

SCRAM Continuous Alcohol Monitoring



The SCRAM Continuous Alcohol Monitoring® (SCRAM CAM®) device provides 24/7 alcohol monitoring for higher-risk/higher-need alcohol clients. It is the most widely used and the only scientifically proven and court-validated device of its kind.

Designed specifically for alcohol monitoring programs where abstinence is required and house arrest may also be needed, SCRAM CAM provides supervising authorities with a fact-based, comprehensive profile of higher-risk clients' alcohol consumption and curfew compliance. The result is a much more reliable and cost-effective alternative to random breath testing or incarceration, making it an intensive accountability tool. SCRAM CAM:

- Encourages compliance because it eliminates testing gaps—meaning that there is no way to miss a test or drink around testing schedules.
- Uses a controlled, quantifiable sample, resulting in true continuous monitoring and the lowest false positive rate possible.
- Never requires a secondary test, such as a breath or blood test, to confirm a drinking event.
- Is independently tested and has peer-reviewed, published studies confirming its reliability.
- Is court-validated—meaning it has been upheld as valid and reliable by the Daubert, Frye, and FRE 702 and 703 standards of admissibility in every state where it's been challenged.

As the pioneer of CAM technology, SCRAM Systems launched the original Secure Continuous Remote Alcohol Monitor (SCRAM) system to the criminal justice market in 2003. In 2010, optional, built-in RF house arrest capabilities were added to the bracelet to provide dual functionality.

Known today as SCRAM CAM, it is part of the SCRAM Systems line of electronic monitoring and corrections software solutions. SCRAM CAM has monitored more clients worldwide than all other transdermal devices combined.

The patented SCRAM CAM bracelet is attached to the client's ankle and worn 24/7. It monitors for alcohol consumption by sampling the insensible (gaseous) perspiration constantly being emitted from the body. The bracelet transmits data by RF signal to the SCRAM Base Station. When data is received by the base station, it is transmitted to SCRAM Optix by telephone landline, Ethernet, Wi-Fi, or cellular communication.

SCRAM Optix is the web-based application developed and managed by SCRAM Systems where client data is collected, analyzed, and maintained in a secure, central location. The software notifies the



supervising authority of any alcohol alerts, tamper alerts, or equipment malfunctions so they can respond quickly to problem clients. This central information hub not only houses all client data but allows courts and supervising agencies to access and manage their data from any web-based browser. In addition, the software provides a wide range of reports and graphs—from a snapshot of a single event to a comprehensive view of a client’s behavior over time.

The system meets all applicable for FCC regulations (SCRAM CAM Bracelet: FCC ID P8M-SM0; SCRAM Base Station: FCC ID P8M-SM03) and is ISO certified.

CAM Device

Continuous Alcohol Monitoring. Because people excrete approximately one percent (1%) of the alcohol they drink through their sweat, if an individual has been drinking it will show up in the level of alcohol vapor present in the insensible perspiration that is constantly produced and emitted by the skin. The SCRAM CAM ankle bracelet continually collects a sample of a client’s insensible perspiration and automatically tests the sample every 30 minutes, 24 hours a day. SCRAM CAM provides the industry’s only true 24/7 sobriety monitoring, ensuring that authorities know conclusively if a client has been drinking or if they are compliant with the conditions of their supervision.



The SCRAM CAM device continuously collects a sample, making it easy to use with no required intervention from the client. There are no reminder calls necessary, no prompts required to initiate monitoring, and no action needed by the client to preface testing.

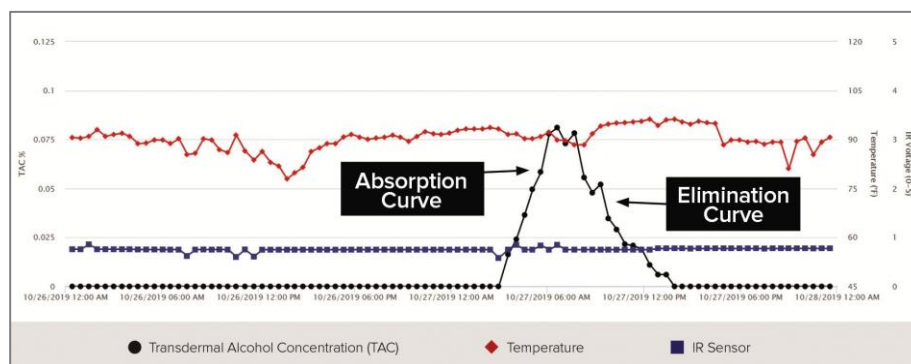
Officers receive confirmation of drinking events with a scientifically-based, peer-reviewed, court-validated analysis.

