AT320

Bill&Coin-operated Breath Alcohol tester

Operation manual

Ver：HW121017191

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1 Description

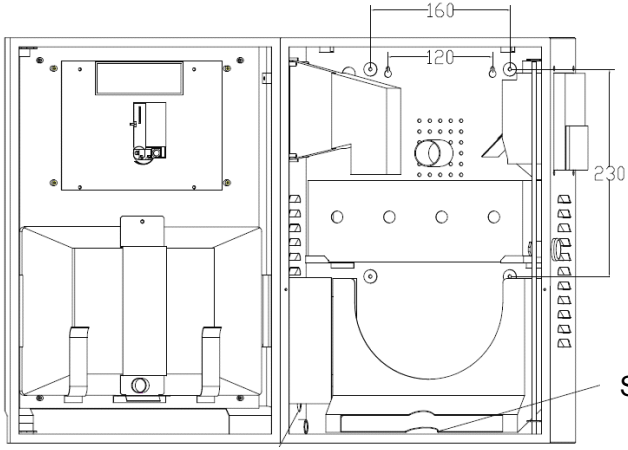
AT320, Bill & coin - operated Breath Alcohol Tester, is designed to measure alcohol concentration in the human body. With advanced fuel cell alcohol sensor, this device has excellent sensitivity and reproducibility, it could identify coin and bill; Reasonable and easy testing process, complete function, Clear LCD display make it versatile in many occasions. When the alcohol content exceeds the preset alarming level, it will send out an alarm warning and show the result directly and clearly on the digital LCD display; 10-inch digital photo frame could play video, picture etc.

2 Main technical Data

Model	AT320
Sensor type	Fuel cell sensor
Working voltage	AC110V～AC220V，50/60HZ
Preheating time	＜1 min
Environment	Temperature: 3℃～50℃; Relative：5%～95% No Dews
Testing time	＜8s
Detection range	0.000～2.000mg/L（0～440mg/100mL、0.000～4.000g/L、0.000～0.400%BAC、0.000～2.000‰BAC）
Warning concentration	Warning: 0.090mg/L; Danger: 0.250mg/L
Accuracy	±0.005BAC% at 0.05BAC%
Warning method	Audio and light
Display	Four digits LCD display; Test process and result are shown by the red, green, and yellow indicator light
Dimension	l×b×h,mm:310×141×450
Indication unit	five optional unit(mg/l、mg/100ml、g/l 、%BAC、‰BAC)
Coin for single time	0 —— 15 (For 0, the tester can be tested without coin)
Coin diameter	20mm～28mm
Coin thickness	1.2mm～2.5mm
Coin capacity	600pcs

Width of Bill	62mm～72mm
Bill capacity	600pcs
Straw box capacity	200pc（outside diameter is about 7mm）

3 Installation manual



Pic 1

Firstly please find a right place then fix the device on the wall (see Pic 1) by using the bolt packed along with the device. Or the tester can be put directly on the platform for use.

Remove the screw fixing the money tray before usage, it will be convenient take money from money tray.

4 **set up the test unit**

⚠ Note: Please cut off the power supply before operation

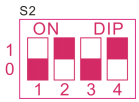
There are mg/l、mg/100ml、g/l 、%BAC and ‰BAC optional, user can set the test unit through Dial switch S2 which is inside of the device. Make sure the unit set is same with the unit shown on its front panel.

The test unit is set by dialing the first to the third switch. It means 1 when the switch is dialed on the top, 0 at the bottom. (Note: It is of no effect for the 4th

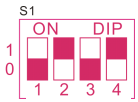
switch)

For example, in Pic 2 below, both the first and third switch are dialed at the bottom (they mean 0 separately); the second switch is dialed on the top (it means 1). So, according to the Table 1, current unit is g/l.

"mg/l" is the default test unit before the device leaves factory



PIC 2



Pic 3

A	B	C	D	Unit
0	0	0	×	mg/L
0	0	1	×	mg/100mL
0	1	0	×	g/L
0	1	1	×	%BAC
1	0	0	×	‰BAC

Fig 2

5 SET UP THE COIN QUANTITY

⚠ Note: Please cut off the power supply before operation

The money quantity is set by Dial switch S1 and S3 inside of the device. S1 is for setting coin quantity, S3 is for bill quantity, It means 1 when the switch is on the top, means 0 when at the bottom. Setting quantity range: 0-15pcs.

