

# Ethanol Fueled

BREATHALYZERS, TESTED IN THE NAME OF SCIENCE. *by Daniel Pund*

PUT ASIDE FOR A MOMENT that if you are wondering how drunk you are, the answer is essentially always some version of “drunk.” The precise level of your drunkenness is pretty meaningless. Further, let us say at the outset that if you feel compelled to test your blood-alcohol concentration (BAC), you should be immediately disqualified from driving. Nonetheless, the market is loaded with supposedly handy little devices of all shapes, sizes, and price tags to test the state of your buzz, ostensibly to make sure it’s under the legal limit of 0.08-percent BAC. Could they possibly work? How about one that comes with an app for your phone? One that comes as a key chain? One that costs \$15? We gathered up four popular devices priced from \$15 to \$150 from three different manufacturers, reserved a corner booth at a local watering hole, apologized in advance to our waitstaff, and got down to business.

□ this month: BARWARE

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#### ▲ IPEGA ALCOHOL BREATH TESTER / \$15

The iPega, which attaches to the bottom of any portable Apple iOS device (or at least one old enough to use a 30-pin connector), uses the phone simply as a power source. It has its own easily fogged LCD screen, one so dim as to be nearly illegible in anything but daylight. All of that might be forgivable given that the iPega costs so little. But the unit simply does not work. We tried the iPega on four different people at various states of drunkenness over the course of the night, for a total of 23 times, and it never came close to the right answer. By the time BAC levels got to the 0.08-and-above range, the iPega habitually read only half as much. Junk.

**DETAILS:** No mouthpieces necessary/Powered through an Apple 30-pin connector, making it compatible with older Apple products.



#### ◀ BACTRACK KEYCHAIN / \$30

The idea that a breathalyzer small enough to carry on your key chain might actually work is beyond absurd. Yet the BACtrack Keychain is, somewhat shockingly, the winner of the test. At \$30, it's cheap. It doesn't rely on your phone for power or any apps with fancy graphics. It's quick and easy to use. And the Keychain also matches the performance of the \$150 BACtrack Mobile. In fact, when blood-alcohol concentrations got into the stupid range, well beyond the zone where not even the most irresponsible person would consider driving, the Keychain outperformed its more expensive BACtrack brother.

**DETAILS:** Comes with three mouthpieces, and a standard-style yet annoying key ring on which you will possibly lose a nail.



photography by JOHN ROE

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#### ► BACTRACK MOBILE/\$150

When your drinking buddies see you pull out the BACtrack Mobile, with its Bluetooth hookup that allows it to communicate wirelessly to the nicely constructed app on your smartphone, they will be under no illusions as to your seriousness (and budget) for testing your breath. The unit is quite accurate, only becoming a little overexcited as BAC rises deep into the *Leaving Las Vegas* zone. The app is agonizingly slow but easy to read once your results are ready. It even has a function that will post your BAC to your Facebook page, which would seem only to encourage competitive and potentially dangerous binge drinking, to say nothing of ill-advised, long-lasting social-media posts.

**DETAILS:** Comes with three mouthpieces/Compatible with Apple iPhone 4S, 5C, and 5S; Samsung Galaxy S3 and S4; iPad mini; and some iPads/Requires free app.



#### ▼ BREATHOMETER/\$50

In the world of breathalyzers, we suppose it's safer to consistently read too high than too low. But really, a unit that reads inaccurately is essentially useless. The Breathometer is, therefore, essentially useless. This device, which plugs into the headphone jack of your smartphone, indicated that one of our participants had a BAC of 0.20 after three drinks consumed in an hour and a half, while our control unit revealed he was at a reasonable 0.065. For perspective, 0.20 is a level of drunkenness associated with vomiting, loss of pain sensations, blackouts, and disruption of the gag reflex. Possibly worse, a man who hadn't had a drink in three days blew a 0.03.

**DETAILS:** No mouthpieces necessary/Compatible with Apple iOS 7 devices and select Android devices/Powered by a AAA battery/Requires free app.



## THE TEST PROCEDURE

We tapped three *C/D* staffers representing different body types and at least two different genders to act as alcohol-consumption devices. A fourth staffer horned his way into the test as a participant on the grounds that he “wouldn't mind getting drunk for free.” And drunk they all became. The procedure called for consuming a drink, waiting 15 to 20 minutes (the time required to get an accurate reading on the devices), and blowing into our four test units as well as a Life-loc FC10—a professional, fuel-cell-type breathalyzer similar to those used by police. The roughly \$500 FC10 unit was calibrated by its manufacturer immediately before this test and was used as our standard of accuracy. The schedule meant that each participant would consume two drinks per hour and become stupidly drunk enough to a) vomit, b) hug strangers who were really just trying to get to the bathroom, or c) perform an impersonation of Beavis at triple-digit decimal levels, perhaps 30 times. Naturally, we had designated drivers on hand to ferry the drunkards home.