Single Source Admissibility. SCRAM CAM is single source admissible, which means it never requires a secondary test, such as a breath or blood test, to confirm a drinking event. It can conclusively distinguish between ingested and environmental alcohol to ensure accurate monitoring. This is possible due to the following reasons:

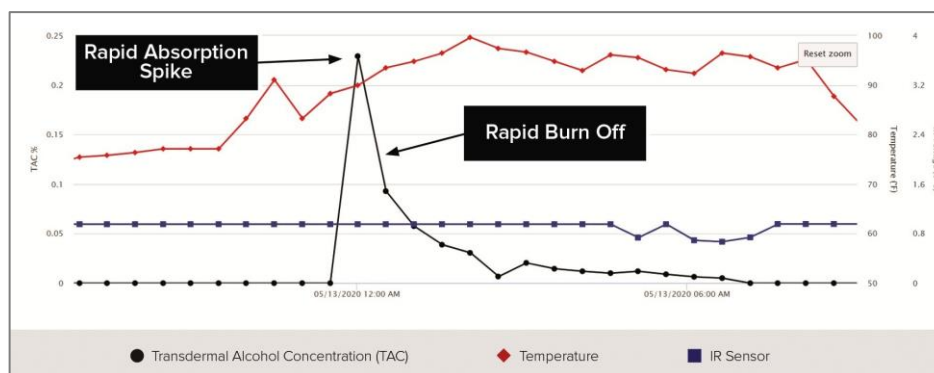
- **Controlled, Quantifiable Sample Delivery System.** SCRAM CAM is the only CAM device on the market that uses a controlled, quantifiable sampling method—collecting every second—to create a measured sample every 30 minutes. This is the same proven type of sample delivery system used in evidential breath testing equipment that has been the standard in law enforcement for decades. Without this sampling method, a device is susceptible to environmental factors causing false positives and/or may require a secondary test. By combining this system with SCRAM Systems’ patented method of “contaminant isolation” SCRAM CAM can distinguish between environmental and ingested alcohol.

The sample delivery method results in a quantifiable Transdermal Alcohol Concentration (TAC) curve, with specific alcohol absorption and elimination rates. The contaminant isolation method allows SCRAM CAM to measure the level of environmental or ambient alcohol prior to each transdermal alcohol measurement, indicating if a test has been contaminated. When combined, these approaches ensure results of the highest confidence with the lowest false positive rate possible.

- **Proven Electrochemical Fuel Cell Technology.** The electrochemical fuel cell, which is the heart of the SCRAM CAM bracelet, has been proven through decades of research and experience and is considered the gold standard in alcohol testing applications. This is the same type of fuel cell used in evidential breath testing equipment and interlock devices and it is comprised of extremely sensitive and ethanol-specific alcohol sensors.
- **Thorough Data Analysis and Review Process.** All data received from the SCRAM CAM bracelet is subjected to a rigorous, scientific alcohol detection analysis. This review process, supervised by SCRAM Systems' specially trained team of analysts, looks at key data (such as alcohol absorption and elimination rates) of the TAC curve. This peer-reviewed, scientifically proven, and court-validated confirmation process ensures that only true alcohol consumption events are confirmed.
 - **Confirmed Alcohol Consumption.** SCRAM CAM readings and analysis are based on the well-documented and scientifically proven metabolism rate for consumed alcohol. Data from a drinking event shows a gradual increase in alcohol levels over time, achieves a maximum TAC, and then slowly burns off to create a well-defined alcohol curve. In the following graph, TAC is represented by the black line. Tamper detections, in the form of an infrared (IR) sensor (represented by the blue line) and temperature reading (represented by the red line) appear on the graph along with the TAC readings.



- **Environmental Alcohol Detection.** The graph below depicts a client coming into contact with an environmental alcohol source (like lotion, perfume, etc.). It shows a distinct and dramatic jump in the absorption side of the alcohol curve, followed by a rapid dissipation of the alcohol, unlike the graph of an actual drinking event. It shows absorption and burn-off rates outside of the tested, proven rates that the body can absorb and metabolize for consumed alcohol. In addition, before every 30-minute measurement, SCRAM CAM tests the ambient air around the device to determine if environmental alcohol is present.