For example, in Pic 3, both the first and third switch are at the bottom (they mean 0 separately); the second and fourth switch are on the top(they mean 1 separately). So, according to the Table 2, you will need 5pcs coin to go ahead to test alcohol concentration. When S1 and S3 are set greater than 0, you could do test by inserting the required money as set by S1 or S3. (For example, if the machine is set as 2

A	B	C	D	CoinQty
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	0	0	0	8
1	0	0	1	9
1	0	1	0	10
1	0	1	1	11
1	1	0	0	12
1	1	0	1	13
1	1	1	0	14
1	1	1	1	15

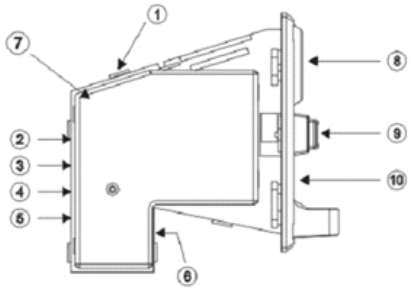
dollars for test, then S3 is set as 2 and S1 is set as 4, it meas the coin accepter could identify the model coin as 50 cent. If S3 is set as 2 and S1 is set as 8, it meas the coin accepter could identify the model coin as 25 cent; Due to the bill accepter's default setting is fixed as 1 dollar, so the S3 should be set as 2, by parity for reasoning) When the S1 is set as 0, the coin accept will cease working, the money quantity for test is only need to meet the setting of S3, and vice versa. When the S1 and S3 are all set as 0, you could test without inserting money.

1pc coin and 1pc bill is the default coin&bill quantity before the device leave factory. Note: Keep the total value of inserted coins the same as the value of inserted bills. The setting of inserting quantity of bill or coin should vary according to the variation of model coin or bill setting.

6 Set Money in Coins and Bills

6.1 Set sample coins

Power on, then, open tester's cabinet door, you can see LED indicator⑦ is always on. Press SET⑤ about 2s and loosen, you will see the up-left LED indicator⑦ changing from red to green. Re-do this process again, the indicator will change to red back and enter into COIN SET status. Put 20 sample coins (it is better to choose coins from different versions and years and drop coins in different speeds like normal users.) for debugging. The tester can be employed in reality if the LED indicator keeps lighting after quick flicker when debugging.



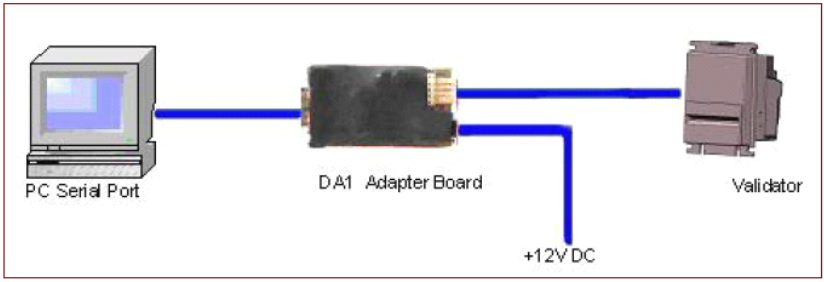
Function Explanation

Number & Name	Function
①three section micro switch	Distinguish accurate degree(accuracy, normal, loose)
②4pin socket	
③two section micro switch	Distinguish normal on(NO) and normal close(NC)
④three section micro switch	Coin signal transmission speed(quick, normal, slow)
⑤micro button	SET
⑥2pin socket	Electromagnetic gate
⑦LED indicator	Guiding to set coins
⑧slit	
⑨back money button	
⑩money return port	

