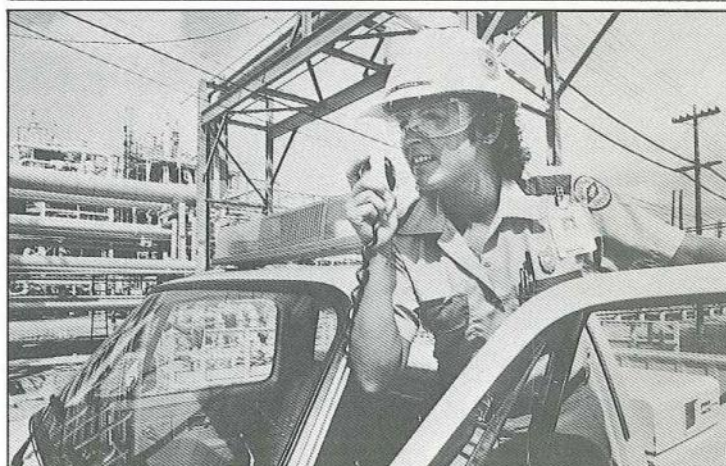
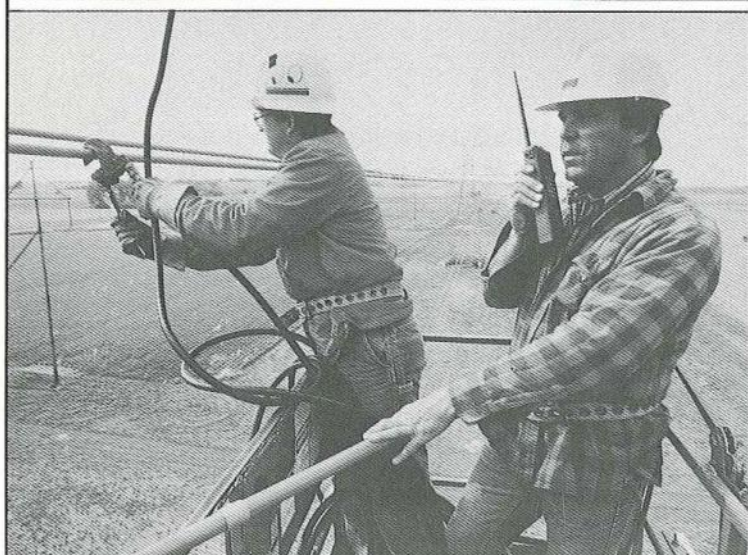
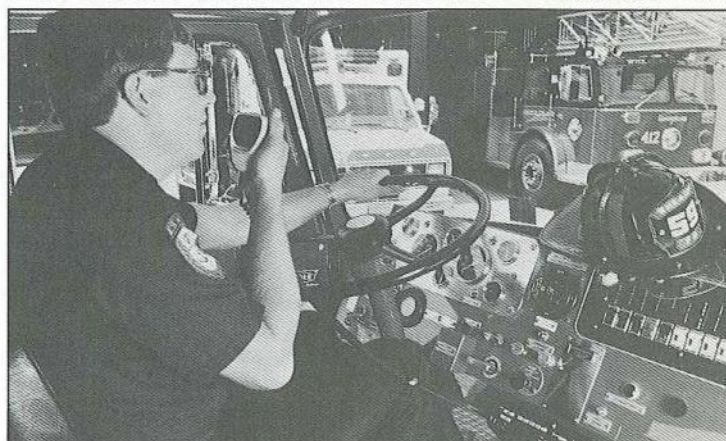
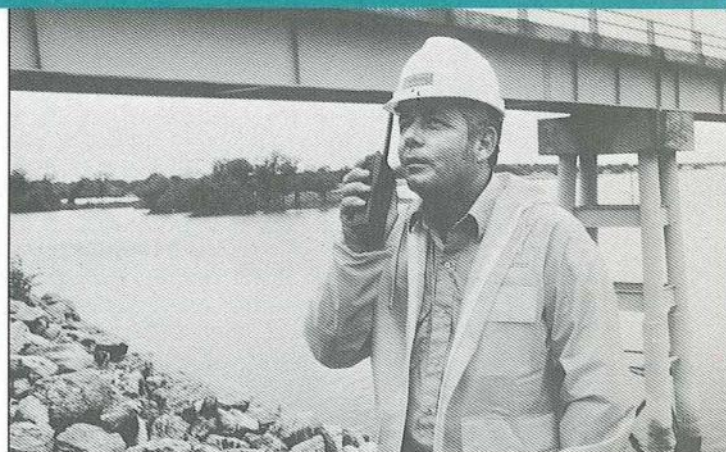
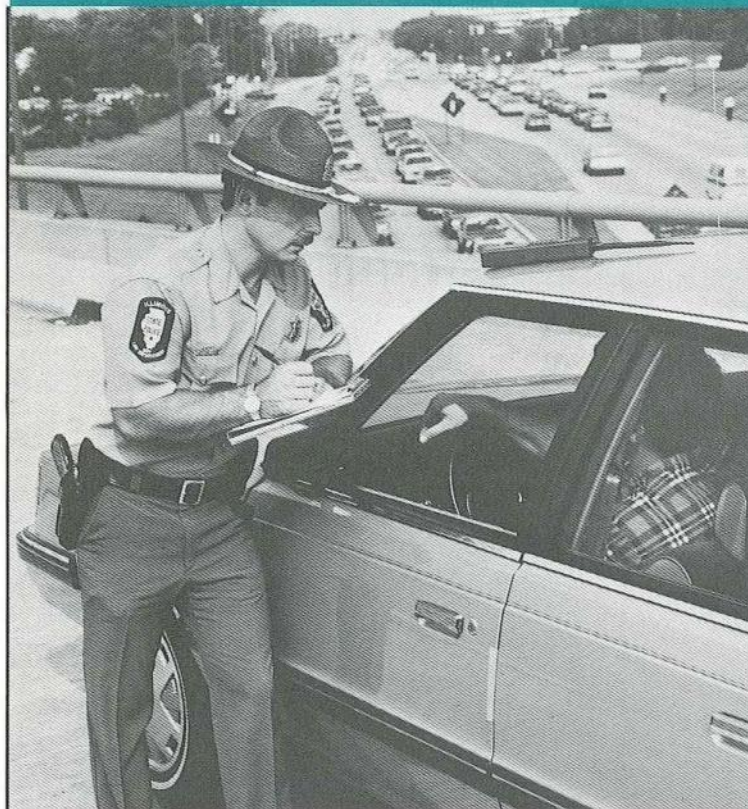




