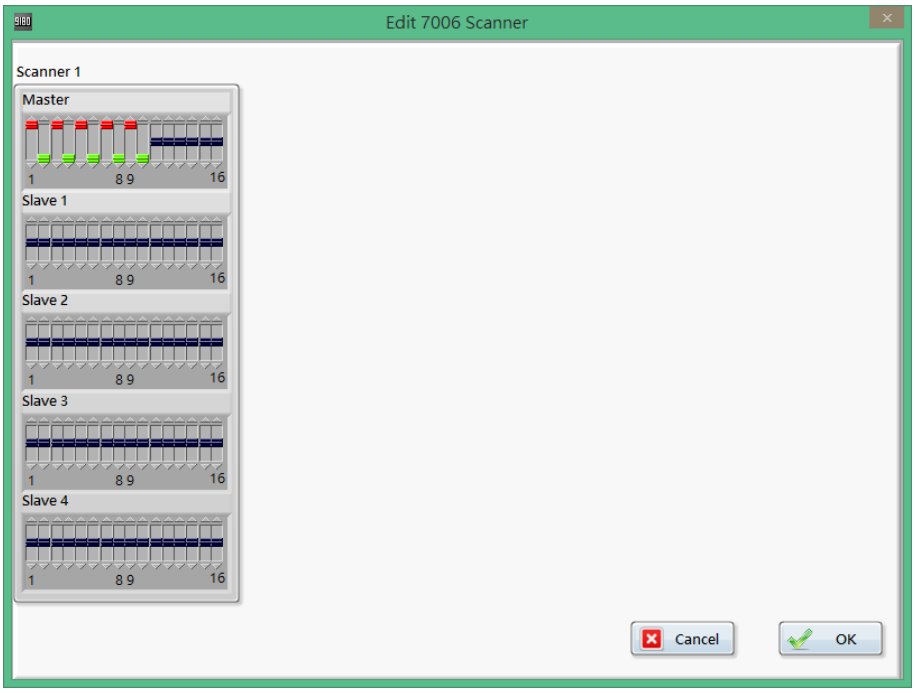
In the Setup test click test project, in the Scanner Setting you will see 7006 Scanner options



Click to enter 7006 Scanner Settings screen, set the page according to the Scanner to set for configuration. Display as following



In 7006 Scanner Settings screen configuration is as following



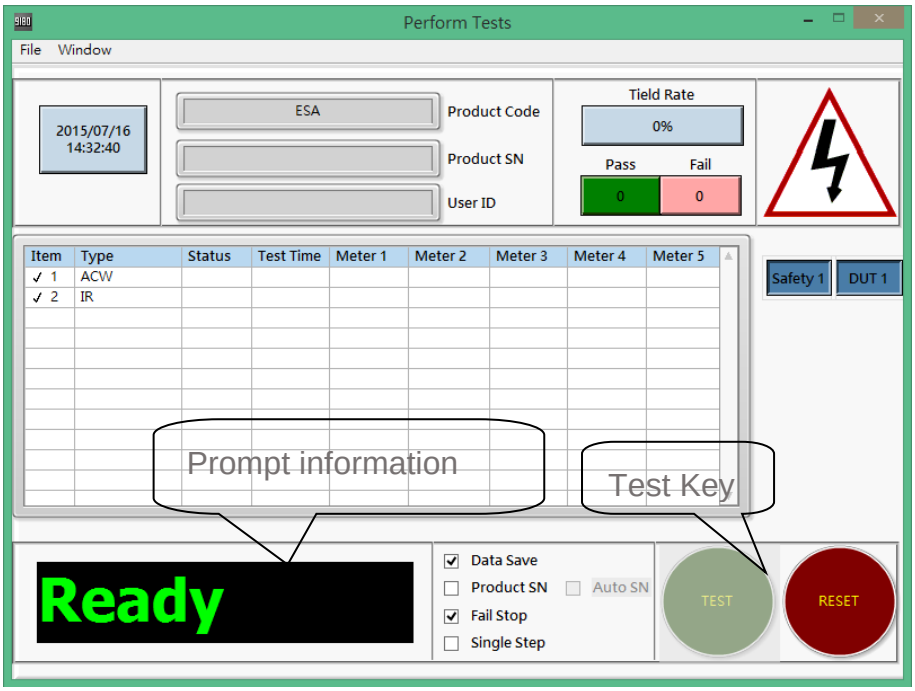
Please make sure to the hardware device is the same as the setting of 7006

