



LIBERATE YOUR MOBILE RADIO

Range Extension

Elite Plus Models Only

Enhancing In-To-Building Coverage

To significantly enhance in-to-building coverage, Elite Plus handsets are all capable of relay mode. This exclusive X10DR Elite Plus capability means that one or two user handsets, when walking out of range from the vehicle's gateway, can still communicate via a still in-range 'relay' handset.

There are two available operational relay modes:

Command Relay mode:

Command Relay is active by default in all Elite Plus handsets but requires user manual activation.

Automatic Dynamic Relay mode:

Automatic mode once activated by the field programmer is then automatically in operation in all Elite Plus handsets unless manually disabled.

Swapping between Gateway and a Handset in Relay Mode.

All three handsets should be previously first paired with their vehicle's gateway. (Erase all other pairing beforehand) The handset to be assigned as the "Relay" device should also be previously paired with the other two handsets. When Relay Mode is enabled, the LED on the 'Relay' handset will glow yellow with a periodic blue flash (or flash yellow if not connected to its gateway)

The other two handsets can now either wait until they are out of range of the vehicle for automatic connection to the in-range Relay handset, or they can immediately connect by: a short press of their Search (Off/On) buttons. They will hear a confirmation tone and their handset LED will then change to Yellow. Should they wish to change back to direct connection to the gateway they can again short press the Search button when in-range of the vehicle or simply wait until they lose connection. Their LED will change back to Blue when reconnected to the gateway.

Static use of a Handset in Relay Mode.

While the primary intended use of handset in active Relay Mode is for the user to locate themselves in a central location to visually monitor the situation while also assisting operations of the two users inside a building, it can also be deployed, un-attended in a static location, for example, inside the entrance corridor of a hospital emergency casualty ward. The paramedics can clip/hang/Velcro the "Relay" handset inside entrance as they walk past, thereby ensuring their already connected handsets can continue to communicate well into the triage area. If desired the handset's volume can be programmed so the Relay handsets speaker can be muted in such situations. When leaving they simply grab the handset on their way pass, putting it back into the vehicle charger - ready for its next deployment.

Manual on demand deployment

By default, all Elite Plus handsets can activate Command Relay mode. To make use of Command Relay mode, one team member walks towards where extended coverage is required (e.g. inside a building's lobby). After confirming a reliable vehicle gateway connection exists, Command Relay mode is activated by a long press of their handset's Volume Up button. Upon hearing three beeps, the user releases the button and will notice their handset status LED has changed to yellow with blue flash, indicating that Command Relay mode is now active and they are connected to the mobile vehicle's gateway. As their partner/s enter deeper into the building and lose connection to the gateway, their handsets will automatically connect to the "Command Relay" handset. Alternatively, they can immediately connect to the Command Relay handset by a short press of their handset's red "search" (off/on) button - their handset becomes a "Remote" and their handset LED will then change to solid yellow to indicate its new connection status.

All conversations are now relayed backwards and forwards to the gateway via the Command Relay handset. All talkaround, handsfree, emergency capabilities remain fully operational and naturally all users can hear each other. When back in-range, a remote user can re-press their red search button to reconnect back to their vehicle's gateway. Handset status LEDs will glow blue when transmitting over the host mobile radio, or green when talking locally, or purple if handsfree mode is activated. To deactivate Relay mode at any time simply long press that handset's Volume Up button until you hear one beep. All handset status LEDs will now change back to their default color.

Unattended Command Relay handset

Naturally, there is no need for the Command Relay handset to be attended, it can simply be placed wherever is the best "relay point" to ensure communication can be achieved in the desired remote location. For example, the entrance to a shopping mall, entrance to a local stadium, down a long corridor leading from a hospital emergency entrance into a distant triage area. Typically the point where line of sight communication is lost with the vehicle.

Remote from the vehicle - Stay connected

Sometimes all responders may have no choice but to travel well out of range of the vehicle. With Command Relay mode they can remain in contact with each other via Talkaround or Handsfree full duplex when active. When back in range of the vehicle they automatically will reconnect and be able to again communicate over the host mobile radio network. When out of range of the vehicle and disconnected from the gateway the Command Relay handset LED will flash yellow. User can typically up to 250 meters line of sight from each other in such situations.