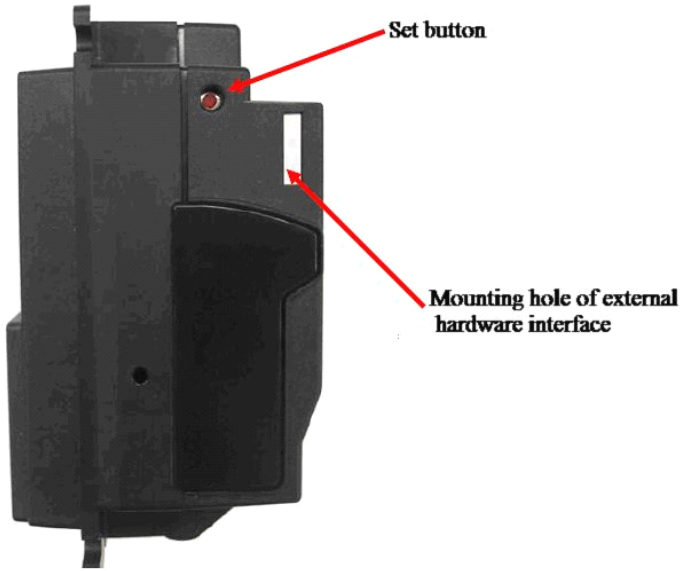
6.2 Set sample money notes

1. Open Validator Manager software，using interface tools DA1 to connect PC and validator. One port of DA1 connects the 16pin port of validator，while another port links the serial port of PC. Meanwhile，the same port

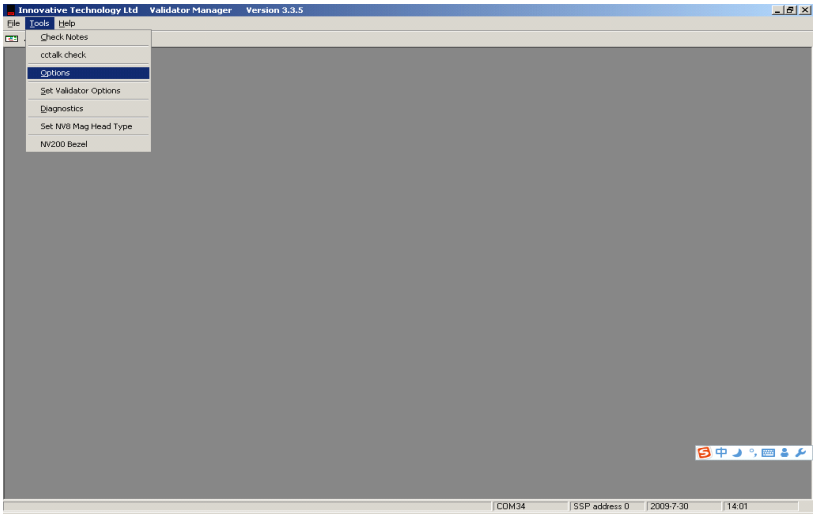
has two power line that provides driving force to validator. Red links +12V, black is for GND. Please see following picture.

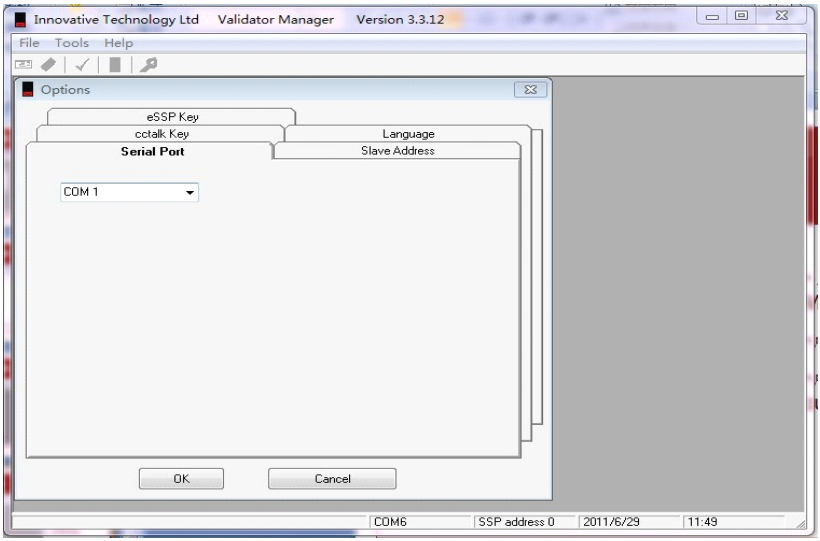


2. After first step, press set button (see following picture) more than 2 seconds, you will see the panel LED of validator is on. It will be quick flicker if you loosen. Afterwards, validator will re-start. Then, validator has been entered into SSP mode. You can set validator by operating DA1.