Anti-Tamper Technology. The SCRAM CAM bracelet is equipped with industry-leading, anti-tamper technology that incorporates multiple sensors and accurately detects any tamper attempts. These sensors monitor changes in temperature and any attempt to cut, obstruct, remove, or otherwise defeat the technology. The bracelet's intelligent self-diagnostic capabilities constantly monitor and report its functionality. Any attempts to tamper with the bracelet or its functionality will be immediately detected by the SCRAM CAM system.

Immediate detection of attempts to tamper or circumvent monitoring.

Bracelet Design. The bracelet straps are made of latex-free, flexible material that eliminates a break-in period. The small, lightweight transmitter does not restrict activities, and poses no health hazard. SCRAM Systems offers two different sizes to accommodate both smaller and larger ankles.

Durable and Water Resistant. The SCRAM CAM bracelet is water and shock resistant, durable, and hypoallergenic. SCRAM CAM is completely water resistant, and all participants are encouraged to shower as frequently and thoroughly as they want. Additionally, it does not have any exposed water chambers or external features that could freeze in colder temperatures or cause it to stop functioning if it was subject to adverse wearing conditions.

Maintenance and Calibration. SCRAM Systems performs all equipment maintenance, including recalibration, to ensure proper working order. The standard policy is to bring devices back after 365 days of use for recalibration. This is done by issuing a "Scheduled Maintenance" RMA at the time the device is due. There is no charge to the Participating Entity.

Battery Life. The bracelet uses a Lithium CR2, disposable battery with a 90-day life in use. No charging by the client is required. The bracelet will post a low battery message seven (7) days prior to battery failure, allowing enough time for the battery to be replaced.

Memory. The SCRAM CAM bracelet can store up to 160 days of events in its onboard memory. In addition, the base station has its own memory capacity and can store up to a month's worth of data (about 7500 messages).

Data can also be retrieved using the SCRAM CAM Direct Connect device. This enables the supervising authority to connect the SCRAM CAM bracelet directly to an Internet-enabled computer without the need for the SCRAM Base Station and phone line.

Safeguard and store all data with onboard and non-volatile memory.

Base Station and RF/Curfew Monitoring



The bracelet can be used as CAM-only or combined with integrated RF house arrest as desired by the User and Participating Entity. Officers can easily enable the house arrest feature through in the software at any point during a client's monitoring without the need to change equipment.

Flexible Communication. The SCRAM Base Station is optimized to communicate by standard telephone line or the Internet using the Ethernet port, as well as Wi-Fi and cellular connectivity. The bracelet communicates all alerts with the base station when in range, which then sends all available data to the monitoring software.

Range. The range between the base station and the bracelet can be set to "Minimum," "Average," or "Maximum" to account for the size of the client's home or other authorized location. These settings are approximately 35, 75, and 150 feet respectively. The SCRAM Base Station includes an LED indicator and an audible alarm that can be enabled to alert the client when they are out of range.

Location Verification. If monitoring via landline and the base station is disconnected and reconnected to an unauthorized telephone line, the SCRAM Base Station will generate an alert, as well as indicate the number from which the base station is calling. If monitoring wirelessly, an alert will be generated if the base station is moved.

Curfew Schedules. SCRAM Optix provides an efficient means of managing curfew schedules for each client on a case-by-case basis as determined by the supervising officer(s). It enables supervising officers to easily modify any client's schedule and curfew information via flexible edit, copy, and delete features. It also allows officers to view past schedules, as well as historical change records.

Memory. The SCRAM Base Station can hold up to a month's worth of data (about 7500 messages). This equates to about 48 tests per day, or 1,440 tests per month. All messages are time-stamped and stored in its non-volatile memory, so that the messages are never lost.

Power/Phone Failure and Memory. The SCRAM Base Station is powered by the client's home AC power outlet. If it becomes unplugged or loses power, it will switch to the backup battery and an "AC Power Loss" message will be called into the monitoring software. The backup battery will function up to 48 hours during a power outage with a fully charged battery. When electrical power is restored, it will switch back to main power and an "AC Power Restore" message will be called into the software. All alerts will be reported to the Participating Entity per pre-defined procedures.

If telephone service is lost, the base station will log a "Telephone Loss" message. When telephone service is restored, the base station will log a "Telephone Restore" message and communicate both messages to the monitoring software. The base station can hold up to a month's worth of data (about 7,500 messages) and the transmitter can hold 160 days of events. All messages are date- and time-stamped.

