

# **ALERT J5™**

Breath Alcohol Tester

## Safety and Precautions

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ALERT J5 breath alcohol testers (BATs) are designed for easy and safe operation. The following precautions should be followed:

- Do not open J5's case. Doing so will void the warranty and potentially damage the components within.
- Avoid exposing J5 to direct sunlight for extended periods of time.
- If any liquid is spilled on J5, remove all excess fluid with a cloth and allow J5 to dry thoroughly before attempting to power on. If it is believed there is excessive water damage, do not power J5 on. Contact ACS.
- Keep all transmitting devices (such as cell phones) away from the BAT to ensure minimal RF interference.

## Warranty

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All ACS products are warranted to be free of defects in workmanship and materials for a period of one year from the date of shipment.

ACS agrees to replace or repair any defective J5, provided the defect was not caused by misuse or mishandling.

J5's being returned for warranty repairs must be properly packaged and shipped prepaid to the authorized service provider.

## Maintenance

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J5's are made for field use, making them susceptible to dirt and debris. J5 should be cleaned with a damp cloth and mild soap. Do not use abrasive cleaners or solvents.

Periodic maintenance and calibration is required. Contact ACS for more information.

## Contact Information

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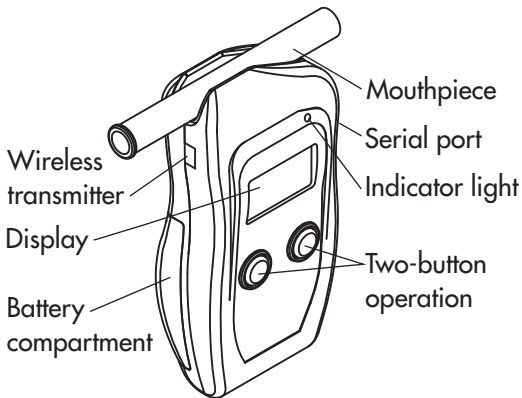
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## ALERT J5

A professional series breath alcohol tester (BAT), both accurate and easy to use for industry professionals.



ALERT J5 measures breath alcohol concentration (BrAC), which is directly proportional to the blood alcohol concentration (BAC) of the test subject.

The BAC results can be printed on site using the optional, battery operated printer (pg.6). This printer can be connected to J5 by a communication cable or by wireless communication.

The Main Menu enables the user to customize certain J5 settings (pg.9).

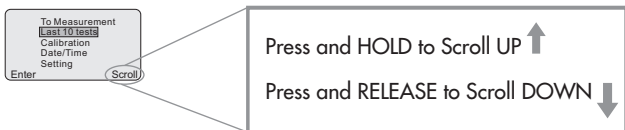
## Features

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### Buttons

There are two buttons on the front of J5. Either button turns the power on and the left button accesses the Main Menu.

- To scroll upwards, press and hold the right button
- To scroll downwards, press and release the right button
- To select, press and hold the left button



### BAC/BrAC Format

The blood alcohol concentration (BAC) format is available in five formats; mg%, mg/L, %BAC, g/L and  $\mu\text{g}/100\text{mL}$ .

### Battery

The BAT requires two "AA" alkaline batteries. To replace, remove the rear cover by pressing the tab to release.

### Automatic Shut down

Power is automatically shut down after a certain time of inactivity. This value can be customized, refer to the **Settings** section.

To manually shut down J5, from the Main Menu select **Shut down**.

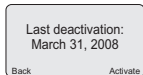
## Activation

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J5 is deactivated after testing and calibration at the factory. This enables J5 to be stored without losing any time from the calibration period. Once activated, J5 automatically increments the next calibration due date to 365 days from the date of activation.

Deactivation is indicated by a **Not Activated** message when J5 is powered on.

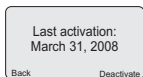
*Note! This feature is displayed in the Main Menu only if J5 has been previously calibrated.*



### To activate J5:

1. From the Not Activated screen, press the left button to Activate.
2. The deactivation date is shown.
3. Press the right button to Activate J5.

The calibration due date is now 365 from the current date.



### To deactivate J5:

1. Press the right button to enter the Main Menu.
2. Press the right button to scroll to Deactivate and the left button to select.
3. The last activation date is shown. Press the right button to Deactivate J5.

## About Menu

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The About menu allows the user to reference the handset's information if there are ever any problems with J5 or updates from ACS.

To access the About menu:



1. Power on J5 by pressing either button on the front of the handset.
2. In the Ready screen, press the left button to access the About menu (see figure).

The Activation menu contains:

### **J5 Serial No.**

Handset serial number.

