

**SMARTNET** Trunked Radio System

# *Smartnet Overview*

## SMARTNET SYSTEM DESIGN FEATURES/ ADVANTAGES



Smartnet is Motorola's solution to meet the essential needs of organisations who want instant, reliable communications. The system allows users the opportunity to design a trunking system from a coverage and feature perspective and then modify the system as their needs expand. Our wide area capabilities provide system users with the ability to communicate across many sites automatically.

### SYSTEM OVERVIEW

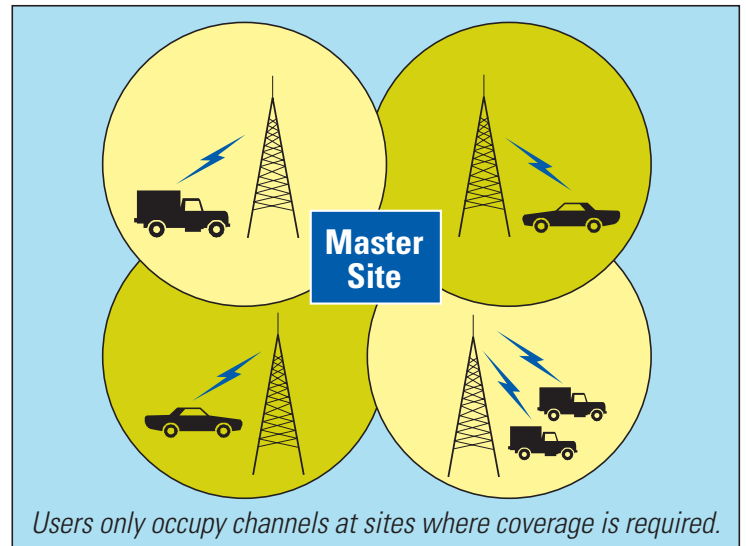
*Smartnet is a new analog trunking system that provides integrated voice and data communication services over local and wide area applications. This efficient system provides many essential services including dispatch, integrated voice and data, and wide area roaming. Smartnet is designed for those who desire instantaneous group communications to allow their users to operate in teams (talkgroups). The system also allows private one-on-one calling and connection to the public telephone network.*



### TODAY AND TOMORROW

#### Multiple Site Systems

Many of your communication needs can now be covered by one fully integrated system. Whether you require just one site or up to 10 sites, Smartnet has the ability to meet your coverage requirements.



#### Dynamic Site Assignment

Smartnet's Dynamic Site Assignment efficiently assigns channels only at the sites needed – ensuring communications between users. As a user roams from one site to another, the system's network controller equipment automatically assigns a channel at the new site without any user action.

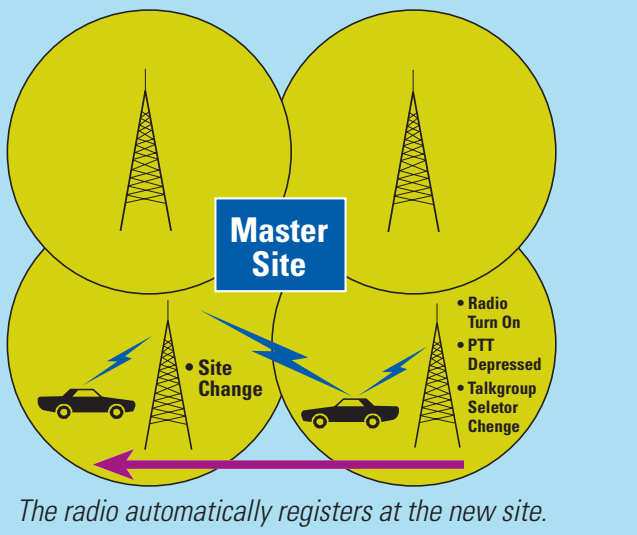
This functionality provides higher system capacity. More calls can be handled with typically fewer resources, which means your communications needs are satisfied efficiently and cost effectively. This also means faster, instantaneous communications when you need it, where you need it.

# Radio Communica

## Roaming and Site Registration

When a radio roams in a Smartnet system or moves between coverage areas, it automatically changes its site registration as needed to maintain good signal strength. The radio automatically deregisters with the site it is leaving and registers with the new site.

With these features, a user moves from one location to another without having to manually switch to the next coverage area.



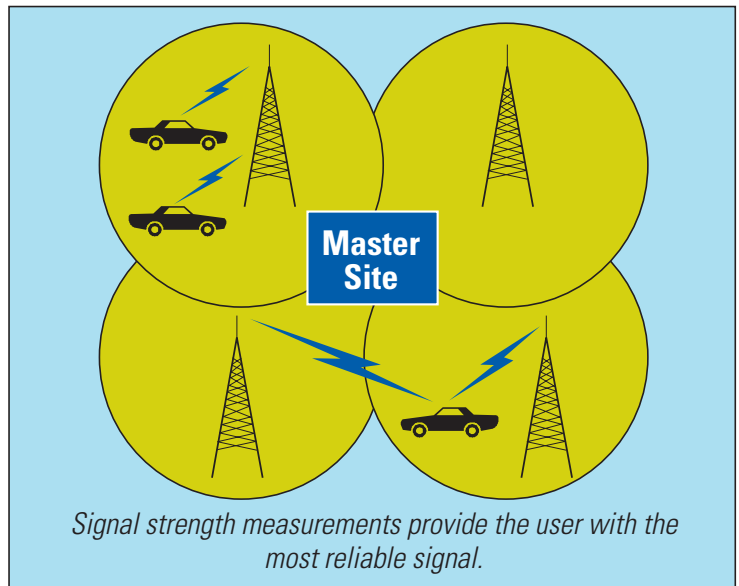
*The radio automatically registers at the new site.*

