

Detector for Pesticide Residues

SL-1569

Portable Detector for
Pesticide Residues

Operation Manual



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1. Foreword

This specification describes on pesticide testing instruments SL-1569 operating methods and procedures, It can be applied to support staff training and provide experienced users as a reference. About the instructions of using, maintenance and cleaning SL-1569, please refer to the manual.

2. Description

2.1 Suitcase

This suitcase contains SL-1569, the printer and standard equipment, following Figure2.1 and Table 2.1.



FIGURE 2.1 SL-1569 DETECTOR

Item	Device Name	Q'ty	Model/Specification	Remark
1	Detector	1	SL-1569	
2	Printer	1	Thermal Type	Lithium Battery
3	Printer Cable	1	USB Cable	
4	Computer Cable	1	USB Cable	Data transfer to PC
5	Power cable	2	INPUT: AC100~240V OUTPUT: DC9V=1A OUTPUT: DC5V=1A	DCV9V:Printer DCV5V:Dtector
6	Pipette	3	Fixed 20μl*1 Fixed 100μl*1 Adjustable 1~5ml*1	
7	Timer	1		
8	Consumables	1		Refer 2.2
9	Aluminum Case	1		

Table 2.1 SL-1569 Standard equipment set

2.2 SL-1569 Standard equipment and supplies

Item	Device Name	Q'ty	Specification	Remark
1	5ml Tips	3	5ml	
2	200ul Tips	50	200μl	
3	Cuvette	30		
4	Plastic beaker	1	50ml	
5	Sampling glass tube	25	4cc; 15*45mm	
6	Tweezers	1		
7	Sampling Pipe	1		
8	Plastic bottle	3	100ml	
9	Bromine bottle	2	4cc; 15*45mm	with lid
10	Parafilm	15		
11	Sampling board	1		
12	Print Paper	3		

Table 2.2 SL-1569 Standard equipment and consumables

2.3 Detector and Printer

Follow Figure 2.2 and Table 2.3:



FIGURE 2.2 DETECTOR AND PRINTER

Table 2.3 Control function

Item	Control Device	Function	Remark
1	Detecting hole	Put the cuvette on the notch	
2	Screen shots	Display the state and detection value	
3	Return button	Press and back previous page	
4	Upward button	Make the cursor up	
5	Downward button	Make the cursor down	
6	Enter button	Selection determined	
7	Time	Display date and time	
8	Temperature sensor	Detect temperature	
9	WiFi connect display	Display WiFi and server status	
10	Tripod	Adjust height	
11	Power jack	Connect Power supply	
12	Portable charge jack	Connect the 5V portable power	
13	USB jack	Connect the printer	
14	Power jack (Printer)	Connect the power supply	
15	Exchange paper	Pull up, open the cover; change paper	
16	Power switch (Printer)	Turn on/off printer	
17	Printer output	Paper outlet	
18	Printing date button	Change paper or let paper out	

- ※NOTE※
1. USB jack support flash drive to update the firmware in the detector.
 2. Press the return button and back to home screen, and just only move the power cable to shut down the power.

3. Connecting step

3.1 Preparation

Take out SL-1569 and the printer from the suitcase.

3.2 Connect the power supply

Connect SL-1569 and the printer to the power supply.

3.3 Connect printer

Connect SL-1569 to the printer.

3.4 Turn on the SL-1569

When connect power supply to SL-1569 detector, and SL-1569 detector will be turn on . At this time, the yellow lamp bright, SL-1569 will start optical initialization, and the initialization time about 100 sec, following Figure 3.1. When finishing optical

initialization, all lamps will be not bright, following Figure 3.2.



FIGURE 3.1 OPTICAL INITIALIZATION



FIGURE 3.2 FINISH OPTICAL INITIALIZATION

3.5 Turn on the printer

Press and hold the “Power switch” 2 sec, turn on the printer and start working, the “POWER” lamp bright (green), following Figure 3.3. When the printer is low battery, the “CHARGE” lamp bright (red) , the user will prepare charging. Table 3.1 is the indicator description of the printer.

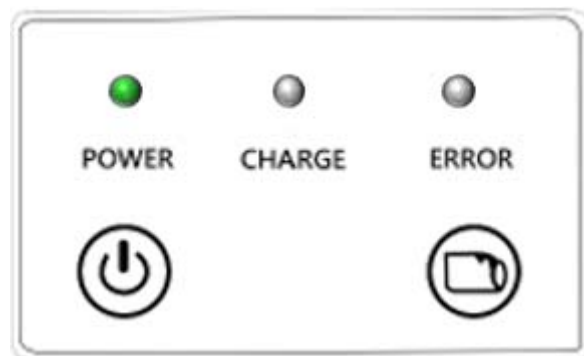


Figure 3.3 Normal condition

- ※NOTE※
1. If the “CHARGE” bright and not out of paper, the printer is low battery. Please change the battery or charge.
 2. When shutdown, please first turn off the printer, and then turn off SL-1569.

