

With an installed base of thousands, the TSA-certified Itemiser2 for explosives detection is well suited to detect trace quantities of explosives and narcotics in high-threat environments. Itemiser2's unique patented Ion Trap Mobility Spectrometer (ITMS®) technology is highly sensitive enabling fast and accurate screening for trace

quantities of target substances that can be found on the surfaces of baggage, vehicles, cargo pallets and other types of containers in which explosives can be hidden. Other surfaces such as laptops, briefcases, luggage of all shapes and sizes can also be easily tested.

Itemiser[®] 2

Explosives and Narcotics Detection and Identification System

Itemiser2 combines GE's patented ITMS technology in a user-friendly design to provide security personnel with exceptional sensitivity for detecting and identifying trace amounts of contraband.

Proven in the Following Applications

- Aviation Security
- Building/Facility Security
- Customs/Border Interdiction
- Forensic Labs
- Corrections and Prisons
- Law Enforcement/Police
- Military/Force Protection





Figure 1. Sampling baggage

Easy User Operation

The interactive touchscreen display, sample collection system and printer are combined into a single-component instrument. Non-technical staff can quickly be trained to operate the system efficiently. When explosives or narcotics are detected, the alarm panel flashes and an audible alarm sounds.

Itemiser2's proprietary software and intuitive user interface require little user intervention or interpretation. Consequently, operators can concentrate on obtaining good trace samples of explosives or narcotics.

Sample Collection

A sample is acquired either by wiping a surface with a paper "sample trap" (Figure 1) or inserting the trap into a battery-operated handheld vacuum. In either case, the trap containing the sample is dropped into the Itemiser2 sample inlet, automatically triggering analysis. The Itemiser2 confirms the presence or absence of explosives and narcotics substances within seconds, allowing thousands of samples to be processed each day.



Figure 2. SelectScan display

Data Display

When a substance has been detected, the bar graph, or SelectScan (Figure 2), changes color and indicates that a target substance from the library has been detected. For a more detailed analysis, a plasmagram (Figure 3), an intensity map or 3-D view can be easily selected. The Itemiser2 can be set to automatically print out the plasmagram when the alarm signals or it can be stored to an internal hard drive. The stored data includes time, date and any notes entered at the time of the alarm. Complete history logs of sampled data can be stored, recalled and printed at any time.



Figure 3. Plasmagram display

Features and Benefits

Sensitivity/Selectivity

- Patented ITMS technology detects microscopic traces of substances rapidly and accurately
 - Semi-permeable membrane filters out dust and dirt for reliable operation in harsh environments with high traffic, humidity or contamination
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Versatile

- Four user levels offer flexibility and access control
 - Expandable libraries accommodate unique user requirements
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Easy to Use

- User-friendly design with touchscreen display
 - On-board printer
 - Operates on standard 115/230 VAC
 - Handheld vacuum sampler with rechargeable batteries
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Reliable

- Thousands of units deployed worldwide in applications such as aviation checkpoints, border patrol, military, law enforcement and corrections facilities
 - Explosives-only model certified to the Transportation Security Administration requirements in DOT/TSA/AR-02/95, Checked Bag Certification Plan for Explosives Trace Detection Equipment, August 2002
 - Manufactured in an ISO 9001 certified production facility
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Worldwide Locations

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Specifications

Detector Type:

Ion Trap Mobility Spectrometer (ITMS)

Sensitivity:

Nanogram/Picogram levels

Analysis Time:

4-10 seconds per sample

Sample Acquisition:

Hand wipe with sample trap or vacuum

Warm-up Time:

Allow 20-30 minutes for system to stabilize

Power:

115/230 VAC, 50/60 Hz

Computer:

Pentium-based, industrial grade, embedded computer, external disk drive

Signal Processing:

Output to four different displays, including bar graph and time-of-flight "plasmagram" displays

Dimensions

Itemiser2 Unit

Width	21 in (53.5 cm)
Height	14.5 in (37 cm)
Depth	18.5 in (47 cm)
Weight	43 lbs (19.5 kg)



imagination at work

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