Command Relay Mode

User manually activates Command Relay Mode (Long press Volume Up button) at edge of good coverage, so one or two pre-paired handsets can automatically connect via the Relay handset when



Elite Plus Handset with Command Relay active

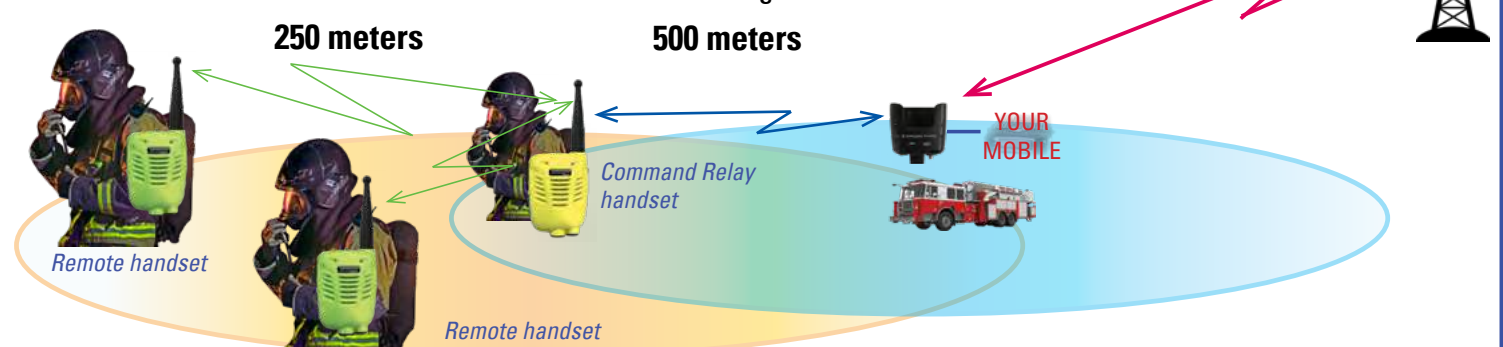


Other pre-paired Elite Plus handset

coverage to the gateway is lost, or users can short press Search (Red Off/On button) for immediate connection. Short press Search again to make it reconnect to its gateway.

Command Relay Mode handset connected to two handset

User manually sets up a 'command post' on the edge of good vehicle coverage thereby allowing the two 'remote' connected handsets to roam in-to-buildings.



Automatic Dynamic deployment

Automatic Relay mode is major breakthrough in long distance wireless microphone technology. It allows communication to occur via a nearby team member's handset when communication coverage is lost with the vehicle X10DR's gateway. This ensures connectivity to the host mobile radio, satellite terminal, control console etc as users go about their business. Being totally dynamic, anyone of the gateway's handset will automatically assume Relay mode master should a handset lose connectivity all without any user intervention. It's the wireless microphone equivalent of wide area roaming. Users require little if an additional user training other than user awareness handset can now act as Relay point.

The status LED of an Auto Relay mode active handset glows yellow with a periodic blue flash to let the user to know when they are connected to their gateway. When the user presses the Radio PTT button the LED changes to blue, but when transmitting in Talkaround it glows green or purple when in Handsfree mode. Should the handset lose connection to the gateway its LED will flash yellow as it search for an alternative path via a nearby handset. Once connected it is now operating as a 'Remote handset' and its status LED will glow solid yellow. All operation is automatic and users operate their handsets as normal. A "slave" Remote handset can not connect act simultaneously as a "master" Relay handset. Automatic mode can be disabled by long pressing the volume up button until you hear one beep. Re-activation occurs by either long pressing the volume up button again, or by powering off and on the handset.

Unattended Auto Relay handset

Like Command Relay mode, any Auto handset can be simply placed at the optimum desired Relay point to enhance in-to-building coverage and the other handset/s will automatically link to it as the move in and out of the building.

Standalone Use

Auto relay mode allows two or three handset to operate completely independent from the vehicle. The handsets can communicate up to 250 meters from each other (up to 500m radius). Operating on license free, virtual exclusive channels these fully AES128 encrypted "portable" with dynamic constant key change, offer the ultimate in tactical voice protection at a price a fraction of traditional AES portable radios.

Automatic Relay Mode

Upon power up Auto Relay mode programmed handsets always look for an alternative radio path if the connection to its gateway is lost. Once connected via another handset they become a Remote handset and their Relay capability is temporarily disabled until connection to their current Auto Relay handset is lost. A short press of the Search (Red Off/On button) will make it search for gateway or another in-range Relay handset to connect to.