### **FC Serial No.**

Fuel Cell serial number.

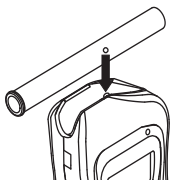
### **Firmware**

The firmware version number.

### **Language**

The language file version number.


## Taking a breath test



1. Remove a new mouthpiece from the plastic wrapping, align the holes and insert into the top of J5.

The mouthpiece end with the rimmed edged is to the left (see figure).

2. Turn the power on by pressing and holding either the left or right button on the front of J5.

 *Note! Do not eat, drink or smoke anything for at least 10 minutes before taking a test. This contaminates the breath sample.*



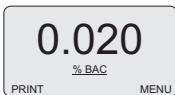
3. The indicator light is green and the **Ready** message is displayed when warm-up is complete.



4. Take a deep breath and **blow**, moderately and continuously into the mouthpiece for approximately 3 to 4 seconds. A tone is heard indicating a proper breath flow.

If blowing is not being done properly, a message is displayed to correct it.

5. Stop blowing when a click sound is heard and the tone stops. This indicates the breath sampling process is complete.
6. Analyzing takes a few seconds, depending on the amount of alcohol in the breath sample. If the breath test is being done outdoors in cold weather the analyzing time may increase slightly.



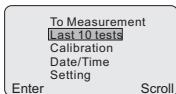
7. J5 displays the BAC result. There are two options:

- Press the left button to print the BAC result. Refer to the **Printing** section for more information.
- Press the right button to go into the Main Menu. To take another breath test, select **New Test**.

*Note! In the event of any problems, refer to the Troubleshooting section.*

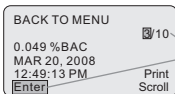
## Recalling a breath test

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1. Press the right button to enter the Main Menu.

2. Scroll using the right button and select **Last 10 tests** (see figure) by pressing the left button. The most recent breath test is displayed.
3. Press the right button to scroll to the breath test number (see figure below). The left button (**Enter**) scrolls through the logged breath tests.



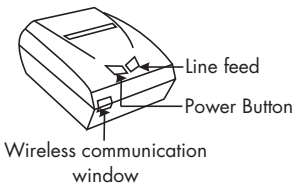
Scroll through breath tests

4. From the test recall screen the breath test can be printed. Press the right button to scroll to **Print**. Select with the left button. See the printing section for more information.

## Printing a breath test (optional)

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An optional printer is available to print the BAC test results of J5. It utilizes a rechargeable battery pack enabling the printing of results on-site of where the breath test is being taken. It uses either wired or wireless communication. The printer kit includes:

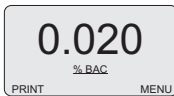


- Rechargeable battery pack
- 12V power adaptor
- Paper roll
- Communication cable (RS-232)

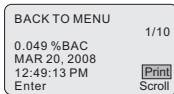


*Note! When using the printer for the first time, allow the battery to fully charge overnight. The printer does not print while the battery is charging. Refer to the Troubleshooting section for charging details.*

### To print a test wirelessly



1. With the breath test result on the display, access the **Print** function by pressing the left button.



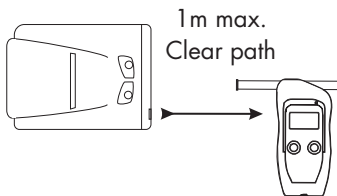
Or print a recalled test by displaying the breath test on the display and selecting **Print**.




2. If there is no cable detected, J5 defaults to the infrared port (IrDA).  
*(If using serial connection, see next section)*

3. Turn the printer on by pressing the left power button. If the printer does not turn on, the battery may require charging.

4. Align J5 within **1 meter** of the printer's wireless communication window as shown in the figure. Make sure the path is well aligned and **clear** of obstructions.




5. Select **Print**. The **Wait** message is displayed and printing begins.

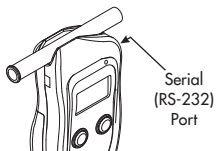
 *Note! If there is not a clear path between J5 and the printer, or if it is not aligned properly, a "No acknowledgement from IrDA" message is displayed.*

6. The printout is similar to the example below. A **Done!** message is displayed when printing is complete.

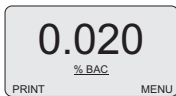
J5 Breath Alcohol Tester	
Serial Number:	000056
Unit of Measurement:	%BAC
Test Record No:	8
Subject Test 0.051%BAC	August 28, 2007 09:57:06
Subject Name	_____
Licence Plate	_____
Operator Name	_____
Test Location	_____
Department Name	_____

 *Note! In the event of any problems, refer to the Troubleshooting section.*

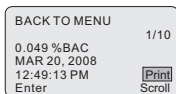
## To print a test serially



1. Connect the communication (serial (cable) provided from J5 to the serial jack on the underside of the printer.

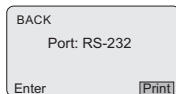


2. With the breath test result on the display, access the **Print** function by pressing the left button.



Or print a recalled test by displaying the breath test on the display and selecting **Print**.