Table 3.1 Indicator description of the printer

POWER	Condition	CHARGE	Condition
Bright	Starting up	Bright	Charging
Twinkling	Standby	Twinkling	Low battery
Not bright	Sleeping or shutdown	Not bright	Charging is completed
ERROR	Condition		
Bright	No paper or place paper incorrectly		

4. SL-1569 Function



FIGURE 4.1 STARTUP SCREEN

4.1 Enzyme Activity test

The enzyme activity test (buffer + AChE + DTNB + ATCI) following Figure 4.2. After preparing, put the cuvette on the notch, press the “Enter” and show Prompt, then press again the “Enter” **(Total twice to avoid mistake)** and start test.

The enzyme activity tests must adjusted dAbs / min 0.4 - 0.5.

4.2 Control Group test

The control Group test (buffer + AChE + Alcohol + DTNB + ATCI) use the function, following Figure 4.2. After preparing, put the cuvette on the notch, press the “Enter” and show Prompt, then press again the “Enter” **(Total twice to avoid mistake)** and start test.

The error of twice in the control test must be less than 0.01 to continue the sample test.

In control test, the indicator description of SL-1569 follow Table 4.1.

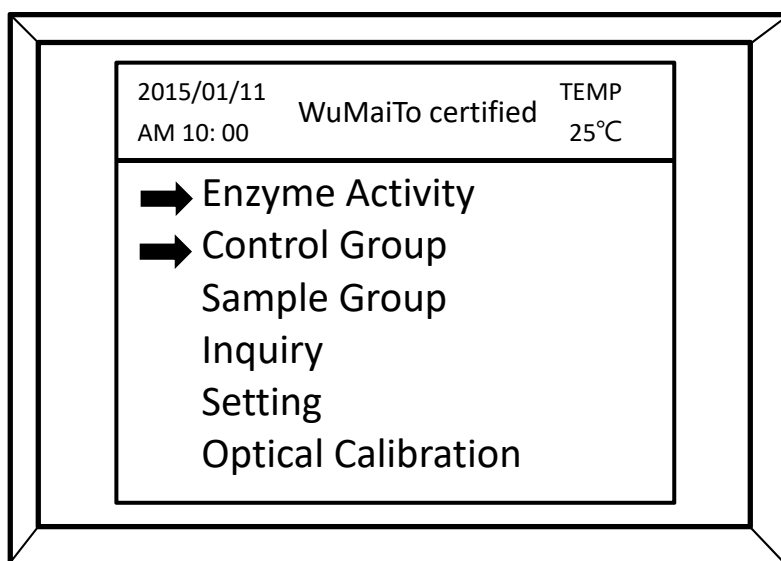


FIGURE 4.2 ENZYME ACTIVITY AND CONTROL GROUP TEST

※NOTE※ In this menu, press the “Enter” and start the control test (NO. 0000).

Table 4.1 Indicator description of the control test

Indicator	Condition
Yellow bright	In testing, 60 sec
Green Twinkling & Beep 3 times	The frist time control test or the error of twice is more than 0.01.
Green bright & Beep 1 time	The error of twice is less than 0.01; the control test pass.

4.2 Sample test

Sample test (buffer + AChE + sample + DTNB + ACTI) uses this function, following Figure 4.3.

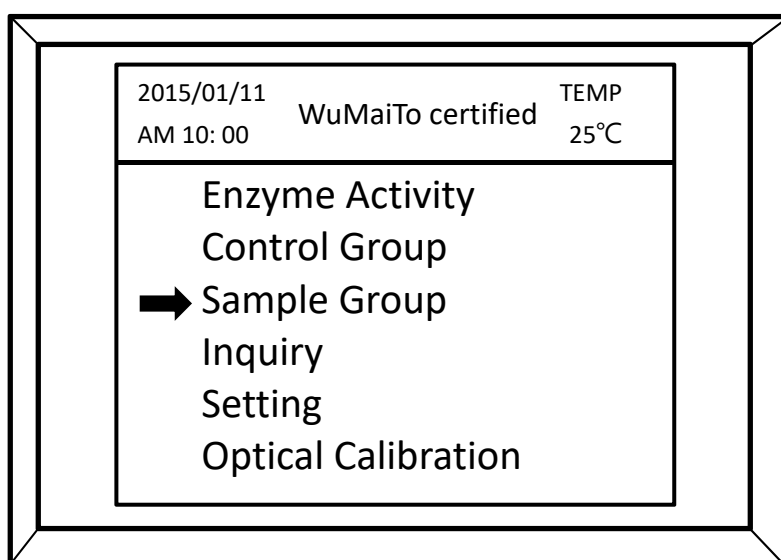


FIGURE 4.3 SAMPLE GROUP TEST

※NOTE※ In this menu, press the “Enter” and press again the “Enter” (Total twice to avoid

mistake) start the sample test .

4.3 Result Inquiry

Following Figure 4.4, press “Enter” key and enter “Result”.