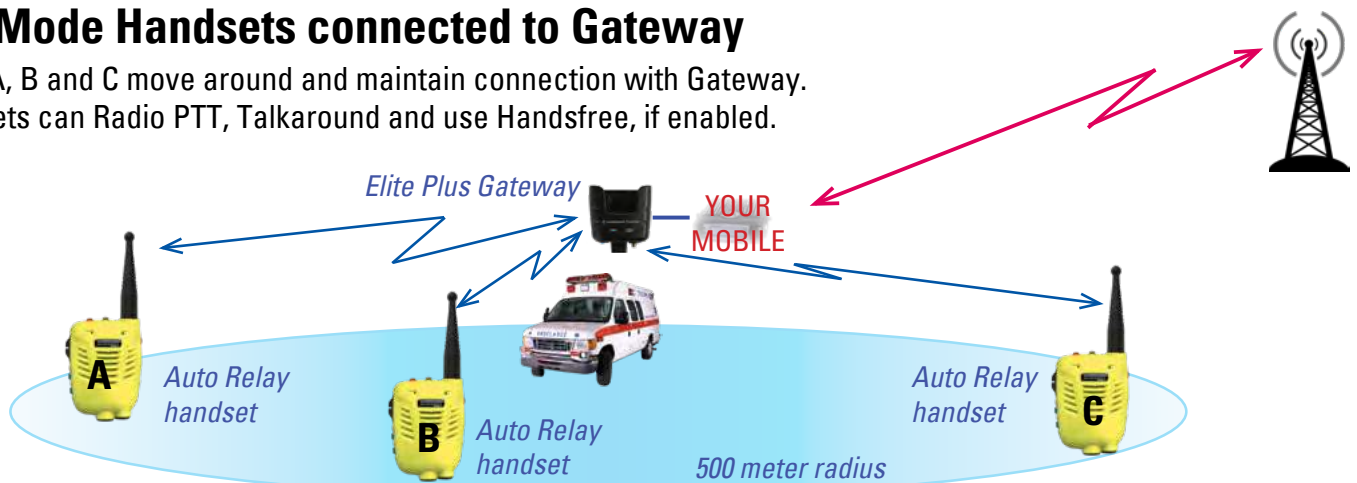
Elite Plus Handset with Auto Relay active



Auto Relay handset becomes Remote handset

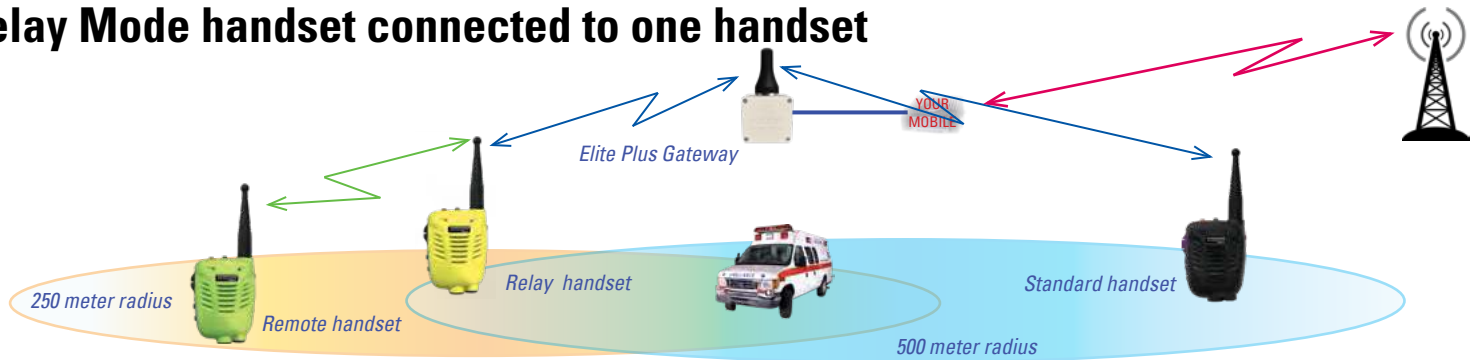
Relay Mode Handsets connected to Gateway

Handset A, B and C move around and maintain connection with Gateway. All handsets can Radio PTT, Talkaround and use Handsfree, if enabled.