Master and Slave

NOTE: if 7006 all match to 16 HV channel, the user can set each individual channel state; Master 7006 with 8 High Voltage channel module and 8 High Current module

Chapter 6 Perform Tests

Perform test: This is that allows users to perform test. When the user want to perform test, users need to choose the function table File, click open and load the parameter Settings File.



- Product Code

The file name of load the parameters setting

- Product SN

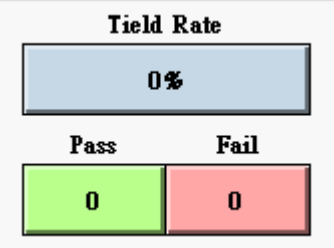
Manually input the product serial number or through the Barcode to scan.

- User ID

When security to open, the user perform test that need to be done the login action, this column can display the name of the user.

- Tield Rate

The system will calculate the total number of Pass and Fail, and convert tield rate



- DUT1 - DUT4

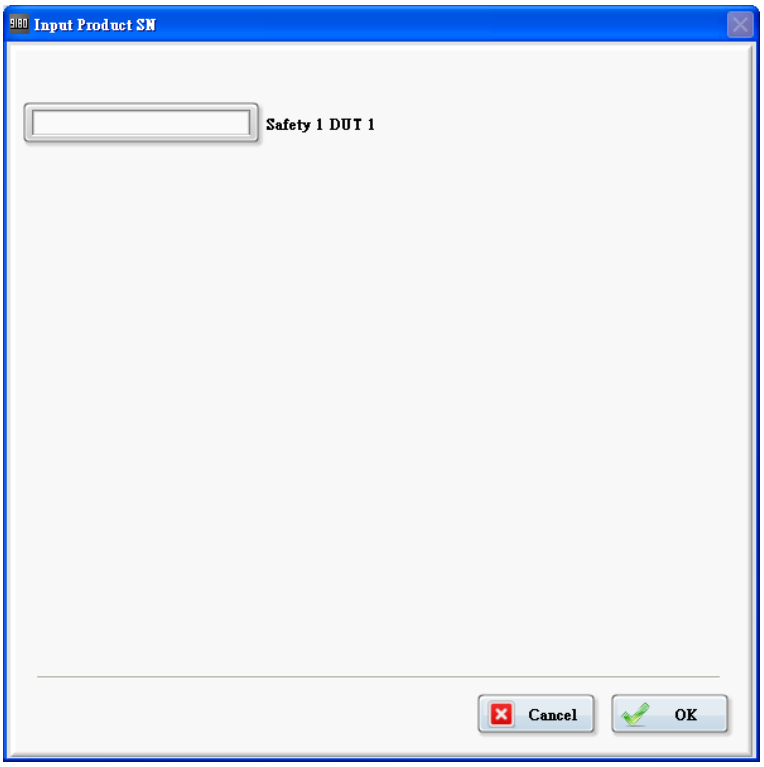
Arbitrary click on one of the DUTX, it can display the test results of the DUT.

- Save Data

Whether the archive set test result. Check this function, the test result data will be stored. That is same as the instructions of 3.7 Test Setup, Using this function in this picture for quick setting.