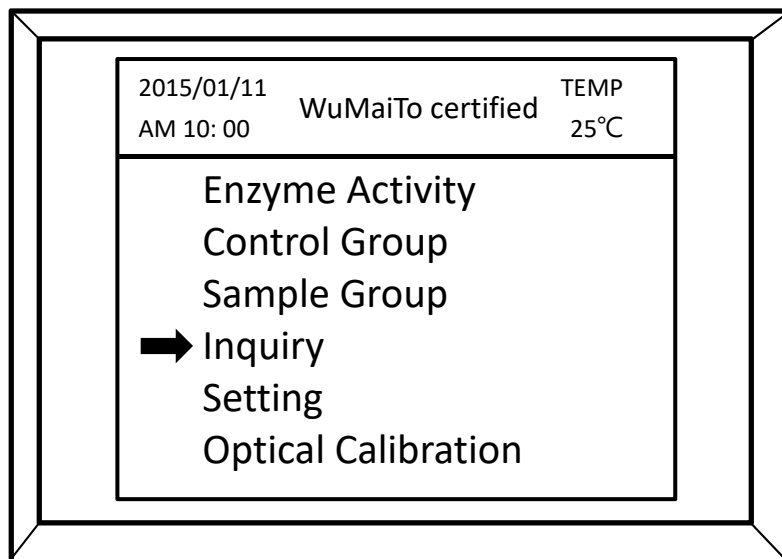


FIGURE 4.4 RESULT INQUIRY

4.3.1 Search the date of data

Following Figure 4.5, select the date of data you want to search.

(Select the item and highlight, and press “Enter” to select the time of data.)

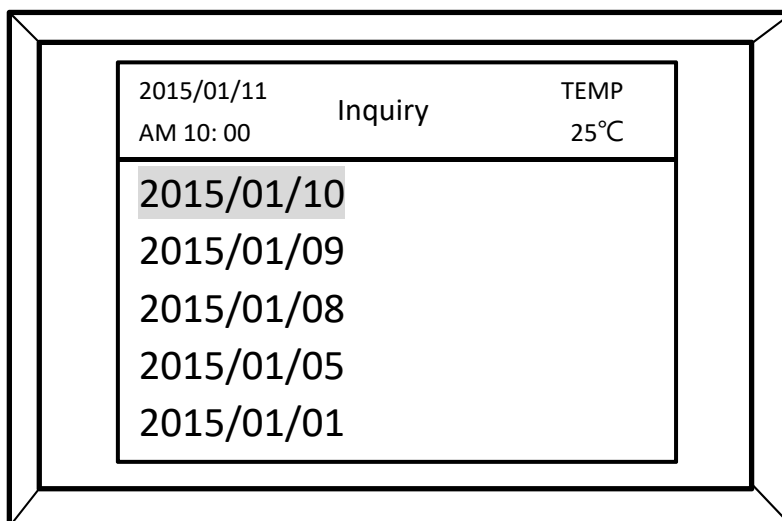


FIGURE 4.5 SEARCH THE DATE OF DATA

4.3.2 Search the date and time of data

Following Figure 4.6, select the date and time of data you want to search.

(Select the item and highlight, and press “Enter” to select the data.)

2015/01/11	Inquiry	TEMP
AM 10: 00		25°C
2015/01/10_10 : 36 : 22		
2015/01/10_10 : 15 : 53		
2015/01/10_10 : 10 : 45		

FIGURE 4.6 SEARCH THE DATE AND TIME OF DATA

4.3.3 Search the data

Following Figure 4.7, select the data you want to search.

(Select the item and highlight, and press “Enter” to search result.)

2015/01/11	Inquiry	TEMP	
AM 10: 00		25°C	
ID	GROUP	dABS	INHIBIT
0001	01	0.437	NA
0002	02	0.430	NA
0003	02	0.450	NA
0004	02	0.468	NA
0005	03	0.462	1.2
0006	03	0.438	6.4

FIGURE 4.7 SEARCH THE DATA

4.3.4 Result of the sample test

Following Figure 4.8, this is result of the sample test.

2015/01/11		Inquiry		TEMP	
AM 10: 00				25°C	
TEST DATE	2015/01/10			ABS	dABS
TEST TIME	10:10:45			0.192	
TEST TEMP	26.4			0.346	0.154
TEST GROUP	03			0.500	0.154
INIT ABS	0.192			0.654	0.154
dABS/MIN	0.462				
INHITBIT	1.2				
TEST PPM1	0.04				
TEST PPM2	0.06				

FIGURE 4.8 RESULT OF THE CONTROL TEST

4.3.5 Description

- (1)TEST DATE : The date of data
- (2)TEST TIME : The time of data
- (3)TEST TEMP : Ambient temperature
- (4)TEST GROUP : 01(Enzyme Activity) ; 02(Control Group) ; 03(Sample Group)
- (5)INIT ABS : The ABS value in 0 second
- (6)dABS/MIN : Display the initial absorbance and the change of absorbance in 1 min.
- (7)INHINIT : Inhibition rate; Pesticide residue test result. IF in 01(Enzyme Activity) or 02(Control Group) will show NA.
- (8)TEST PPM1 : Methomyl (one of the carbamate type pesticide) PPM reference
IF user could sure the sample is all Methomyl residues, and this PPM value is right. (This for sample procedure without bromine)
- (9)TEST PPM2 : Chlorpyrifos (one of the carbamate type pesticide) PPM reference
IF user could sure the sample is all Chlorpyrifos I residues, and this PPM value is right. (This for sample procedure with bromine)

4.3.6 Print

Following Figure 4.9, in the data menu, select the data you want to print, press the “Enter”, appear the “Prompt Press Enter To Print” option, and press “Enter” then Print.