Elite Plus with Relay Mode On

Relay Mode handset connected to one handset



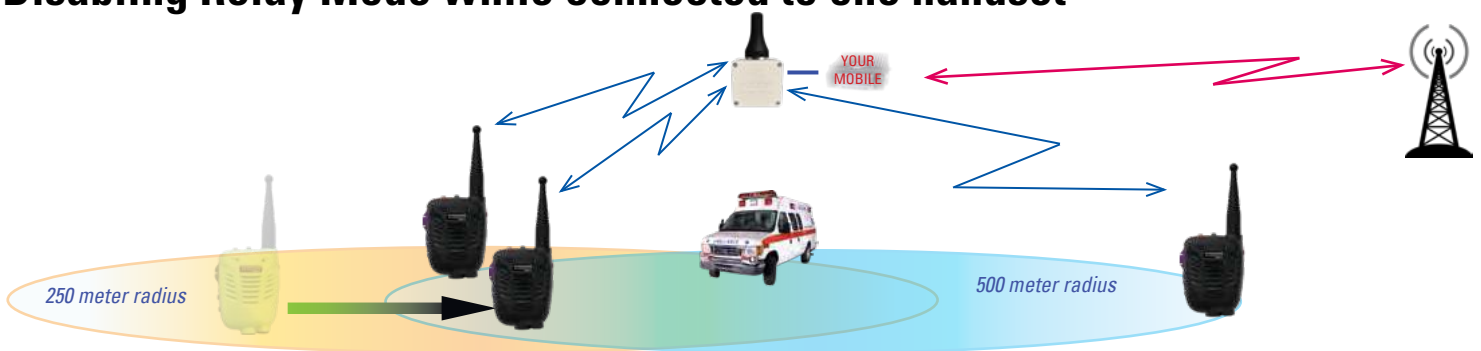
Front panel LED changes to Yellow with periodic blue flash when in Relay Mode.
 Can transmit and receive over the radio.
 Can hear all other handsets radio transmissions.
 Can use Talkaround or handsfree with other handsets.
 Other features operate as standard



Front panel LED changes to Yellow when connected to handset in Relay Mode.
 Can transmit and receive over the radio.
 Can hear all other handsets radio transmissions.
 Can use Talkaround or handsfree ONLY with their "Yellow" handset but not each other.
 Other features as standard, save for "Green" handset:
 - FindMe can only be reset by gateway or "Yellow" handset.
 - Remote PTT or Emergency Live Mic are not available.



Disabling Relay Mode while connected to one handset



Front panel LED is solid Blue.
 Can transmit and receive over the radio.
 Can hear all other handsets radio transmissions.
 Can use Talkaround or handsfree with other handsets.
 Other features operate as standard.



Loses connection to X10DR system
 Front panel LED flashes Blue to indicate no connection
 Looks for gateway and reconnects when in range of the gateway. LED changes to solid Blue.
 Operates as normal.
 Note: Remote handset cannot hear other handsets when its Radio PTT or Emergency is pressed.



Elite Plus with Relay Mode On

Relay Mode handset connected to two handsets

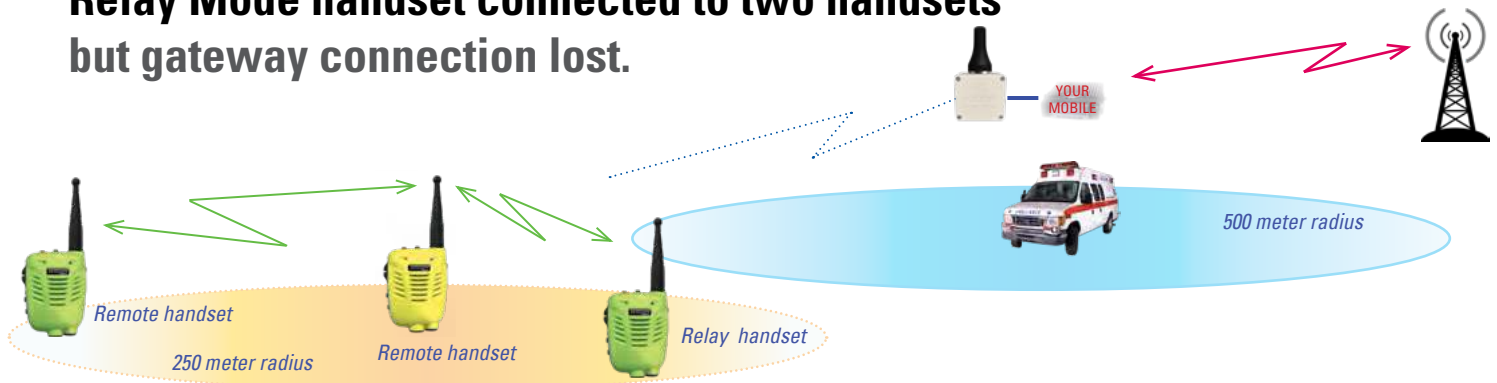


Can transmit and receive over the radio.
Can hear all other handsets radio transmissions.
Can use Talkaround or handsfree with other handsets.
Other features operate as standard