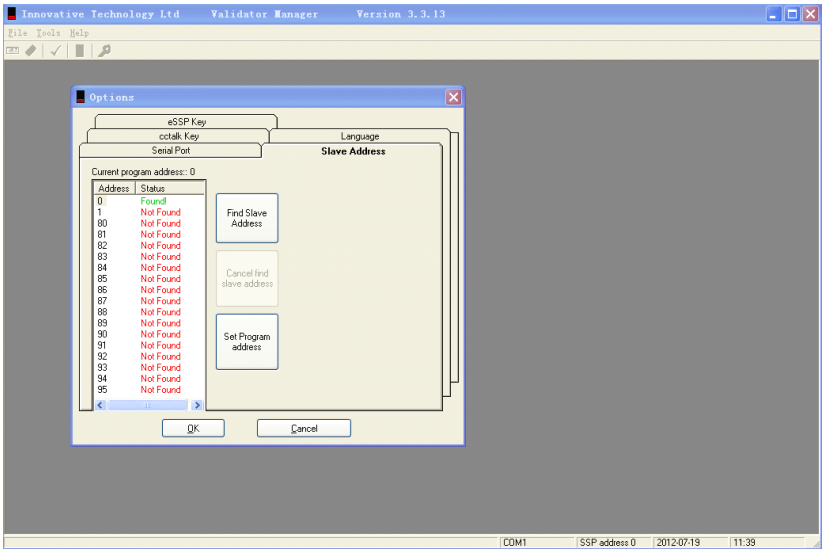


3. Open Validator Manager software， select “Tools”-“Options” –“Serial Port”，and choose appropriate serial port, then click “OK”.

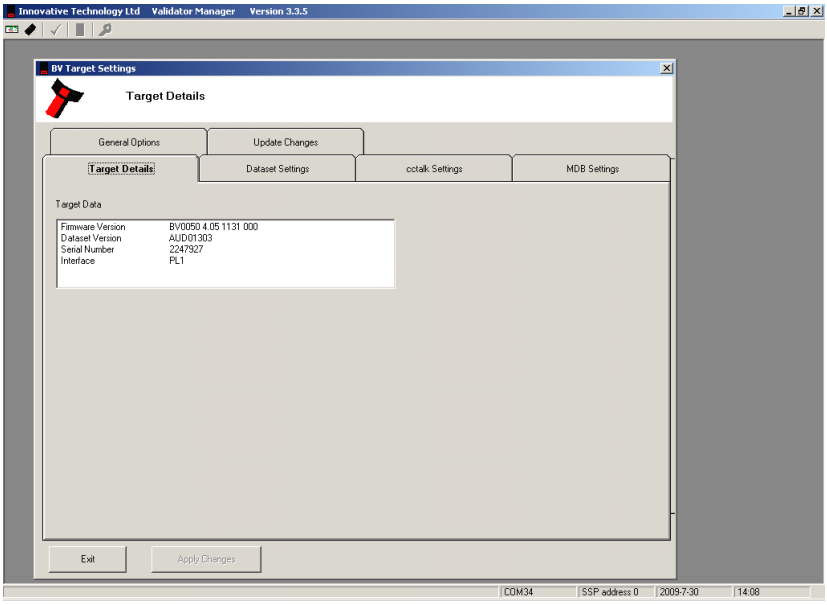




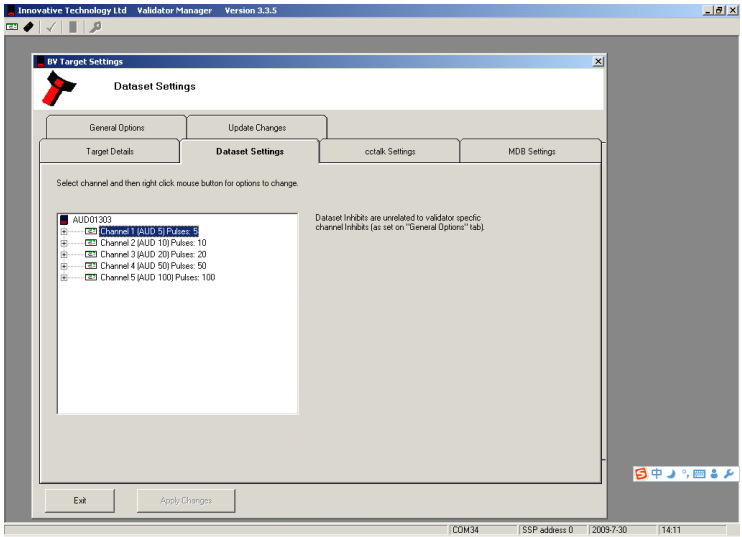
4. If setting sorts of currencies, continue to operate from step 8. If you want to set denomination, continue from this step. Select “Tools”， then “Options” –“Serial Port”, and “Slave Address”, click the first square，you will see green “FOUND” in “Address 0”, click OK to main menu.