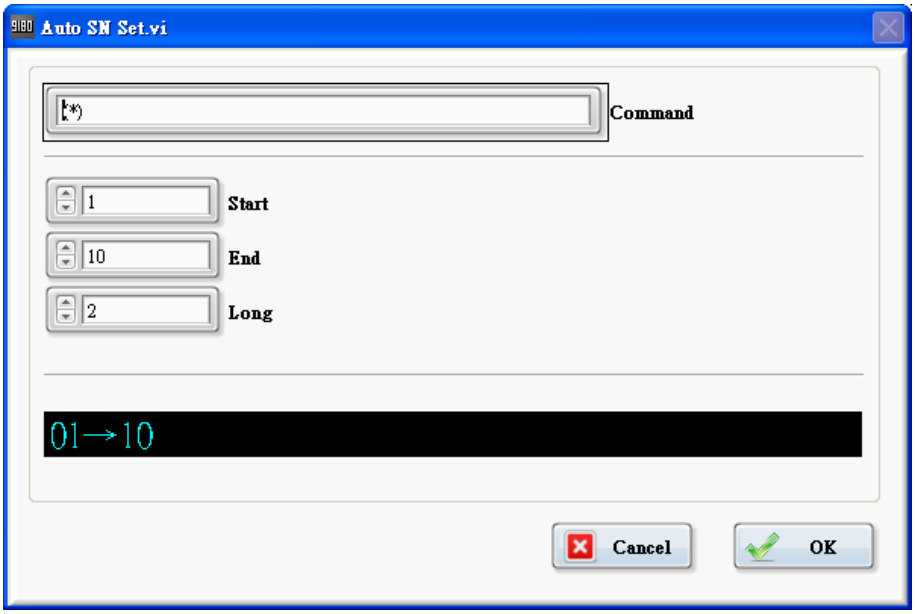
- Product SN

Set whether it need to input the product serial number, when checked this feature and press the TEST key, system will pop up the serial number windows, the user can input the serial number of UUT



- Auto SN

When set start and end serial number, the serial number will be automatically add 1, the user can continue to perform test and don’ t need to input the serial number again. Open this function and shown as following



Start：Set the starting serial number

End：Set the end of the serial number
Long：Set the serial number string length

- Fail Stop

This feature is mainly used for multiple test steps are connected into a test program. Check this function, the TEST program will stop testing on this step when the step is fail , if has not completed the TEST steps, intends to continue to finish the TEST, you can press TEST switch, the TEST program will continue to carry out the unfinished TEST steps. If you press the RESET switch, and then press the TEST switch, the TEST program will return to the first step, start testing; if not check this function, no matter whether failed in the test procedure steps, the test program will continue to test, until the entire test program is finished. That is same as instructions of 3.7 Test Setup, this function in this picture is as quick setting

- Single Step

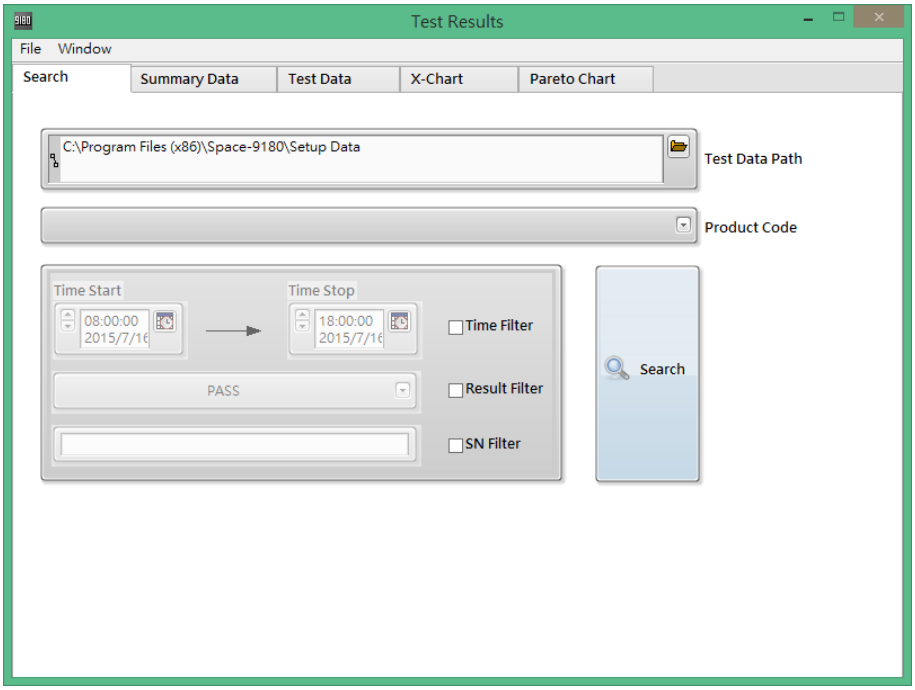
When carry out the test step connection, the first step is finished, the system will automatically connect the next test step; when start the function, the first step is finished, and then press the TEST switch; it will perform the next TEST step.