3. Turn the printer on by pressing the left power button. If the printer does not turn on, the battery may require charging.



4. The print screen is displayed. J5 detects the connection and the port is **RS-232**.

5. Select **Print**. The **Wait** message is displayed and printing begins.

6. When printing is complete, the **Done!** message is displayed.



*Note! In the event of any problems, refer to the Troubleshooting section.*

## Main Menu

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- To Measurement

Exit the Main Menu and returns to the breath test display.

- Last 10 tests

Test records stored for reference and printing purposes.

- Calibration

Refer to the calibration section. Calibration is performed by a trained service provider.

- Date & Time

J5 has a real time clock for time stamping the breath test results. The accuracy of the date and time is checked during routine service.

- Settings

The customizable features are in the settings menu.

### *Unit of BAC/BrAC*

*The units can be changed to any of the five BAC/BrAC unit options.*

### *Backlight*

The backlight of the display can be adjusted for a brightness level of 0-100%. The on time of the backlight can be changed to 10-300 seconds.

### *Shut down timer*

The shut down timer helps to conserve battery power. J5 can be set to automatically shut down after 30-900 seconds of inactivity.

- Language

The language is not customer accessible but is customizable to order.

*Note! This menu item only appears if there is more than one language installed.*

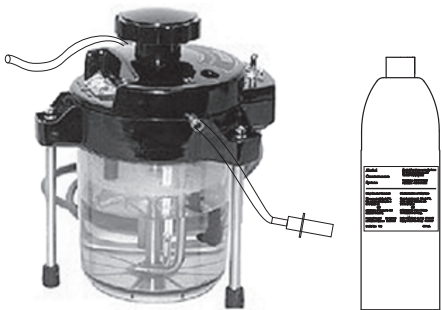
- Shut down

To conserve battery life, it is recommended to shut down J5 when not in use, and to not always rely on the shut down timer.

## CALIBRATION

ALERT J5 requires periodic calibration to maintain optimum breath analysis accuracy.

Calibration is performed using an ethyl alcohol reference solution and a breath alcohol simulator. This method is also referred to as a wet bath calibration.



Calibration should only be done by trained service personnel.

- The J5 calibration expiry date is found in the **Main Menu>About Device>Cal Expiry**.
- The alcohol reference solution value to be used for calibration is found in **Main Menu>About Device>Cal Solution**.

## Breath Alcohol Simulator (Wet Bath) Calibration

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### Equipment:

- Toxitest breath alcohol simulator  
ACS #94-000140 (110V), #94-000150 (220V)
- Plastic tubing (2) ACS #
- J5 Pressure tube mouthpiece (1) ACS #95-000130
- Round style mouthpiece (1) ACS #95-000140
- Ethyl alcohol reference solution 100 mg% BAC ACS #95-000310  
or 50 mg% ACS #95-000305.

### Toxitest setup

The Toxitest is a breath alcohol simulator which utilizes a known water alcohol solution to produce an air to alcohol vapor which is thermostatically controlled to a temperature of 34°C to simulate breath temperature. The result is an accurate method of recreating a known breath alcohol concentration.

*CAUTION! Make sure the Toxitest is unplugged before assembling or disassembling. Failure to do so results in damage to the heater element and risk of electric shock.*

1. Visually inspect the Toxitest and verify the solution container is clean and free of any cracks.
2. Remove the top housing by holding the solution container and turning the large knob until it is released.
3. Lift up the top housing and check the mercury column on the thermostat and thermometer for no separation. In the case of separation, refer to the troubleshooting section.



4. Set the top housing aside upright on its feet. Fill the solution container with a new ethyl alcohol standard.

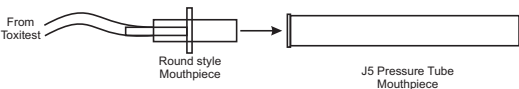
**Do not fill past the fill line.**

5. Place the top housing assembly back into the solution container. Lift the solution container to meet the top housing and turn the knob to tighten. Do not over tighten as this will result in cracking the solution container.
6. Connect the plastic tubes to the **AIR IN** and **VAPOR OUT** ports on the Toxitest. Connect a round mouthpiece to the **VAPOR OUT** tube.
7. Check for leaks in the seal by blowing into the Toxitest with the **VAPOR OUT** port covered. No air should bubble through the solution. In the case of a leak, refer to the troubleshooting section.
8. Plug in the Toxitest power cable and switch to the **ON** position. The mixing propeller begins to rotate as power is being supplied to the heating element. Set the Toxitest aside to warm up.