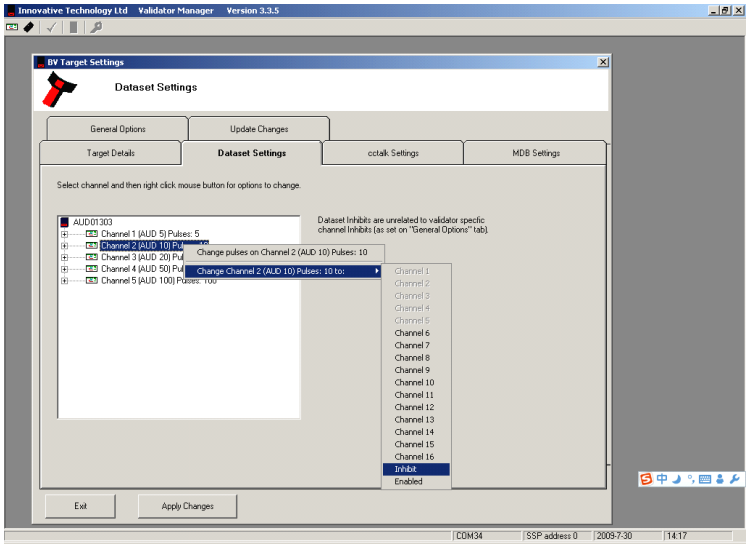


5. Select “Tools”，then “Set Validator Options” ，there will be some time for communication. Afterwards, you will see the below picture.

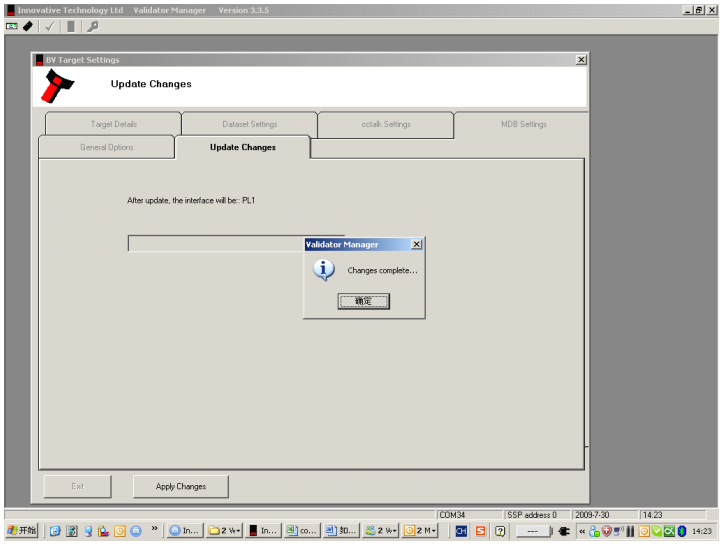


6. Select “dataset settings”， you can inhibit some denomination which no need. Click right mouse button, select “Change Channel to” “Inhibit”， it will be grey. While，if you want to re-use it，click right mouse button, select “Change Channel to” “Enabled”.