2015/01/11		Inquiry		TEMP	
AM 10: 00				25°C	
TEST DATE 2015/01/10		ABS		dABS	
TEST TIME 10:10:45		0.102			
TEST TEMP 26.4				4	
TEST GR				4	
INIT AB				4	
dABS/N				4	
INHITBL					
TEST PPM1 0.04					
TEST PPM2 0.06					

Prompt

Press Enter To Print

FIGURE 4.9 PRINT SELECTION MENU

4.4 Setting

Following Figure 4.10, press “Enter” and enter “SETTING” menu.

2015/01/11		WuMaiTo certified		TEMP	
AM 10: 00				25°C	
Enzyme Activity					
Control Group					
Sample Group					
Inquiry					
➡ Setting					
Optical Calibration					

FIGURE 4.10 SETTING

4.4.1 Time setting

Following Figure 4.11 and 4.12, enter "TIME SETTING", and adjust the highlight number with Upward & Downward button , then press "Enter" change the next column, finally **press** the "Return button " to save.

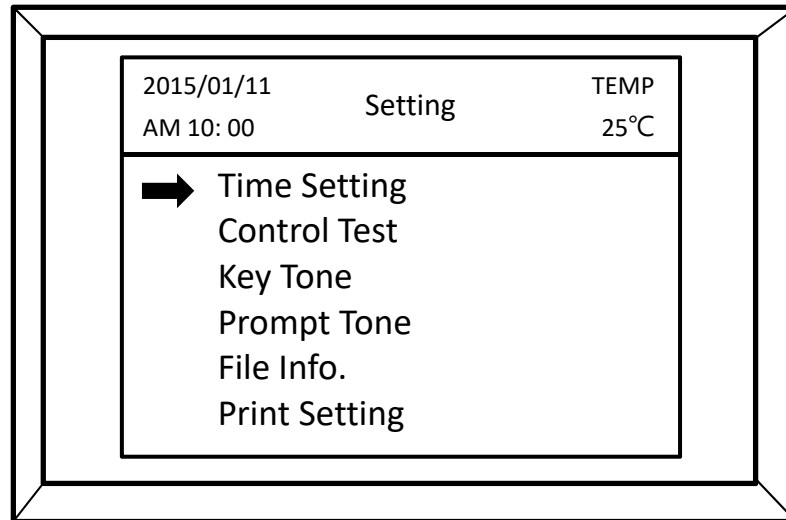


FIGURE 4.11 SELECT "TIME SETTING"

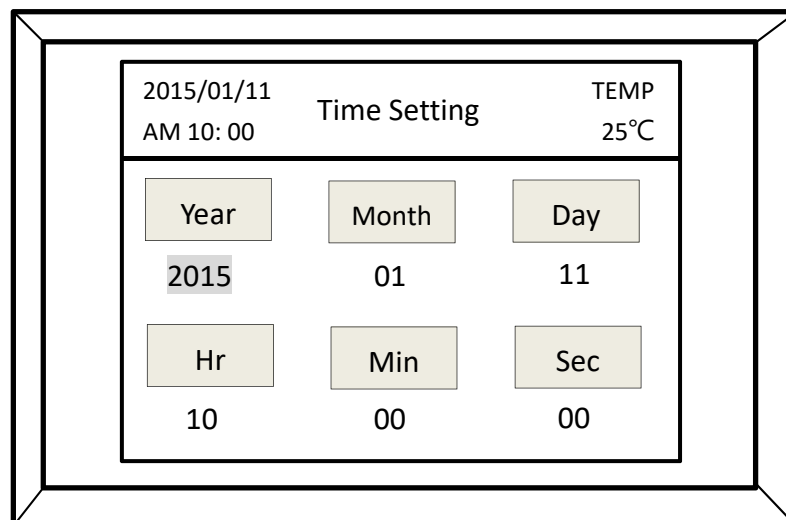


FIGURE 4.12 TIME SETTING

4.4.2 The control test setting

Following Figure 4.13 and 4.14, enter the "Control Test". In normal case, the bias error of the control Group test must set 0.01, highlight your select then press "Enter" and finally **press** the "Return button " to save.

IF user is not so familiar with the test and in training, you can adjust bias error to 0.02

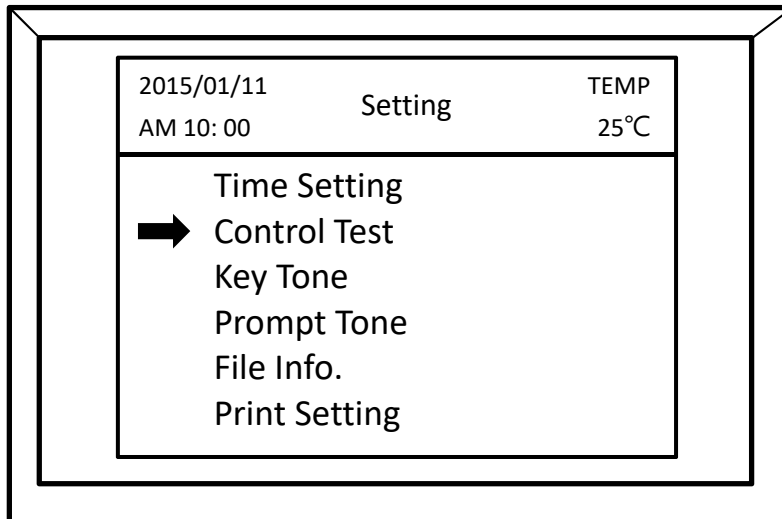


FIGURE 4.13 SELECT "CONTROL TEST"

