



Location-Based, Real-Time Remote Monitoring for Breath Alcohol Testing



NUMEREX NETWORK SOLUTIONS ENABLE THE SCRAM REMOTE BREATH™ ALCOHOL TESTER

How do you build a remote alcohol tester that provides law enforcement officials all the detail they need including unsupervised breath testing, regular test results, location of device, facial recognition of user, and wireless connectivity – without being overly invasive? SCRAM Systems was faced with these issues when developing the Remote Breath device, and partnered with Numerex to develop a solution.

SMART MONITORING THAT FITS THE OFFENSE

Identifying the market opportunity for a low-intensity alcohol tester that offered ease of use for offenders and law enforcement officials, SCRAM partnered with Numerex for expertise in M2M connectivity. “On one level, our products are made to answer the question, ‘Has the offender been drinking?’” says A.J. Gigler, director of product marketing at SCRAM. “But on a deeper level, our customers actually rely on us to give them options in determining the best fit for risk, need and compliance. With the recent trend toward evidence-based practices and graduated sanctions, we envisioned a better breath alcohol testing device that would employ facial recognition software, while communicating through a wireless network to confirm the user’s identity. The result is Remote Breath.” Within 30 seconds of an offender blowing into a Remote Breath device, the results – blood-alcohol content, time, location, confirmation of user identity – are available for review by the officer. Gigler attributes much of that rapid and reliable communication to the partnership with Numerex.



“Because we have that real-time element from Numerex on a reliable GSM network, we can deploy SCRAM Remote Breath anywhere in the country – or world – for real-time breath alcohol testing with facial recognition.”

– A.J. Gigler, Director of Product Marketing, SCRAM Systems

THE REMOTE BREATH ALCOHOL TESTER

While SCRAM engineers were still in pre-development planning, they started building Numerex Network Solutions into the Remote Breath™ product. Their design called for an M2M application that would pass data (test results, schedules, device status, etc.) back and forth between their SCRAMnet™ software and the testing device. This bi-directional movement of data demanded more from an M2M application and required the deep cellular network expertise from Numerex. The design also relied on the Numerex network to help satisfy several requirements for customers in judicial and correction systems:

- 1. Device-initiated testing**—When it is time to test, law enforcement officials prefer a device that wakes up on its own, prompts the client to test and submits automatically. Rather than leave it up to the offender, SCRAM included device-initiated testing through Numerex’s smart cellular activation.
- 2. Store-and-forward**—Law enforcement officials do not want inadequate cell coverage to be an excuse for missing a test. They want the offender to test regularly, regardless of coverage. To keep offenders on the prescribed schedule, the device must initiate testing whether it can find the network or not.
- 3. GPS on missed test**—SCRAM’s design incorporated location-based services (LBS) with cell tower triangulation from Numerex in addition to true satellite GPS. If offenders forget or refuse to blow when scheduled, the device logs the current location and closes the test window.
- 4. Frequent communication with network**—To increase reliability, SCRAM designed the device around Numerex’s coverage and chipsets. It checks in every 20 minutes around the clock, whether testing or not, to signal its status regardless of what the offender is doing.



SCRAM REMOTE BREATH TESTER



NUMEREX NETWORK SOLUTIONS



SCRAMNET™



REMOTE MONITORING

Numerex Network Solutions Deliver Innovative Offender Monitoring

THE DATA FLOW OF M2M CONNECTIVITY

“Numerex contributed heavily to hardware connectivity,” says Mark Wojcik, senior director of product management for SCRAM. “Besides helping us with design, they guided and took ownership of the arduous, complicated certification processes with the FCC, PCS-1900 Type Certification Review Board (PTCRB) and the wireless carrier so that Remote Breath passed the first time. And on an ongoing basis, Numerex is our M2M wireless provider.

THE FUTURE OF M2M CONNECTIVITY FOR OFFENDER MONITORING

“The unsupervised testing we’ve enabled with Numerex is just one use case,” he says. “I can easily envision the use of cellular communications in continuous testing and other kinds of real-time monitoring, without the offender having to go anywhere or do anything to send the data. “We’ve estimated the breath alcohol testing market at \$32 million per year. We now have a big advantage in that market that we wouldn’t have had before our

Cellular networks are very complicated – layer upon layer. Developing a product and getting it certified with no knowledge or expertise is an overwhelming task. Numerex understands that complexity and helped us immensely with certifications, they are our M2M wireless provider.”

– Mark Wojcik, Senior Director of Product Management, SCRAM Systems



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