Can transmit and receive over the radio.
Can hear all other handsets radio transmissions.
Can use Talkaround or handsfree with each other and Relay handset.
Other features as standard, save for "Green" handset: FindMe can only be reset by gateway or "Yellow" handset. Remote PTT or Emergency Live Mic are not available.
Note: Remote handset cannot hear other handsets when its Radio PTT or Emergency is pressed.

Relay Mode handset connected to two handsets but gateway connection lost.



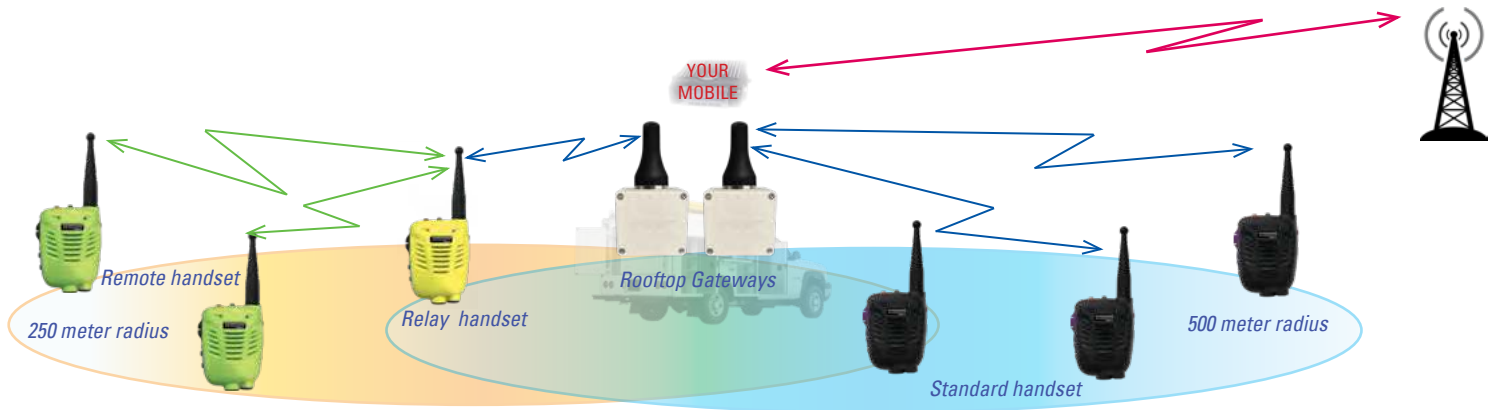
Yellow handset LED flashing Yellow
Green handsets LED solid Yellow
Cannot transmit and receive over the radio.
Can use talkaround or handsfree with other handsets.
Cannot trigger Emergency.

Note: Remote handset cannot hear other handsets when its Radio PTT or Emergency is pressed.

Elite Plus with Relay Mode On

2 Gateway with 1 Relay Mode, 2 Remote handsets & 3 Standard handsets

Handsets with Relay Mode enabled.



- Front panel LED changes to Yellow with periodic blue flash when in Relay Mode.
- Can transmit and receive over the radio.
- Can hear all other handsets radio transmissions.
- Can use Talkaround or handsfree with all other handsets.
- Other features operate as standard



- Front panel LED glows Yellow when connected to handset in Relay Mode.
- Can transmit and receive over the radio.
- Can hear all other handsets radio transmissions.
- Can use talkaround or handsfree ONLY with other Green or Yellow handset.
- Other features as standard, except for "Green" handset: FindMe can only be reset by gateway or "Yellow" handset. Remote PTT or Emergency Live Mic are not available.
- Note: Remote handset cannot hear other handsets when its Radio PTT or Emergency is pressed.