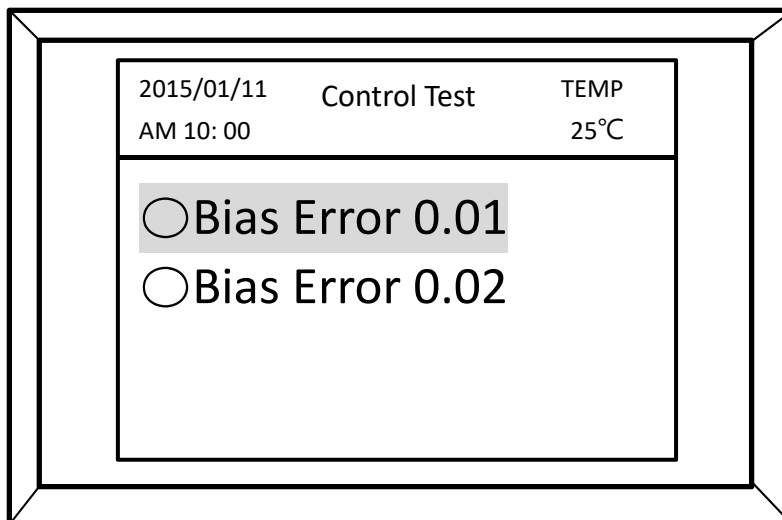


FIGURE 4.14 SET THE ERROR OF CONTROL TEST

4.4.3 Key tone setting

Following Figure 4.15 and 4.16, enter the “**KEY TONE SETTING**”, according to personal preference to turn on/off the key tone, highlight your select then press “Enter” and finally **press** the “Return button ” to save.

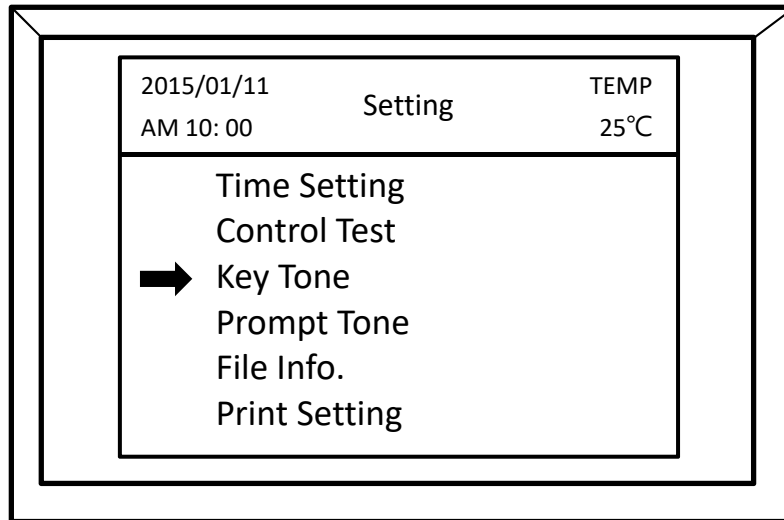


FIGURE 4.15 SELECT “KEY TONE”

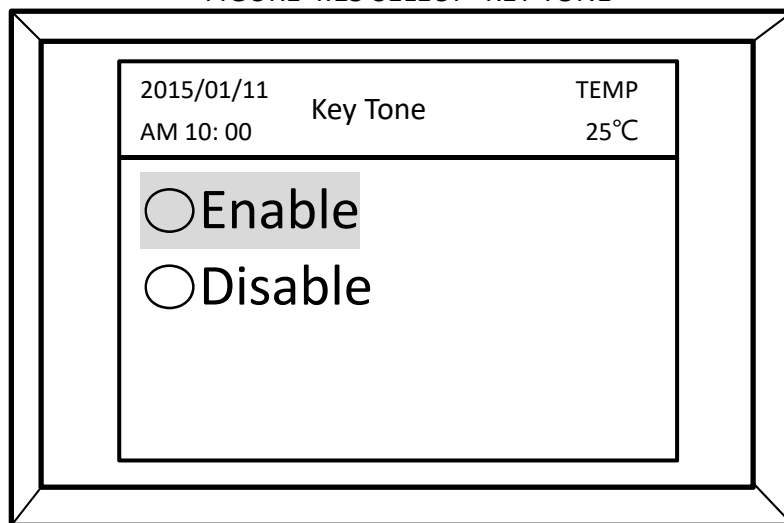


FIGURE 4.16 SET KEY TONE

4.4.4 Prompt tone setting

Following Figure 4.17 and 4.18, enter the “**PROMPT TONE SETTING**”, according to personal preference to turn on/off the alert tone, highlight your select then press “Enter” and finally **press** the “Return button ” to save.