The beginning of the test, if Product Serial or Product Code function in the setup system is open, system will open a bar Code input window, allows users to barcode scanning pattern or by keyboard input.

System to prevent DUT model error, cause test misjudgment, even DUT damaged, when setup system to input the Product Code must be the same as the setting of Product Code, the system will allow users to perform test.

Chapter 7 Test Results

7.1 Search



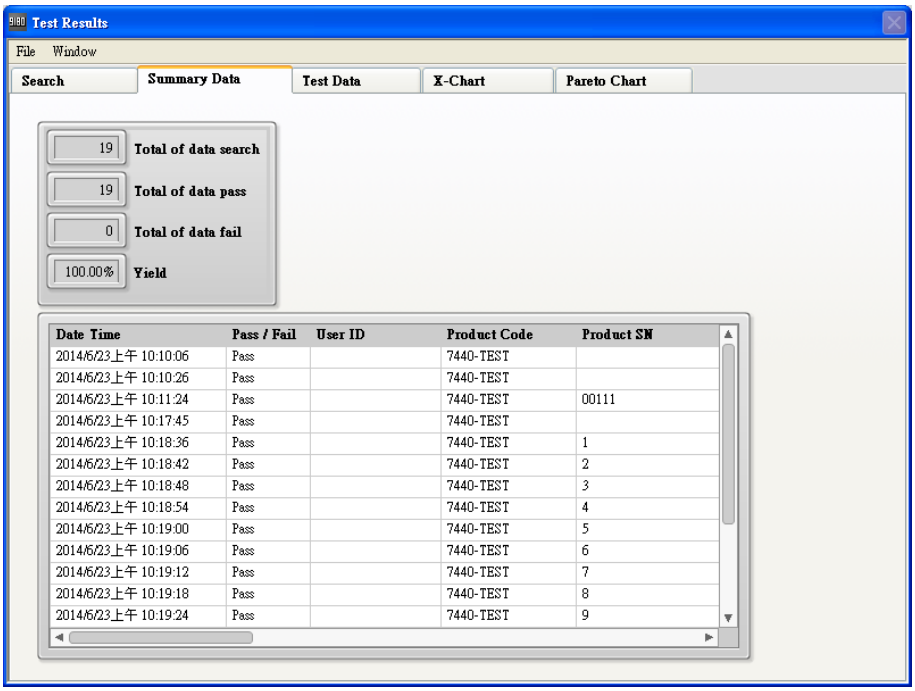
Enter the test results window, first select data search page (Search) function, and choose test data path and product code, and setup test results data search conditions (Filter). Test results data can be in accordance with the following three ways to search;

Dates Filter : Set the start and end dates, the system in accordance with the test date to look for information.
Result Filter：System in accordance with the test results (PASS or FAIL) to look for information.
Serial Number Filter：System in accordance with the product serial number to look for test results data.

Only need to ticks on the condition of the check box, system will search out the test results by the conditions and do statistical analysis. After the

completion of the search data conditions, according to the Search button (Search) and search data. When message prompt test data search is complete, and enter the next page function to perform statistical analysis.