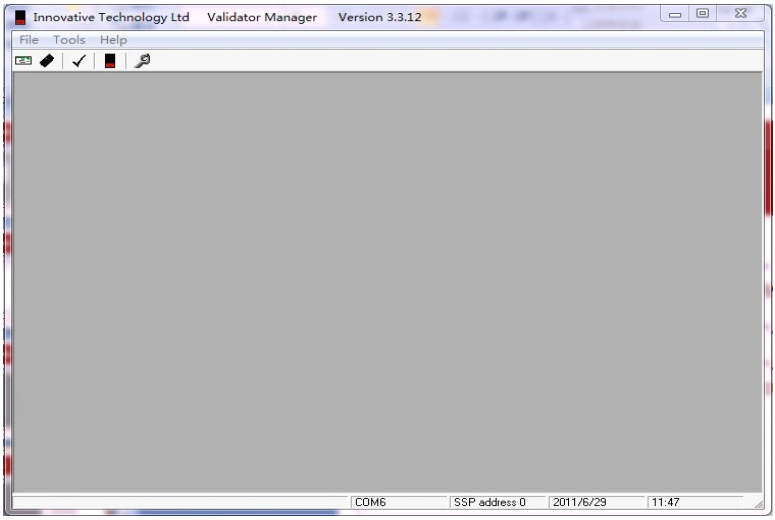




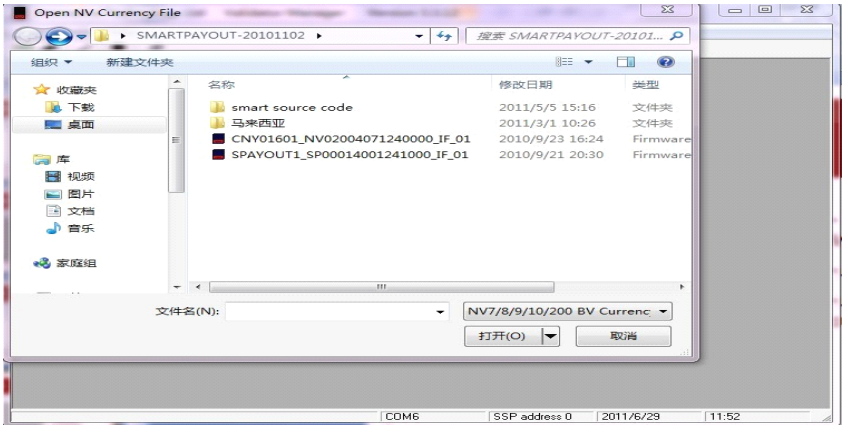
7. After set-up, select “apply changes”， to re-update validator, it will show “changes complete” when finished. Click “OK”, validator will re-start to complete the adjustment of corresponding channel.

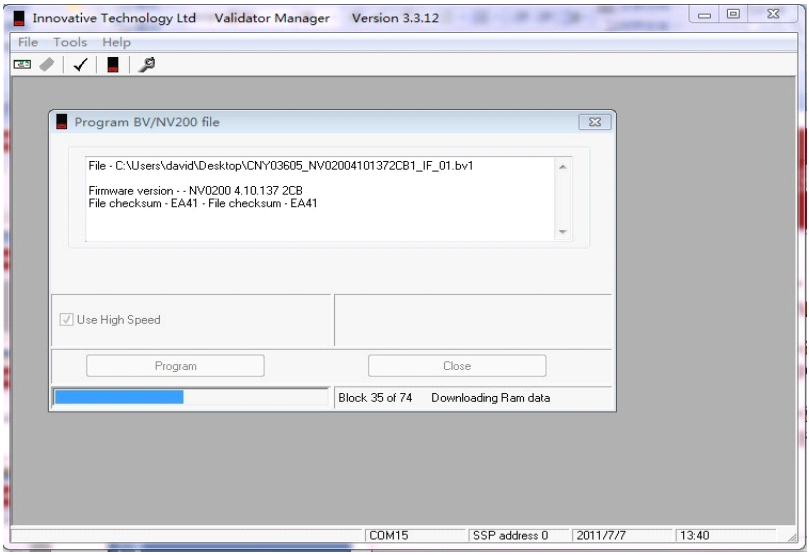


8. If setting sorts of currencies, firstly operate from step 1 to step 3, and then start from this step. Click “file”, “Open currency file”.