MOTOROLA

SmartZone

Wide Area Trunked System



SYSTEM OVERVIEW

SmartZone is the next generation trunking system which meets the need for communications over large geographic areas such as a region, county, state or country. A SmartZone system provides the highest levels of effortless user roaming, efficient use of channels, and coverage capability. SmartZone dramatically improves and expands on the existing Smartnet II wide area capabilities and is appropriate for multi-site trunking systems which require more than ten sites.

SmartZone Wide Area Trunked System

SYSTEM DESIGN FEATURES

Feature/Advantage

Next Generation Trunking—SmartZone is a wide area coverage system which supports Smartnet II trunking features. These include group calls, selective calls and telephone calls as well as the unique Smartnet features such as Emergency Alarm/Call, Dynamic Regrouping, Selective Radio Inhibit and Console Dispatch. Additionally, SmartZone features new capabilities such as Automatic Site Registration, Critical Site Assignment, Critical User, Busy Override and Preferred Site Operation as well as many other system enhancements.

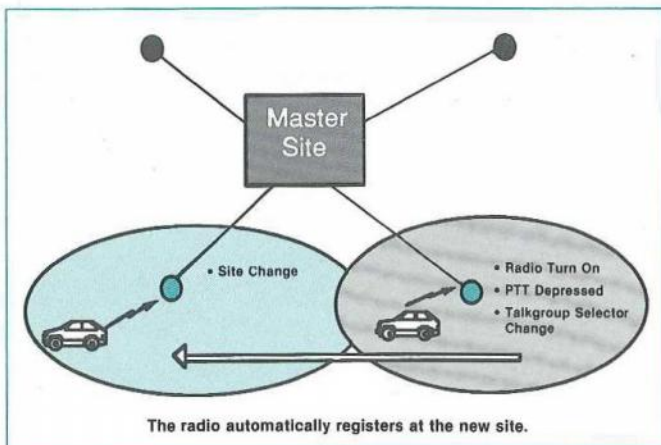
Larger geographic areas can be covered more effectively with a SmartZone system. This allows Smartnet II users the opportunity to build on their existing Smartnet system. SmartZone includes many of the Smartnet features allowing both SmartZone and Smartnet users to communicate with one another. New system capabilities provide the user with a communications method that requires minimal to no operator intervention when roaming between sites.