7.2 Summary Data

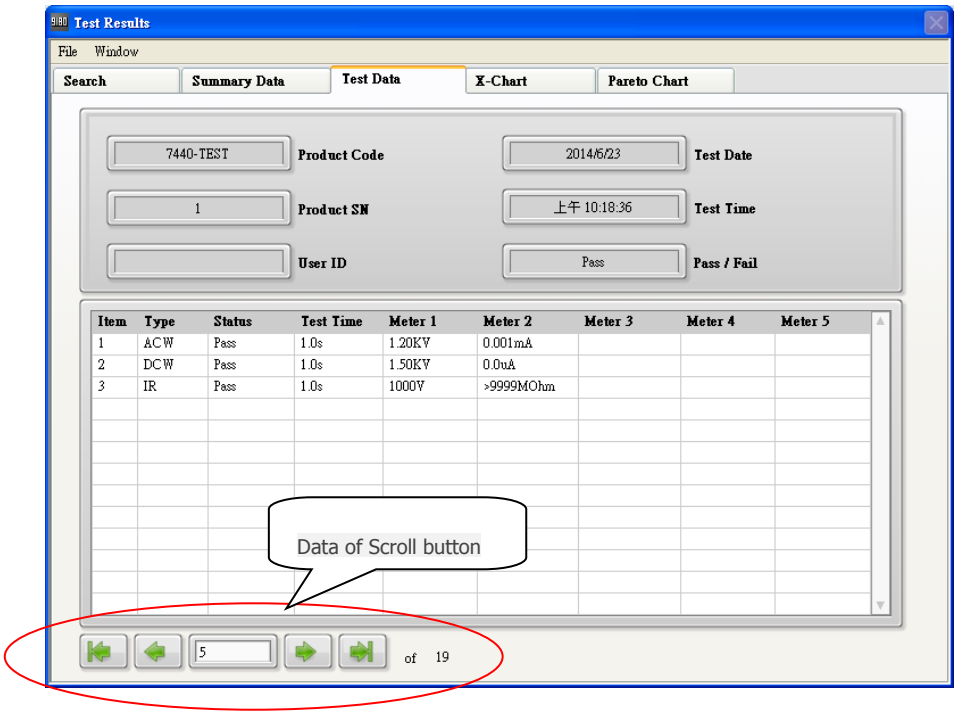


Summary data page that display content information, including

Total Of Data Search： The total number of data according to the search conditions.
Total Of Data PASS：The number of Pass in the data
Total Of Data FAIL：The number of Fail in the data
Yield：The rate of total of data pass divide total of data search

If you want to export into excel file from filtered data, please click on the File and then select Export Data

7.3 Test Data

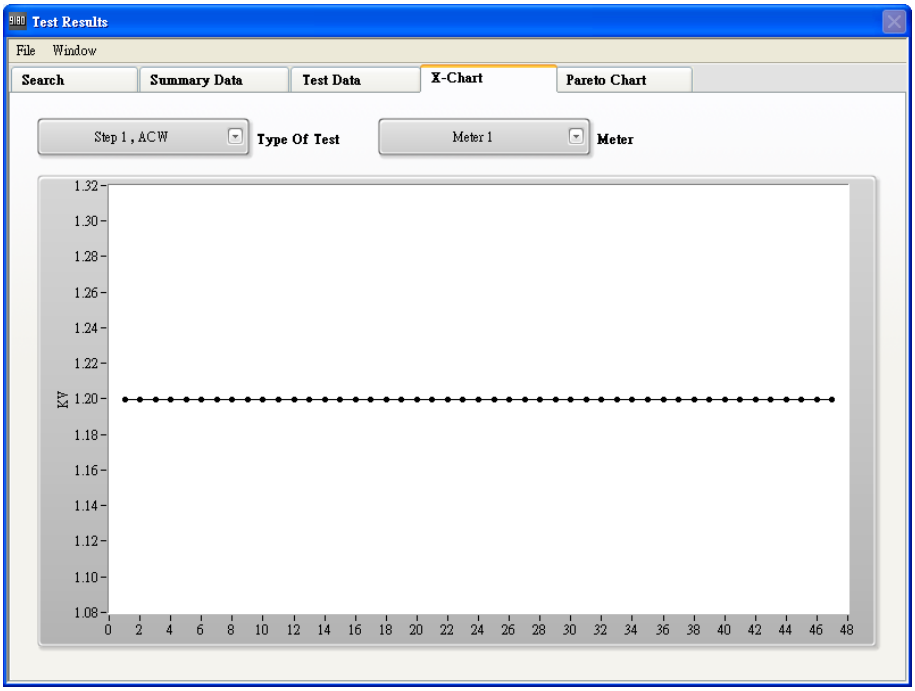


This page display search data, every test results; according to the data of scroll button to switch display each test results details.