Monitoring Software

Secure, 24/7 Access. All SCRAM Systems devices are monitored by SCRAM Optix, the web-based software application managed by SCRAM Systems. SCRAM Optix is accessible 24/7 via any web-enabled device. Officers can enroll clients, adjust device settings, enter/edit schedules, select

notification methods or parameters, manage inventory, and quickly assess detailed caseload information at-a-glance via device and status indicators. Authorized personnel can do the following through the web-based software application:

- View information about the client, including—but not limited to—personal information, current electronic monitoring data, historical electronic monitoring data, violation statuses, notification settings, and reports.
- Enroll/edit/remove clients without calling the monitoring center.
- Create, edit, delete, and apply monitoring parameters (such as daily/weekly schedules) for clients when using RF/House Arrest monitoring.
- Determine which violations/events must trigger notifications and by what means the notifications must be sent to Participating Entity personnel.
- Set up notification to be sent to Participating Entity personnel.
- Customize and tailor reporting that best suits their needs, further helping to reduce officer workload.
- Inventory management.

Mobile Adaptive. SCRAM Systems software is mobile adaptive, making it accessible and easy-to-view on any smartphone or tablet. With client profile information at their fingertips, officers can access priority alerts such as confirmed drinking events and tampers, client addresses, and call clients right from their mobile device.

Alert Notification. Notification methods for all alerts include email, text, and/or a Daily Activity Plan (DAP). The DAP can be automatically delivered up to twice daily. All alerts and monitoring activity are also accessible through the software and are automatically date- and time-stamped.

Prior to notification, SCRAM-certified analysts confirm all CAM-specific violations (drinking events, tampers, obstructions, communication alerts, and environmental contaminants/alcohol). This ensures that alerts are valid, so that follow-up testing —such as blood, breath, or urine—are not needed to confirm drinking events.

House Arrest events can be selected as priority alerts, ensuring notification within 15 minutes of the alert either by email and/or text, as specified. Additionally, House Arrest events are integrated into the client-facing TouchPoint application, creating improved program efficiencies, and streamlining officer/client communications.

Court Admissibility

SCRAM CAM results have been accepted in thousands of probation violation and revocation hearings, as well as hundreds of evidentiary hearings across the U.S. and Australia. SCRAM CAM has been upheld as valid and reliable by Daubert, Frye, and FRE 702 and 703 standards of admissibility in every state where it has been challenged, including state appellate and supreme court-level hearings.

SCRAM Systems originated the science of continuous alcohol monitoring and has successfully developed and defended SCRAM CAM technology for over 20 years.

Court Support Program

SCRAM Systems provides the most comprehensive Court Support Program in the industry. Since 2003, SCRAM Systems has worked with courts and ancillary agencies to provide comprehensive SCRAM CAM testimony, which has included the creation of more than 3,600 formal court reports used to detail the monitoring results of clients who denied a SCRAM CAM violation (either alcohol consumption, equipment tampering, or a combination). In most cases, clients confronted by the court armed with a comprehensive SCRAM CAM reporting package admitted to the violation prior to the scheduled hearing. SCRAM Systems supports our technology in courts at every level and provides everything from a written report confirming a violation to in-person expert testimony for evidentiary hearings.

What Are Frye and Daubert?

Frye v United States was a 1923 case that challenged that new, legitimate scientific evidence was being wrongly omitted as evidence. The U.S. Supreme Court ruling in the case established what is known today as the **Frye Standard**, which states that scientific conclusions must be “generally accepted” within the scientific community in order to be admitted as evidence in a court of law.

In 1993, the U.S. Supreme Court issued a ruling in ***Daubert v Merrill Dow Pharmaceuticals*** that paved the way for what is now considered the most stringent standard for the admissibility of scientific evidence and testimony. The goal of the ruling was to establish a standard that helped courts to balance the admissibility of legitimate, cutting-edge scientific evidence while also limiting evidence based on “junk science” that has not been properly vetted for admissibility.

Today, some states apply the Frye Standard, some the Daubert Standard, and some a hybrid of the two.

SCRAM CAM is the only transdermal alcohol monitoring device to meet and exceed both of these standards for admissibility in multiple states and to the state Supreme Court level. The acceptance of SCRAM CAM as peer-reviewed and court-validated does not extend to other transdermal alcohol monitoring technologies.