It takes approximately 15-20 minutes for the alcohol solution to heat to 34°C. The ready light is located on the top housing beside the thermometer and indicates when the temperature has been reached.

## Procedure

1. Power J5 on by holding down either the right or left button. Allow the J5 to initialize and display the Ready message.
2. Access the Main Menu by pressing the right Menu button.
3. Scroll through the menu using the right button and select **Calibration**.
4. Enter the four-digit Service Code provided with the J5.
5. Scroll through the Service menu and select FC Cal.
6. The handset beeps and displays a Ready message. At this time, verify the Toxitest is ready by the indicator light on the top of the tester.
7. Connect the round mouthpiece from the Toxitest VAPOR OUT to the pressure tube mouthpiece of the J5 (see below).



8. Blow forcefully into the Toxitest until the **Blowing...** message is displayed. Keep blowing until the tone stops and the J5 clicks.
9. The sample is analyzed. When complete, the J5 displays:
  - A VER message indicates the J5 is within measurement tolerance.
  - A CAL message indicated the measurement is out of tolerance and the calibration factor is automatically updated.
10. Turn the J5 off and do not conduct any breath tests for 5 minutes after completing calibration.

*Refer to the Troubleshooting section for any other errors.*

## Troubleshooting Table

If the BAT.	What to do.	Refer to...
Will not turn on	Change the batteries	2
Displays Not Activated	Activate J5	3
Connect print wirelessly	Check that the printer is on Check the J5 and printer wireless windows are well aligned with no obstructions.	8-9
Cannot print using serial connection	Check that the printer is on Check the cable connection Check the cable	10
Is displaying irregular results	Change the mouthpiece Verify the test subject has not had anything to drink or smoke Check the calibration due date	5, 13
Mouthpiece is clogged or dirty	Replace the mouthpiece	5
Printer is out of paper	Order from ACS part number #95-000174	21
Requires service	Contact ACS for return procedure	ii

## Inserting/charging the printer battery

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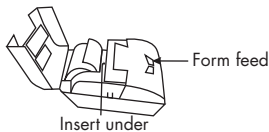
1. Align the power terminals and push the battery pack into the bottom of the printer.
2. If not already connected, plug the round power cable from the Power Control Module to the underside of the printer.
3. Plug the AC or DC car charger provided to the jack at the rear of the case.
4. The Print charge light on the Power Control Module lights red. The left power button on the printer lights red indicating the battery is charging. Allow the battery to charge for 12-16 hours initially.
5. When the battery has finished charging both red lights turn off. Unplug the power to the case.

*Note: It is recommended to remove the battery when the printer is not in use and to let the battery fully drain before recharging. This prolongs the battery life.*

## Loading the printer paper

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1. Open the top cover by pushing up on either side of the printer.
2. Pull the tab to the right and insert the paper roll. Release the tab and the paper roll is aligned in place.
3. Feed the paper into the slot between the roller and ribbon cassette.



4. Turn the printer power on, and push the right line feed button until the paper feeds smoothly through the printer.
5. Close the top cover.

*Replacement paper rolls are ordered from ACS. Reference part number #95-000174.*

## Calibration Troubleshooting

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In the event of a calibration failure, first check the common causes of errors:

- Plastic tubing has been overused, or has condensation present.
- The alcohol standard solution value is NOT 50 or 100mg% BAC.
- The alcohol standard solution is expired, or has been in the Toxitest for more than 5 days.
- All connections to and from the Toxitest are not secure.

### Toxitest

If the Toxitest...	Action
Mercury is separated in the thermostat or thermometer	There may be a separation in the mercury column of either the thermometer or thermostat. Remove the top housing and spray an aerosol "chiller" solution onto the bulb of the thermostat or thermometer. Alternatively, place the assembly in the freezer for 2 hours. The mercury column will shrink within the bulb and rejoin.
Has a leak in the seal	The rubber "O" ring seal is damaged or misaligned. Remove the top housing and reposition the seal. Replace the seal if it is worn or damaged.
Does not reach or maintain 34°C temperature	The thermostat or heating element may be defective, and the Toxitest must be sent for service.
Has condensation in the plastic tubing	Fit the plastic tubing on an aquarium air pump or similar setup for drying.

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Revision 2.0

ACS Part Number #60-000032

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