

ICM[®] TxR ACCOUNTABILITY SYSTEM





Revolutionize your fireground safety!

Accountability is key to every firefighter's safety on a fire scene. You simply can't afford not to have the very best telemetry technology available. *And it's here!*

MSA's new ICM TxR Accountability System revolutionizes fireground safety by combining the latest computer software with a high-performance radio module and the field-proven technology of MSA's ICM Tx Integrated PASS.

Add this technologically-advanced Accountability System to MSA's state-of-the-art Fire-Hawk® Air Mask, and you'll be wearing the best integrated SCBA-Accountability System available.

The ICM TxR is compliant with NIOSH 42 CFR, Part 84; CBRN; NFPA 1981-2002 edition; and NFPA 1982-1998 edition.

A new way to monitor vital information

- Each MSA base station can monitor up to 50 firefighters, and you can use multiple base stations on a single computer.
- The ICM TxR transmits to incident command the firefighter's name, team assignment, cylinder pressure, service-time remaining, PASS alarms (motion or manual), thermal alarms, battery status, radio connectivity, and evacuation acknowledgement.

A fireground management system

- Personalized ID tags for each firefighter tell incident command exactly who is on scene.
- An integrated PAR (personnel accountability report) timer helps manage radio calls to each team.
- Incident command can manually add firefighters who are not wearing an SCBA or mutual aid firefighters, so all personnel can be accounted for.

Intuitive and easy to use

- Assign firefighters to teams by clicking on a firefighter's icon and dragging it to another team.
- A volume of critical information is available at a glance of the screen, due to the large number of firefighters that can be displayed and the pictorial format of the information.
- Receive both audible and visual indications of critical events such as PASS alarms or low-pressure alarms.

A two-way evacuation feature

- Incident command is assured that firefighters receive all evacuation messages. When incident command transmits the alarm through the ICM TxR, they'll know the firefighter received it, because the unit automatically sends a confirmation message to the base station.
- By simply pressing a button on his/her own personal ICM TxR unit, a firefighter can send a manual confirmation to acknowledge that they have received and understand the critically important evacuation message.
- Firefighters will hear the evacuation alarm on their own personal PASS device. Also, visual indications in the HUD and an icon on the ICM TxR unit will alert the firefighter that it is time to evacuate.
- An individual firefighter, a team of firefighters, or all firefighters can be evacuated.
- Although certain concrete and steel commercial structures can challenge any radio signal, ICM TxR System coverage with radio technology provides highly reliable performance for a 1-mile line-of-sight range.
- Due to the spread-spectrum design, it does not interfere with other high-band radio frequency equipment.
- For additional safety, both base station and firefighter modules have an icon message to inform users if a firefighter falls out of radio signal range, so that alternate accountability measures, such as voice radio contact with teammates, can be taken.

MSA's ICM TxR Accountability System consists of five main components:

1. The ICM TxR Integrated PASS device:

Pressure Indicators (Digital & Icon)

Battery Status



Radio Signal Indicator

Thermal Indicator

Evacuation Signal Icon

- Provides a graphical display of: battery status, cylinder pressure, heat alarm, evacuation commands, radio connectivity, and service-time remaining.
- Measures and calculates your air consumption rate during the first three minutes of use. After the initial calculation, the service-time remaining function is updated every 30 seconds.

The highly reliable solid-state accelerometer detects firefighter motion

- It's sensitive to motion, yet resistant to false alarms, and durable enough to meet the demands of the job.
- It's notably resistant to the wear associated with mechanical components.