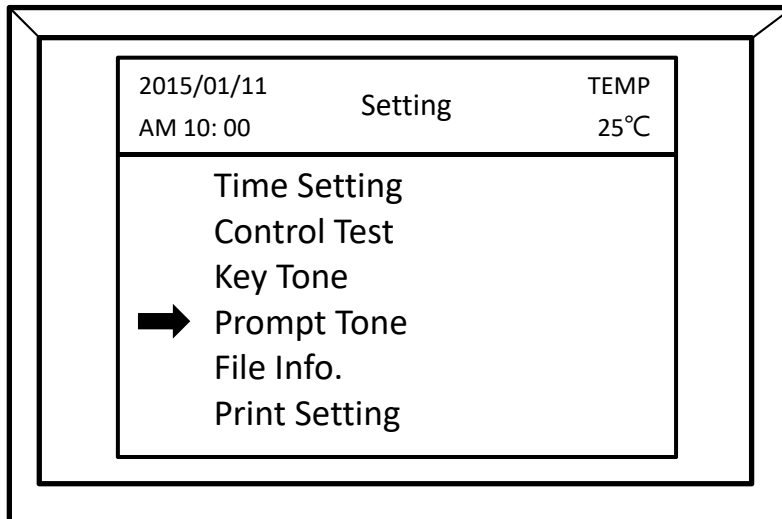


FIGURE 4.17 SELECT “ALERT TONE”

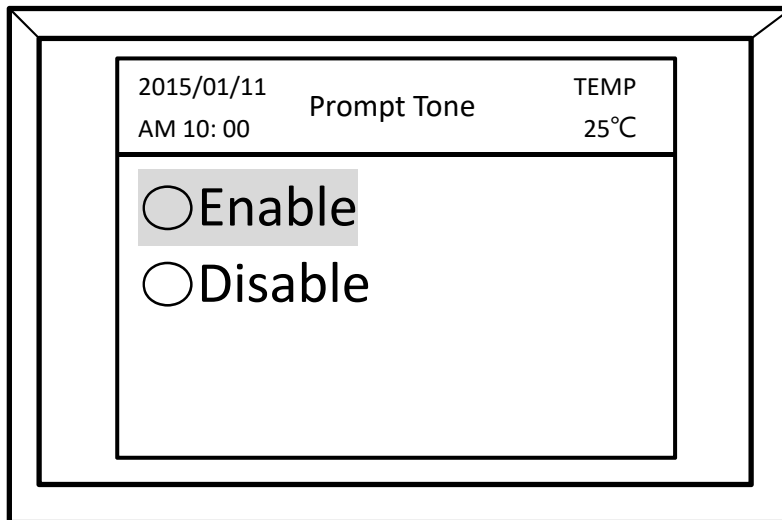


FIGURE 4.18 SET PROMPT TONE

4.4.5 File Info.

Following Figure 4.19 and 4.20, enter “**FILE INFO.**”, the function can select the file formatted or the file viewing. If you want to delete all files, you can choose “**FILE Init.**”; if you want to view the test items, you can choose “**VIEW Files**”, following Figure 4.21.

Following Figure 4.22, “**ROOTS**” is representative of the number of days to test (EX:41 , it is representative that there are 41 days to test); “**PACKS**” is representative of the number of rounds in all the days to test (EX:104 , it is representative that there are 104 rounds in 41 days); “**FILES**” is representative of the total test number (EX:438 , it is representative that there are 438 tests in 41 days, 60 sec each time).

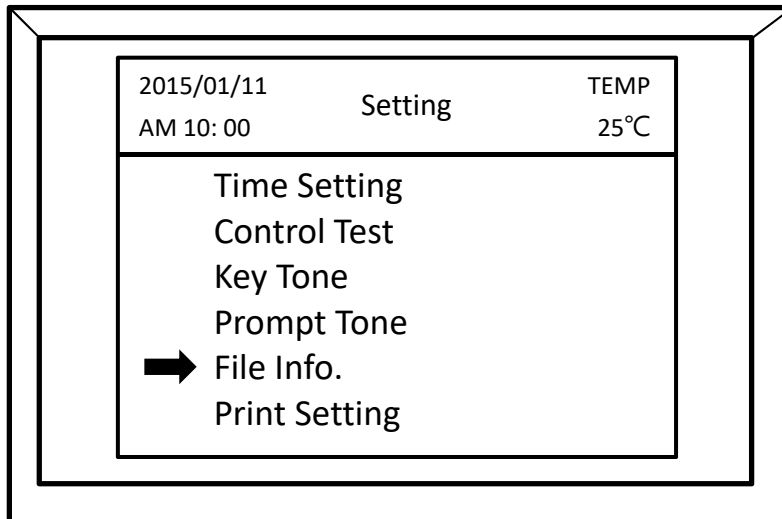


FIGURE 4.19 SELECT “FILE INFO.”