Wide Area Coverage—Larger geographic areas that may have required two or more separate systems can now be covered by one system. Depending on system and option configurations, a single zone of a SmartZone system can have up to 32 sites.

The operator does not have to change the system selector based on location. Handling more sites on one zone will help alleviate some of the issues encountered for different operational/departamental boundaries not coinciding with the trunking system boundaries.

Site Registration—Automatic registration at a site occurs during Push-To-Talk, power on, selector changes and when a radio roams from one SmartZone site to another. No operator intervention is required.

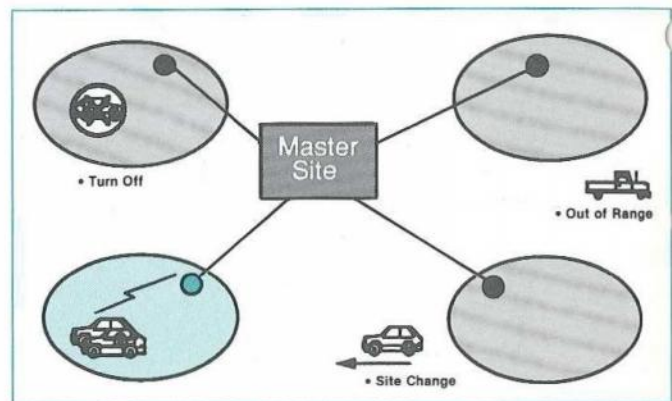
Coordinated coverage lets users easily and effortlessly roam from site to site without operator intervention. Calls are processed more quickly and channels at sites are used more effectively.



Site Registration

Deregistration—There are three convenient ways to deregister from a site: Radio Activated, Timeout Activated or Site Switching Activated. Radio Activated is a radio function that sends in a deregistration signal when a radio is turned off. Timeout Activated occurs when a radio goes out of range for longer than a preselected amount of time. Site Switching is done automatically by the Zone Controller when a radio registers on a new site. The Controller then deregisters that radio from its previous site.

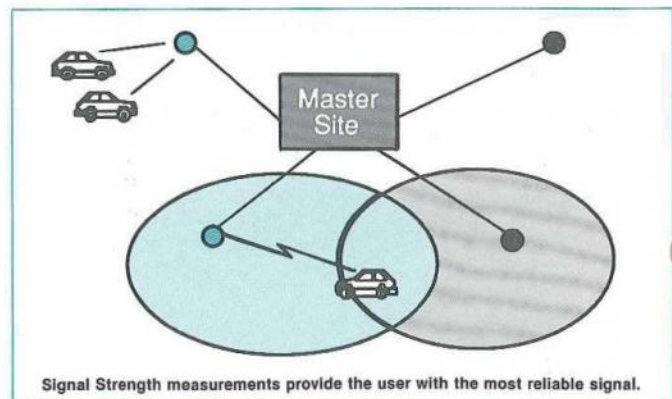
Deregistration ensures that channels are conserved for other future calls. Rather than tying up a channel at a site, a user can signal his deregistration if he needs to turn off his radio for a period of time. A preselected time-out period further ensures channels are not needlessly reserved for communication. Most importantly, the Zone Controller tracks all activity on the system and monitors movement of users between sites so that radios are properly deregistered from one site as they move to other sites.



Deregistration

Received Signal Strength Indicator (RSSI)—As radio users travel throughout the coverage area, the radio switches channels and "listens" to surrounding sites. It then switches sites according to signal strengths without any disruption to the user.

There is no need to wait for the current signal to become unreliable when there may be an adjacent site with a better signal level. The radio automatically makes a proactive site switch should it find an adjacent site with a better signal strength. The result is improved communications by operating on the optimum site.