The "buddy light" increases visibility

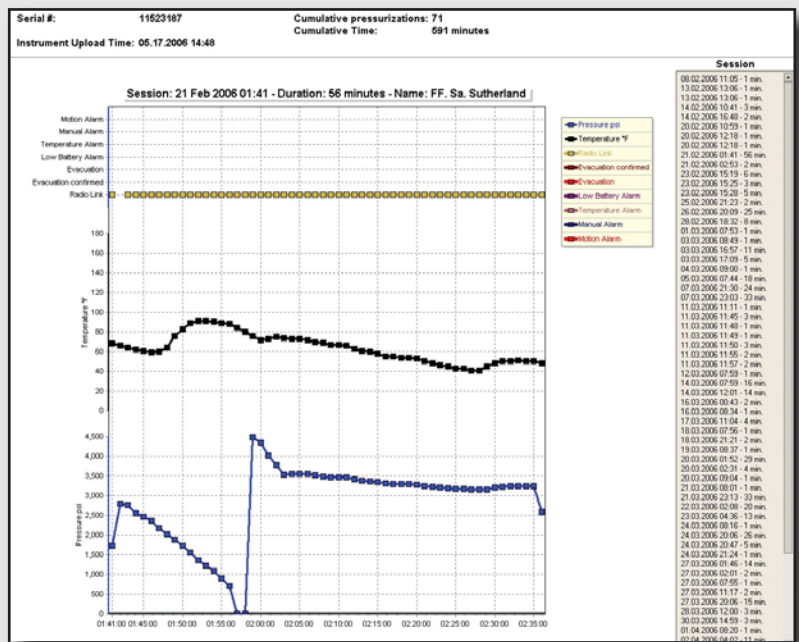
- In the monitor mode, a bright green LED flashes behind the translucent manual PASS alarm button.
- When the PASS goes into full alarm, the light turns red for quick recognition of a firefighter in distress.

The optional Heat Sensor monitors temperature

- The temperature-sensing unit (thermistor) measures heat on a time-weighted average (based on the guideline that 180°F for 18 minutes is just as hazardous as 600°F for one minute).
- At either extreme, and every temperature in between, an alarm will sound to alert you that dangerous heat levels are looming.

Data logging makes recordkeeping simple

- Information detailing the most recent 25 hours of use is stored by the ICM TxR unit's integrated computer, and special software lets you download, display, and store the data on your PC.
- Each time your SCBA is pressurized, a use session records the day, time, name of the firefighter (if ID Tags are used), cylinder pressure, air consumption rate, and time of alarms (thermal, PASS, and low-pressure warning).
- If previous data was not downloaded to your PC, the ICM TxR will simply record over the earliest information in storage, retaining the most recent 25 hours of usage information.



2. ID Tag

- Using a personalized ID Tag, each firefighter can store his/her name, jump seat location, station number, and other information.
- Your personal information then becomes part of the datalogging record retrieved when all the ICM TxR information is downloaded.



3. ICM Reader / ID Tag Writer



- Plugs into your computer's USB port and downloads the data from ICM Tx and ICM TxR Integrated PASS devices.
- Programs the ID Tags.

4. ICM TxR Base Station Incident Command Module



- Transmits and receives radio signals to and from the ICM TxR units via the license-free 902 – 928 MHz frequency band.

5. ICM TxR Accountability Software

- Enables incident command to view each firefighter's vital statistics on scene, such as: PASS alarms, cylinder pressure, thermal alarms, battery status, time-remaining calculations, and evacuation acknowledgement.
- Pulls critical information to the front of the screen using "pop-up" windows.
- Uses a color-coded icon system which enables incident command to quickly determine the status of each firefighter. This color-coding scheme is the same as that used in the HUD. This builds consistency for personnel on both sides of the fire scene: incident command and firefighters in the structure.

Cylinder Pressure	HUD Display	Helmet Icon shown on laptop screen
100 – 76%	4 Green LEDs	Green
75 – 51%	3 Green LEDs	Green
50 – 26%	2 Yellow LEDs	Yellow
Less than 25%	1 Blinking Red LED	Red

- Incorporates a Personal Accountability Report (PAR) timer. Because departments use different time increments for PAR, the system can be programmed to have PAR reminders at pre-determined intervals.
- Can assemble all details of all events quickly and easily into a complete incident report.
- The minimum system requirements for the PC are 1 GHz Pentium III processor or equivalent, 256 MB RAM, USB 1.1, 16 MB Graphics Card, 200 MB Free Disk Space, and Windows XP Service Pack 1 or Windows 2000 Profession Service Pack 3 operating systems.