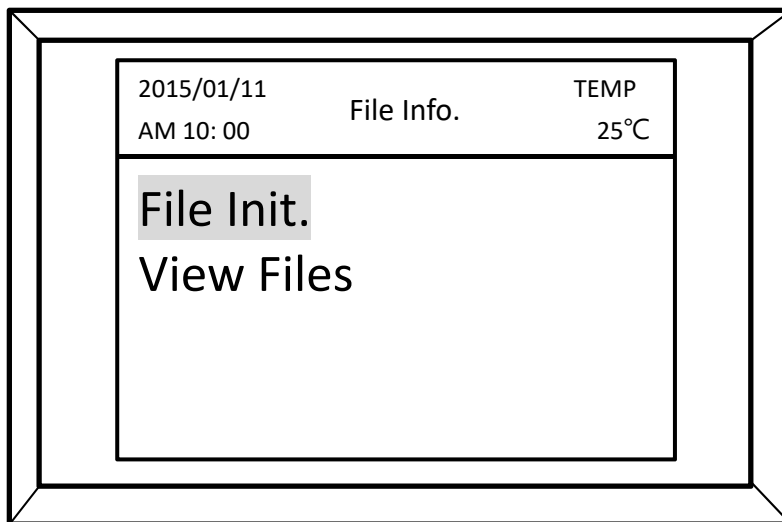


FIGURE 4.20 SELECT “FILE INIT.”

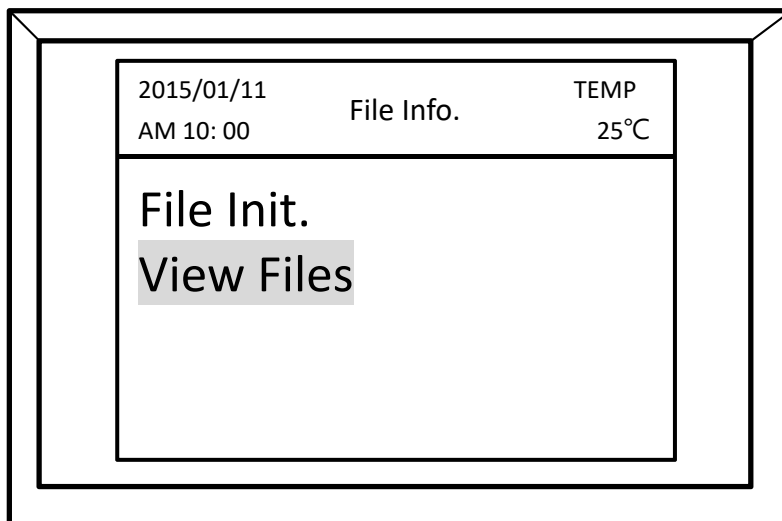


FIGURE 4.21 SELECT “VIEW FILES”

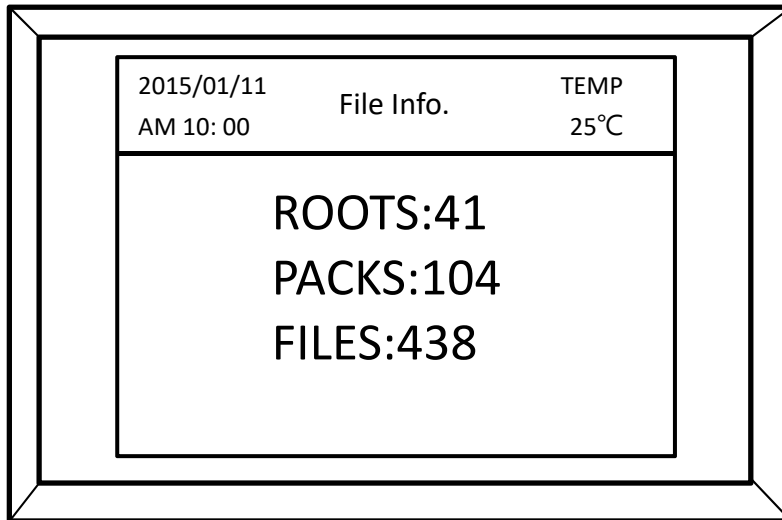


FIGURE 4.22 FILE USED VIEW

4.4.6 Print setting

Following Figure 4.23, enter "**PRINT SETTING**", select "**AUTO PRINT ON(OFF)**", highlight your select then press "Enter" and finally **press** the "Return button " to save following Figure 4.24.

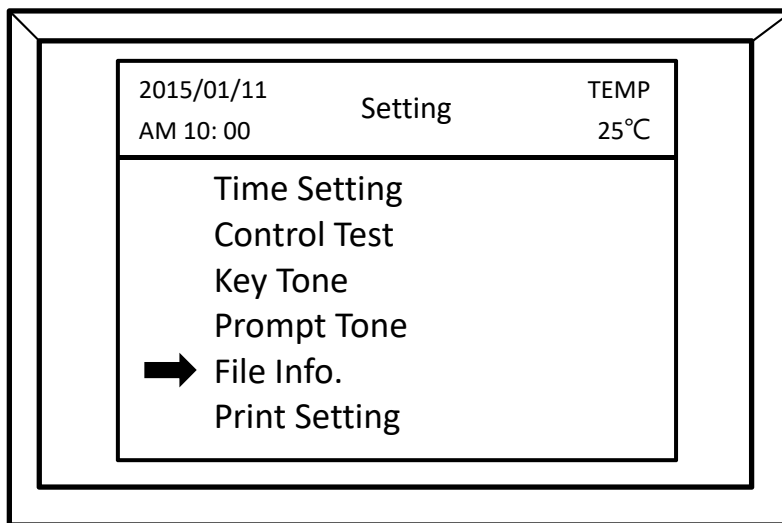


FIGURE 4.23 SELECT "PRINT SETTING"