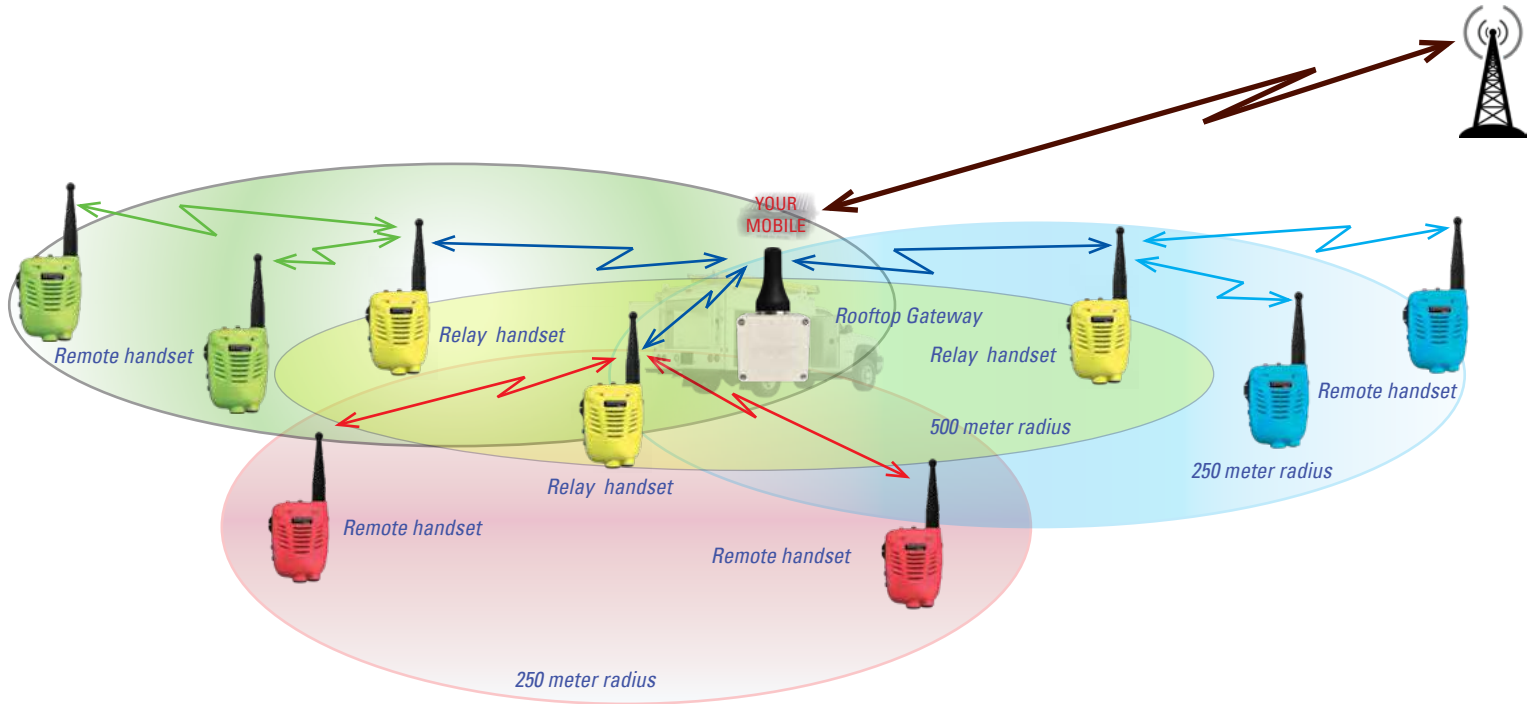


- Front panel LED glows Blue when connected to gateway
- Can transmit and receive over the radio.
- Can hear all other handsets radio transmissions.
- Can use talkaround or handsfree with other handsets except Green.
- Other features operate as standard.
- Note: Dual gateways requires use of XHJB Handsfree Junction Box

Elite Plus with Relay Mode On

1 Gateway with 3 Relay Mode handsets each with 2 Remote handsets

Handsets with Relay Mode enabled.