### • Automatic Site Registration

When a different talkgroup is selected or when a radio roams from one site to another, automatic site registration occurs. This provides even greater system efficiency and frequency use. Calls are processed more quickly and channels at sites are used more effectively.

### • Automatic Deregistration

When a radio selects a non-system mode or has been inactive for a preselected time-out period, the radio will be deregistration from the system. Deregistration ensures that precious channel resources are conserved for other important calls and users. The network controller equipment tracks all activity on the system and monitors movement of users from site to site so that they are properly registered only at their current location.



*Signal strength measurements provide the user with the most reliable signal.*

## Received Signal Strength Indicator

Signal strength is a key element in radio communications. To provide optimum communications, an idle radio will switch channels and listen to surrounding sites throughout the coverage area. It will then switch to a new site according to signal strength without any disruption to the user. The result is improved communications by operating on the optimum site.

## Alerts and Alarms

System reliability and management are enhanced by Smartnet's alert and alarm feature that allows the system's manager to view the current state of each major component of the system. Alerts are generated when system equipment changes operating modes. Alarms are generated in the unlikely event that a piece of equipment exceeds its out-of-service threshold allowing the manager to take corrective actions or call for system maintenance assistance.

## Air Traffic Information Access (ATIA)

Air Traffic Information Access is a feature that provides access to air traffic data. The ATIA data can be used to drive other applications, such as a data base or billing system, to produce customised, detailed reports for system management, billing or other uses.

## System Statistics

System statistics allow the customer to produce daily reports on system usage. Smartnet offers seven essential report summaries: system, site, shared site, channel, group, individual, and transaction.

These reports contribute to a system manager's understanding of how the system's infrastructure resources are being utilised. Informed decisions can be made on how new or existing resources can be used further, enhancing the ongoing cost effectiveness that Smartnet provides.

*tion Makes Simple*

## **Selective Radio Inhibit**

Selective Radio Inhibit addresses the issue of a radio that has been misplaced or stolen by allowing managers to remove any unauthorised radio from operating on the system. Once inhibited, the radio is inoperable until it is recovered, at which time it can be easily reinstated back into the system within seconds.

Selective Radio Inhibit is a valuable asset for helping control security in your system. Activation of this feature helps ensure that "unauthorised people" cannot use your radio to monitor or interrupt important communications. The radio will be rendered virtually useless to an unauthorised user since it can no longer transmit or received audio. If your business is providing a radio service for fee, then selective radio inhibit can help maximise your ability to collect errant accounts.

## **Call Alert**

The Call Alert function allows a caller to leave a "page" for an unattended radio. This prevents users from tying up air time calling unattended radios.

Since the page is both visual and audible, this feature is particularly beneficial for radio users whose jobs frequently take them away from their radio, or who operate in a noisy environment. In addition, Call Alert audio tones may be used as a method to locate a misplaced radio.

## **Recent User Priority**

During system busy periods, a user who needs to reinitiate a previous conversation is placed ahead of others in a queue when reusing a voice channel.

Recent user priority helps preserve communications continuity by minimising delays between questions and answers on very busy systems.

## **Priority Call**

Priority operation allows a radio user to receive priority on his/her talkgroup calls. By pushing a button, a user is assigned the next available channel. Priority call offers added security to users by allowing their transmissions to take priority over other calls. This feature is important to users in high risks, hazardous or critical situations.

## **Busy Override**

Smartnet's busy override allows an authorised, high priority user to accelerate call processing when the system is busy. These users can choose to talk with the available talkgroup members and bypass sites where low priority users are registered. Non-critical users rejoin the call as channels become available at their sites.

Busy Override saves valuable time when placing groups 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 the conversation.

## **Critical Site**

A critical site is a site designed by the system administrator that must be included for a particular talkgroup. If there is a critical site designated for a talkgroup call that is attempting a busy override, the call will be delayed or prohibited until a voice channel is free at all sites designated as critical to the talkgroup.

## **Private Conversation**

This form of specialised call allows one unit to selectively enter into a one-on-one call with another radio. This call will not be heard by any other radios in the talkgroup or system.

Private Call prevents unintended radio listeners from hearing a conversation. The use of Private Call also reduces radio operator fatigue and annoyance by eliminating conversations not intended for them.

## **Telephone Interconnect**

Telephone interconnect provides the capability to expand communications beyond the range of the radio system by allowing users to place and/or receive telephone calls to anything in the world. Telephone interconnect also allows any telephone to become dispatch point. Now managers, supervisors or dispatchers can communicate with talk groups or entire system from any telephone. Telephone interconnect helps users avoid wasting time and unnecessary travel looking for available telephones.



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