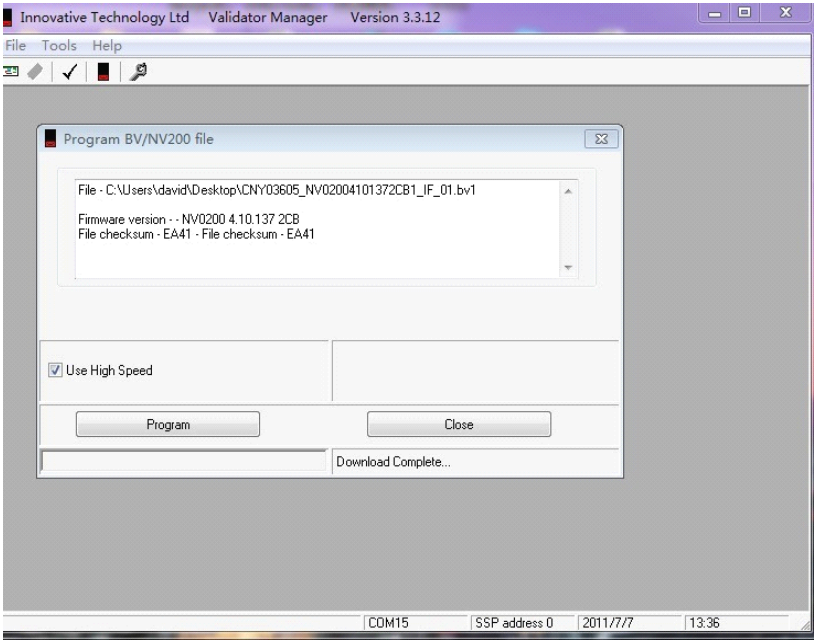


9. Double click the money notes data packet, and then click “PROGRAM”, update will be finished after a short waiting time.





10. When finished, it will show “Download Complete”, validator will re-start to finish the update of currencies. Click “CLOSE” to return to main menu.



7. Test procedure:

7.1), Install the tester well, connect the power supply.

7.2), Press the on button, it begins to initialize firstly, along with buzzer ring, the indication LED will turn on then off in turn, this is checking the buzzer and indication LED is working normally or not; The LED screen will show “aa c” “bb c”and “dddd” in turns (aa means the coin quantity should be inserted, bb means bill quantity should be inserted, c means the measuring unit, dddd means the tests No.s of sensor module have been made).

when “Wait” indicator light twinkles, it begins to warm up but can’t take test at this time. About 6 seconds later, the initialization finishes and test can begin, meantime, < Insert straw > indicator light illuminates, <Insert coin> and <Insert bill> light twinkles and prompt to throw coin/bill and start to test.

7.3), After the initialization is finished, the tester enters into normal testing

procedure. If the coin/bill quantity is set as 0(it means no necessary to insert coin/bill), now the “insert straw” LED is on, please follow the step 7.5 to continue operation; If the coin/bill quantity is set not 0, now the “insert coin” or “insert bill” LED illuminates, please follow step 7.4) to insert coin/bill.

7.4), Insert coin: The coin could be inserted when ＜INSERT COIN＞ or ＜INSERT BILL＞ LED flash, the coin/bill quantity and value is up to the model coin and model bill initial enactment. For more coins/bill insert, the tester will send out “di” for each coin/bill and show the necessary remanent quantity on screen. When the coin/bill reaches up to the quantity of initial setting, <Insert coin> or ＜insert bill＞LED is off, <Blow> LED twinkles and test can be started.

7.5), Take the straw from straw box, insert the straw, please have a deep breath, then blow to tester continuously and equaly, don’t stop until the prompt tone sounds. If the user stops blowing during the test, the device will send out “di----di di” sound to remind “breath interrupt”. The user should blow again till the blowing finishes after the “di---di di” stopped.

7.6),The result on the LCD screen shows the alcohol concentration in the user’s body when the test finishes.

7.7), The result will be displayed on the screen for several seconds, then the LCD turns to normal wait state again, the user can take test for the next time.

Testing result type	**Alcohol tester staus**	
	Indication LED	**Buzzer**
OK（lower than warning level）	OK LED on	soft “di-di di” sound
Warning（between the warning and danger level）	Warning LED on	“di-di di” sound
Danger（reach or exceed the danger level）	Danger LED on	Hurried “di-di di” sound

Table 5

8. Notification

8.1. Avoid any fall or strong shock.

8.2. If noise gas with high concentration existed, may the tester won't work normally.

8.3. To ensure the real test result of alcohol concentration and avoid sensor damage, please wait 15 minutes to take test after drinking.

8.4. The result may be unreliable for your first test if long time storage, please try again for several times.

8.5. Do not keep the tester in the environment of Corrosive gas (Chlorine etc) for use or deposit.

8.6. The life of sensor is over 2 years under standard use in the normal environment.

8.7. If need to clean the tester, please use the soft wet cloth or appropriate neutral scour, do not use the organic solvent to clean the tester surface。

9, Normal fault and solutions

Fault	Possible reason	Solution
No display on LCD	Unstable power cord connection	Plug in again
	Circuit fault	Contact distributor
No response to detection gas	Gas entrance jam	Wipe off the jam
	Circuit fault	Contact distributor