RSSI

SYSTEM DESIGN FEATURES

Feature/Advantage

Flexible System Expansion and Organization—There are virtually no fleet size restrictions to the number of radios that may be assigned to any talkgroup on the SmartZone trunked system. This technology allows the assignment of any number of units to a talkgroup plus any number of talkgroups within the system. In addition, the system can be designed to mirror your organizational structure. Flexible system users can access an unrestricted number of levels by changing the selector switch on their radio.

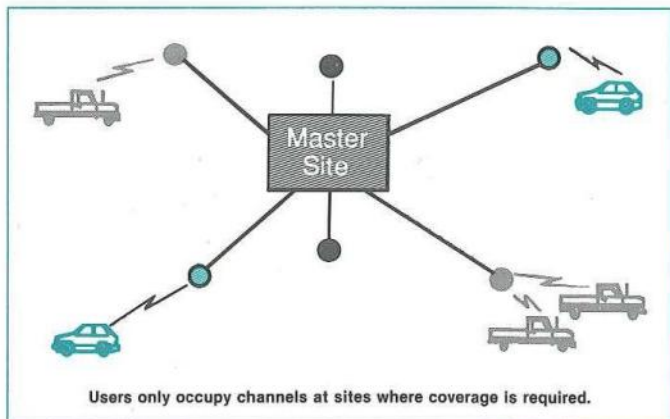
Flexibility in talkgroup organization gives you more control in designing a system that is right for your operation. You can add radios or change talkgroup configurations without compromising other talkgroups. These changes can be performed without costly and time-consuming reprogramming on existing radios.

Secure Communications—A SmartZone system can be equipped with Motorola's SECURENET, a highly sophisticated coding or encryption technique which is virtually impossible to break.

Your voice transmission signals will be scrambled so as to eliminate any eavesdropping on your conversations. With SECURENET you can communicate freely, knowing your calls cannot be monitored. You no longer need to speak in code or rely on crib sheets for critical communications.

Dynamic Site Assignment—SmartZone's Dynamic Site Assignment efficiently assigns repeaters only at the sites needed to provide communications between users. As a user roams from one site to another, the Zone Controller automatically assigns a channel at the new site without any user action.

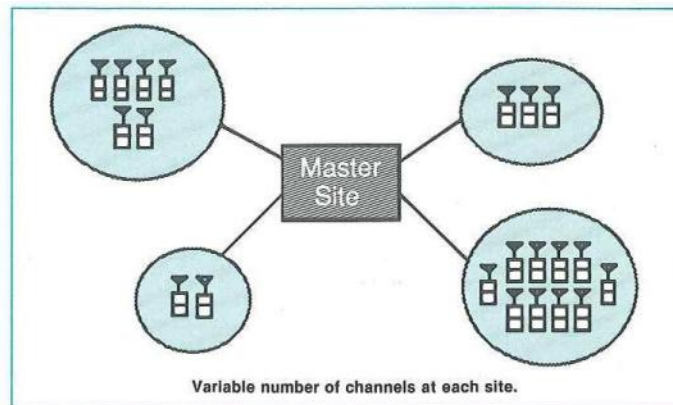
Dynamic Site Assignment provides higher system capacity. More calls can be handled with fewer repeater resources which means your communications needs are satisfied more efficiently and cost effectively.



Dynamic Site Assignment

Variable Density—Each site needs only to be equipped with the number of repeaters needed to handle the traffic volume at that site. The number of repeaters can vary at each site.

Variable density trunking brings the advantages of trunking to low density traffic areas cost effectively. This is done by lowering hardware and site costs and reducing site lines. These low density sites are tied into the SmartZone system to provide automatic interoperability between every site no matter what the size.



Variable Density

OPTIONAL RADIO MANAGEMENT CAPABILITIES

(Supported by the Zone Controller/Manager)

Feature/Advantage

Radio Identification Display—Mobiles and portables can send a unique ID code at the beginning of a call. The radio's name is displayed on the terminal with the alias you assign.

Removing the need for verbal operator identification saves valuable time and improves efficiency.

Emergency Alarm Display—When the radio user pushes the emergency button on the radio, an alarm is immediately sent to the dispatcher, identifying the unit in trouble. Emergency alarms flash in red on the dispatch terminal for easy recognition and send an audible tone to gain attention. Even if all voice channels are in use, a voice channel is assigned on an emergency basis. Comment fields provide means for entering specific emergency information per radio to expedite the dispatcher's handling of the emergency.