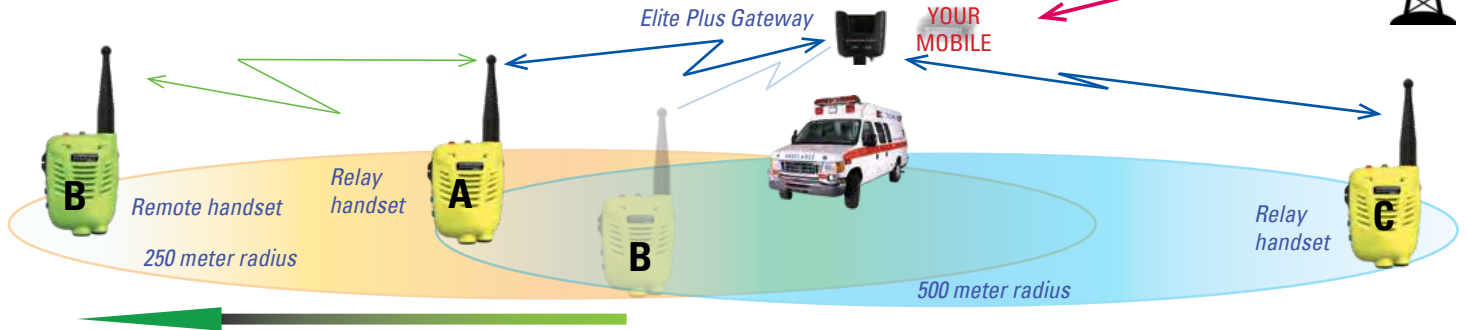
- Front panel LED changes to Yellow with periodic blue flash when in Relay Mode.
- Can transmit and receive over the radio as standard.
- Can hear all other handsets transmission over the radio.
- Can use Talkaround and handsfree with other "yellow" handsets.
- Can use Talkaround and handsfree with their connected handsets.
- Other features operate as standard.



- Front panel LED changes to Yellow when connected to handset in Relay Mode.
- Can transmit and receive over the radio as standard.
- Can hear all other handsets transmission over the radio.
- Can use Talkaround and handsfree ONLY with the other "same color" handsets and with their "Yellow" Relay handset.
- Other features as standard except FindMe can only be reset by gateway or "Yellow" Relay handset.
- Remote PTT nor Emergency Live Mic are not available.
- Note: A Remote handset cannot hear other handsets when its Radio PTT or Emergency is pressed.

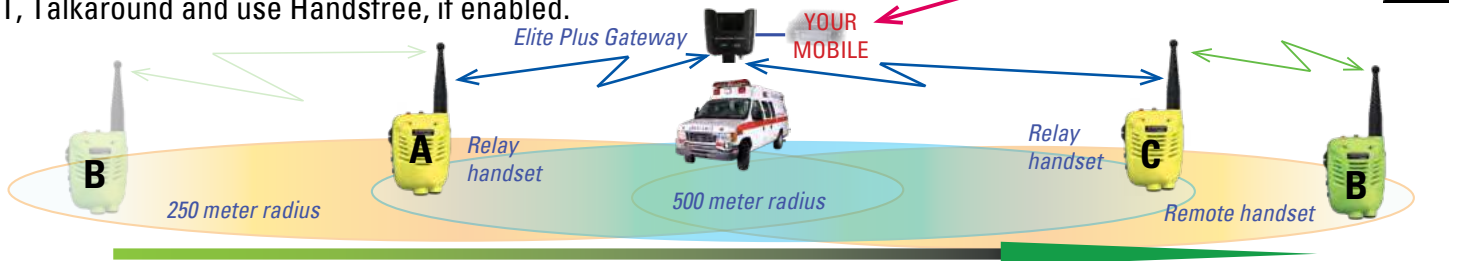
Relay Mode: Handset connected to one Handset

If Handset B moves and loses connection with Gateway, it searches for Relay Handsets A & C. It reconnects via the first in-range Handset. In this case A. All handsets can Radio PTT, Talkaround and use Handsfree, if enabled.