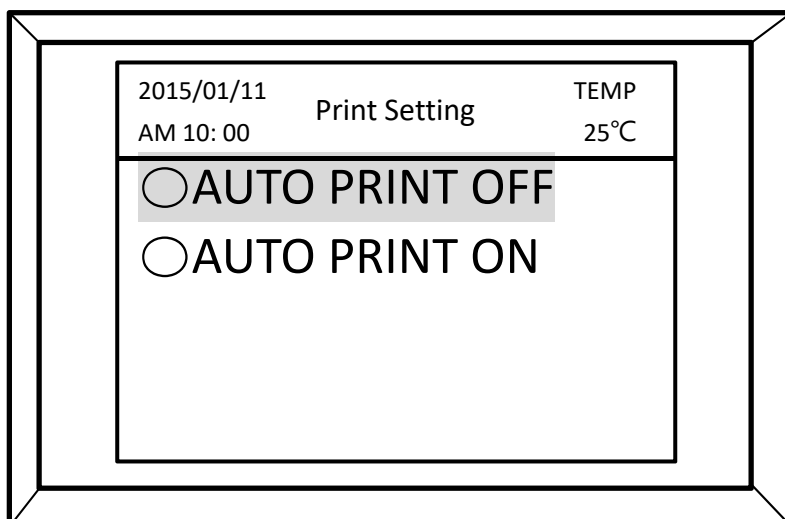


FIGURE 4.24 SELECT "AUTO PRINT ON"

4.4.6 Language

Following Figure 4.25, enter "**Language**", select "**RESTART GPS**", following Figure 4.26.

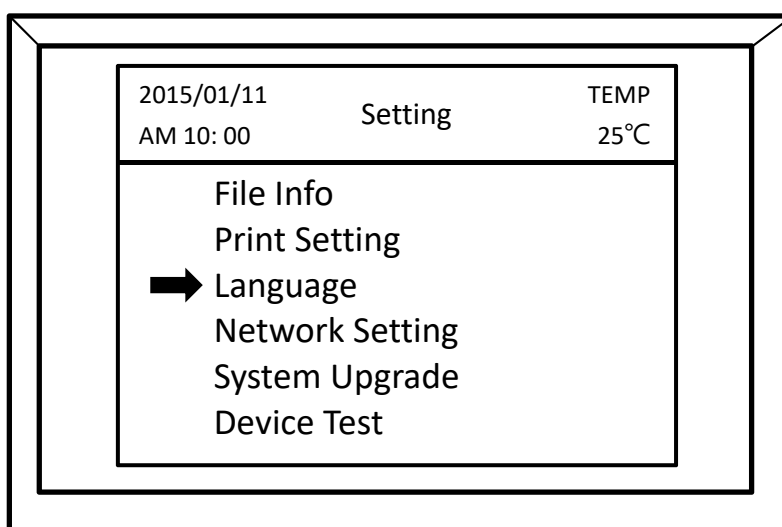


FIGURE 4.25 SELECT "LANGUAGE"



FIGURE 4.26 SELECT “YOUR LANGUAGE”

4.4.7 Network Setting/System Upgrade/Device Test

Following Figure 4.27, Network Setting/System Upgrade/Device Test is no useful for user , Please do not select setting.

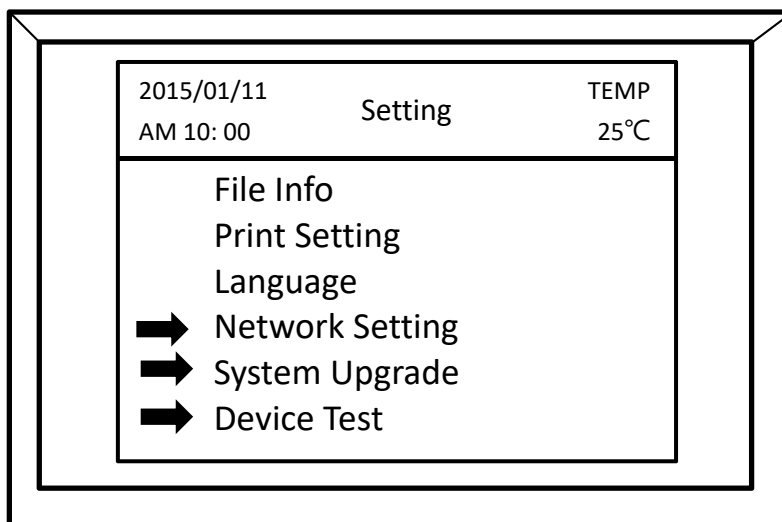


FIGURE 4.27 OTHER SETTING