If you want to export into excel file from this data, please click on the File and then select Export Data

7.4 X-Chart

According to search out information, its individual values painting on the chart one by one. The cross (X) coordinates is the number of measurement; the vertical (Y) coordinates is measurement data of the instrument, it can be in accordance with different test items to choose parameters.



- Type Of Test：Switch test results that want to display the test item.

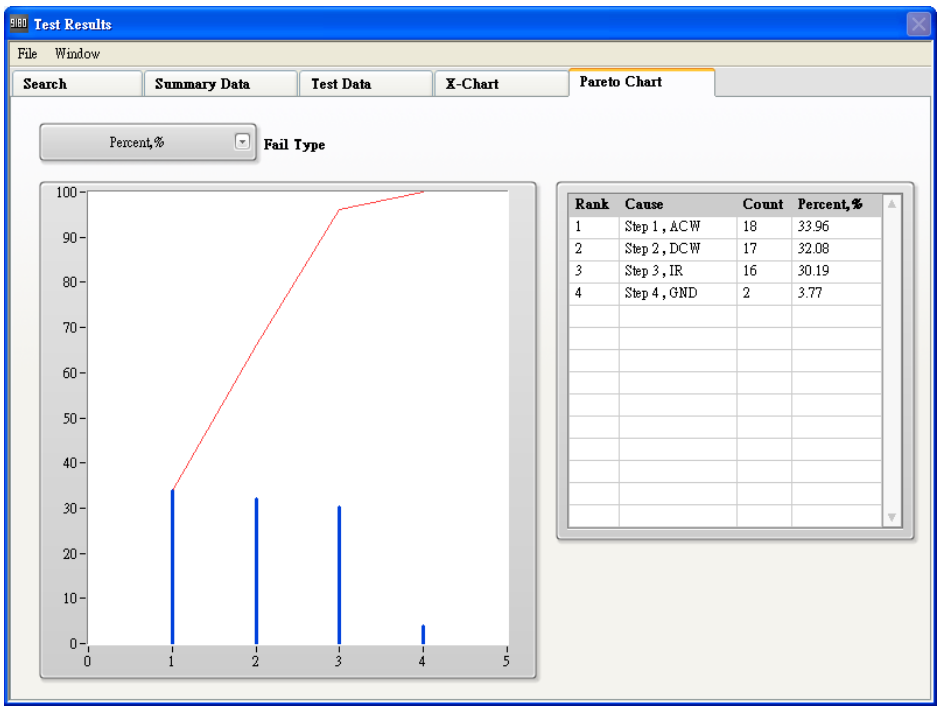
ACW	AC Withstand test
DCW	DC Withstand test
IR	Insulation Resistance Test
GND	Ground Bond Test
RUN	Run Function Test
LLT	Line Leakage Test

- Meter：Switch test results that want to display the measurement data of the instrument

	Meter 1	Meter 2	Meter 3	Meter 4	Meter 5
ACW	Voltage (KV)	Leakage (mA)	-	-	-
DCW	Voltage (KV)	Leakage (uA)	-	-	-
IR	Voltage (KV)	Resistance(MΩ)	-	-	-
GND	Current (A)	Resistance(mΩ)	-	-	-
RUN	Voltage (V)	Current (A)	Power(W)	Power Factor(PF)	-
LLT	Voltage (V)	Line leakage(uA)	-	-	-

7.5 Pareto Chart

According to search out information ,using this chart to analyze the failure item for a choice that users as the key to improve the target. Cross (X) coordinates is failure item, according to the number of the fail listed the most failure in the chart on the left, left to right, vertical (Y) coordinates is failure quantity or cumulative percentage.



- Fail Type： Choose bad for cumulative way, you can take < number > accumulated or in percentage < % > to the cumulative way.