The dispatcher can easily identify emergency situations and react quickly, getting help to the radio user requesting assistance and increasing personnel safety.

Selective Radio Inhibit—If a mobile or portable is lost or stolen, a dispatcher can prohibit the radio from operating on the system. The radio will be rendered virtually useless to an unauthorized user since it can't transmit or receive. Reinstating inhibited radios requires a single command from the terminal.

Radio Inhibit is a valuable tool for controlling security in your system. With this capability, unauthorized users won't be able to monitor or interrupt important communications. When the radio is recovered, the dispatcher can easily reinstate it back into the system for full operation.

SmartZone Wide Area Trunked System

OPTIONAL RADIO MANAGEMENT CAPABILITIES (Supported by the Zone Controller/Manager) Feature/Advantage

Call Alert Capability—Allows a dispatcher to initiate a Call Alert signal to a user in the system. This causes an indication at the receiving unit's radio, alerting the operator to call the dispatcher for an important message. The dispatcher receives positive acknowledgement that the message was sent.

Call Alert capability helps assure that important messages or instructions get through, even if the called party is away from the vehicle.

Dynamic Regrouping—Allows a dispatcher to reassign talkgroup units without activity on the part of the mobile or portable operator. The system verifies that the new individual assignments have been made. The dispatcher can enter prearranged emergency situation talkgroup assignments, or Storm Plans, into the system. When an emergency occurs, the plan can be activated automatically.

Dispatchers can react faster in emergency or tactical situations by forming new talkgroups with members normally not sharing the same channel.

Snapshot—Allows the dispatcher to check the operating mode of any individual radio in the trunked system. Snapshot can be used to obtain up-to-the-second reports on a radio's operating status, talkgroup affiliation, announcement group affiliation, and last registered site of operation.

By knowing the current operating mode of a radio, the dispatcher can save time in reaching that radio.

Critical Site Assignment—The system manager specifies which sites must be included in a call for a given talkgroup or multi-group before the call can be started. With Critical Site Assignment a call will be started after a busy override when all critical sites and the site of origin have a channel. Non-critical sites without a channel will join the call when a channel becomes available.

Critical conversations can begin immediately once the critical sites have a channel. The call is not delayed while waiting for non-critical sites to get a channel.

Critical User Access—The system manager specifies up to sixteen critical users per talkgroup that must be included in a given talkgroup's call if they are currently affiliated to that talkgroup. As channels become available, other non-critical users join the conversations.

Selected members of various talkgroups can be assigned as critical users. For important conversations, these members are quickly put in touch to respond to the communication.

RADIO OPERATOR CAPABILITIES Feature/Advantage

Busy Override—Busy Override allows selected users to request a call be granted even though one or more non-critical sites may be busied. If the call requestor does not want to wait to reach all registered talkgroup members, the requestor can invoke Busy Override. The call is placed at all sites with available channels. Other sites and users will join the call later when a channel becomes available.

Busy Override saves valuable time when placing group calls since the call is placed to appropriate sites with available channels. As channels become available at the busy sites, the remaining members of the talkgroup join in the conversation.

Preferred Site Operation—This feature allows a radio to search for a pre-programmed preferred site when it is no longer on that preferred site. As soon as the radio is within range, it returns to its preferred site.

By using Preferred Site Operation, repeater resources can be conserved in areas where there is coverage overlap.

Telephone Interconnect (Option)—Provides mobile and portable users with the capability to place and receive telephone calls through the public telephone network.

Telephone interconnect is a useful feature for users who need to operate over large geographic areas, helping eliminate unnecessary travel to reach a phone. Also, supervisors can dispatch to an entire talkgroup from any telephone.

Status/Message Capability (Option)—Radio users can send a pre-defined message or radio status over-the-air without talking. Up to eight predefined status or message conditions can be sent and displayed on a dispatcher's user station for quick identification.

Status/message capability allows radio users to quickly inform the dispatcher of the unit's current operating condition without interrupting normal talkgroup communication. This means more efficient task coordination without using up valuable air time.



Support Services

Wherever Motorola sells, our product is backed by service. In the U.S., we have 900 authorized or company-owned centers. In addition, our products are serviced throughout the world by a wide network of company or authorized independent distributor service organizations.



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