Activity by person					MSA Fire	
Steck						
ICM TxR serial-no.		11521703				
Incident No.		42606003				
Incident start	Incident end	Duration	Pressure consumption/PSI			
04.26.2006 10:51:30	04.26.2006 10:58:04	5 Min.	1			
Date	Time	Message	Pressure/PSI			
04.26.2006	10:52:33	join team :SQUAD2	0			
04.26.2006	10:52:39	Mission start	1			
04.26.2006	10:54:09	Evacuation sent	1			
04.26.2006	10:54:13	Evacuation sent	1			
04.26.2006	10:54:18	Evacuation sent	1			
04.26.2006	10:54:18	Evacuation received	1			
04.26.2006	10:54:25	Evacuation confirmed	1			
04.26.2006	10:57:57	End of mission	1			
Incident No.		42606002				
Incident start	Incident end	Duration	Pressure consumption/PSI			
04.26.2006 10:34:45	04.26.2006 10:39:39	3 Min.	0			
Date	Time	Message	Pressure/PSI			
04.26.2006	10:35:57	Mission start	1			
04.26.2006	10:38:04	End of mission	1			
Incident No.		42606001				
Incident start	Incident end	Duration	Pressure consumption/PSI			
04.26.2006 10:19:41	04.26.2006 10:29:19	1 Min.	0			
Date	Time	Message	Pressure/PSI			
04.26.2006	10:25:36	Mission start	1			
04.26.2006	10:25:46	join team :Team 1	1			
04.26.2006	10:25:56	Evacuation sent	1			
04.26.2006	10:26:01	Evacuation sent	1			
04.26.2006	10:26:02	Evacuation received	1			
04.26.2006	10:26:02	Evacuation confirmed	1			
04.26.2006	10:26:22	End of mission	1			
Editor: SCBA monitoring						
Page 1/1						



Accountability Software Screen

The screenshot shows the SCBA monitoring software interface. At the top, there are buttons for 'Incident Report', 'New Person', 'New team', and 'Remove team'. The main display area is divided into several sections:

- Top Bar:** Shows 'Evacuate all' (7), the time '2:19:30 PM', and a 'PAR' timer at '42:43' (4). There are 'Stop' and 'Reset' buttons.
- Left Panel:** A 'Holding Bin' (1) for arriving firefighters. Below it, a grid shows details for firefighters Beckes, Morris, and Volk. Each entry includes a cylinder pressure display (PSI 3341, 3338, 3344) (13), a thermal alarm indicator (9), and a low-battery indicator (8). A radio contact indicator (6) is also present. A 'Clifford' entry is also visible.
- Right Panel:** A list of teams and their members. Each team has an 'Evacuate' button (7). The teams listed are SOD1 (Stevens, Martin, Miller, Smith), RESC2 (Beckes, Morris, Volk, Clifford), Truck 17 (Klein, Bettis, Hannah, Mallick), ENG9 (Ward, Jameson, Schmidt, Meyers), and Team 5.

- | | |
|---|----------------------------------|
| 1 HOLDING BIN FOR ARRIVING FIREFIGHTERS | 9 THERMAL ALARM |
| 2 TASK ASSIGNMENT | 10 PASS ALARM |
| 3 TEAM NAME | 11 EVACUATION ALARM INDICATOR |
| 4 PAR TIMER | • SENT |
| 5 TEAM DETAIL AREA | • RECEIVED |
| 6 RADIO CONTACT INDICATORS | • ACKNOWLEDGED |
| 7 EVACUATION BUTTONS | 12 AIR TIME REMAINING CALCULATOR |
| 8 LOW-BATTERY INDICATOR | 13 CYLINDER PRESSURE DISPLAY |
| | 14 SCBA DETAIL AREA |

Upgrading to the ICM TxR Accountability System is easy!

The ICM TxR is powered by four AA batteries and is easy to install on any FireHawk MMR Air Mask with a single-threaded point of connection.

Part number	Description
10063247	2216 ICM TxR with Heat Sensor enabled
10063248	2216 ICM TxR without Heat Sensor enabled
10063271	3000 ICM TxR with Heat Sensor enabled
10063272	3000 ICM TxR without Heat Sensor enabled
10063275	4500 ICM TxR with Heat Sensor enabled
10063276	4500 ICM TxR without Heat Sensor enabled
10058539	ICM Tx Reader / ID Tag Writer
10058545	ID Tag
10072240	Base Station Kit (includes Transceiver box, remote antenna with 20' cable, USB cable, power cord, and software)



Note: This Bulletin contains only a general description of the products shown. While uses and performance capabilities are described, under no circumstances shall the products be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only they contain the complete and detailed information concerning proper use and care of these products.



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