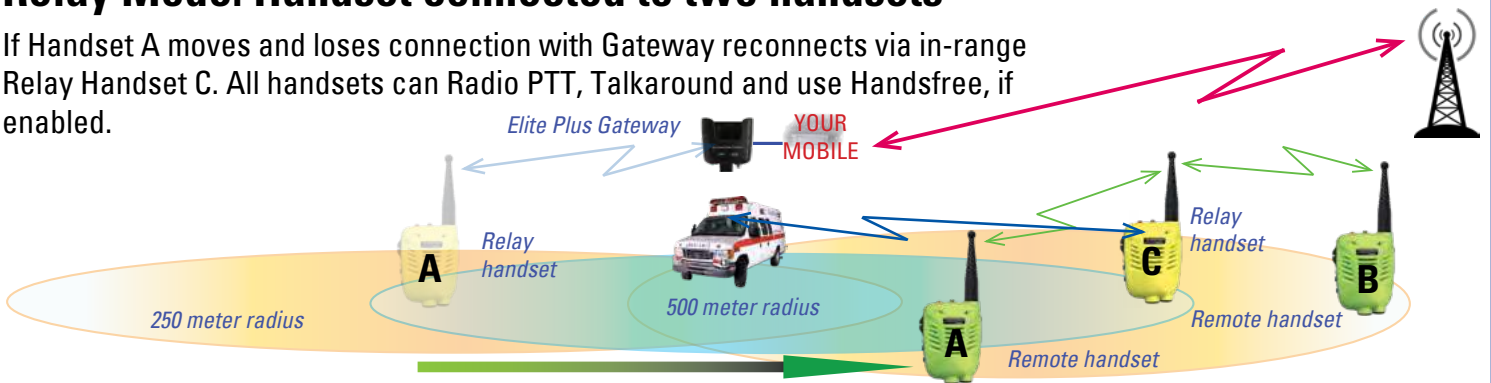
Relay Mode: Handset re-connects to another Handset

If Handset B moves again and loses connection with Relay Handset A it searches for Gateway, if not, reconnects via in-range Relay Handset C. All handsets can Radio PTT, Talkaround and use Handsfree, if enabled.



Relay Mode: Handset connected to two handsets

If Handset A moves and loses connection with Gateway reconnects via in-range Relay Handset C. All handsets can Radio PTT, Talkaround and use Handsfree, if enabled.



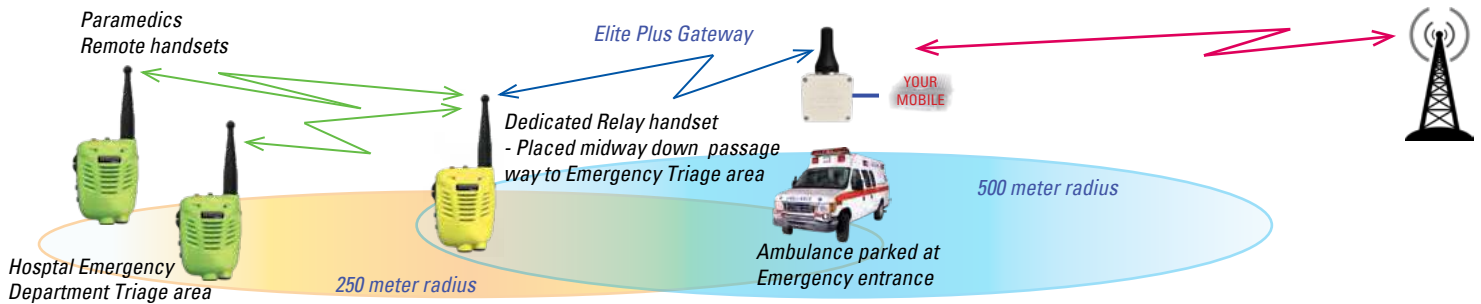
Relay Mode: when Gateway connection is lost.

If Handsets A, B & C lose connection with gateway all handsets search for alternative connection. If Handset A finds B they connect, when handset C finds B they connect and all can now Talkaround or Handsfree, if enabled, amongst themselves. If A loses connection with B, A will first look for Gateway, if not, B or C. Handset B is always looking for reconnect to gateway. If any handset presses Radio PTT or Emergency then Out Of Range tone sounds.



Practical use of Elite Plus with Relay Mode

A dedicated Relay Mode handset used to connected to two Paramedics when they lose direct connection to Ambulance X10DR gateway at hospitals with long Triage area entrance corridors or similar scenarios.



Dedicated Relay Mode Handset

Paramedics leave Relay mode handset at designated midway point between ambulance and triage area. Handset Relays all audio transmit from gateway to remote handsets
 Silent operation- can be programmed for Speaker mute on minimum volume
 Suggest XVMC Velcro mount so Relay handset can be easily attached to a permanently placed adhesive Velcro Loop patch placed at arm height in passageway as they pass by pushing the trolley.
 Collect on way out of Tri-age area and placed back in charger awaiting next needed deployment.



Paramedics Handsets

Can transmit and receive over the radio.
 Can hear each others handset's radio transmissions.
 Can use Talkaround or handsfree with each other.
 When lose connection to vehicle gateway automatically connect via Relay handset.