

The Firefront™ Universal Appliance Communications System allows up to seven X10DR Elite devices to be connected to the Fire appliance host mobile radio to provide a comprehensive, local intercom and network access system for Fire fighters. Typical systems provide local at-scene, off-network private AES secure communications with the ability to also monitor and transmit over the vehicle's main dispatch mobile radio for up to 700 meters from the vehicle. Additional facilities include the ability to monitor other radio channels (e.g. volunteers using UHF radios) or the ability for multiple vehicles to link together into larger work teams with a shared local intercom network.

The Firefront™ system allows all team members to hear and communicate with each other by pressing their top mounted, grey coloured, Talkaround button on the Elite Microphone. For those situations when both hands are needed such as attaching a hose, the system also provides Handsfree mode. Handsfree mode is simply enabled by "double pressing" the Talkaround button. The user will hear a "handsfree active" tone alert. The user can then communicate freely with others from their team while focusing on the task at hand without the need to press any buttons. Typically a user in Handsfree mode should wear either use a lightweight headset or perhaps a specific breathing apparatus headset plugged into the bottom Hirose® 6 pin headset port. When Handsfree is active, the user will hear a periodic "handsfree active" tone in their earpiece/headset. Handsfree is simply disabled by pressing the top Talkaround button again or by pressing the top mounted emergency button.

Besides the local intercom capabilities, the X10DR Firefront™ system also allows team members segregated or full access to the vehicle's main mobile radio operating channel. A XCCP Console Command Panel provides the vehicle's Commander the ability to dynamically assign the other (up to 6) team members, radio channel receive capability and/or the ability to transmit over the main or secondary radio networks. The system on power up by default is normally configured to typically allow full radio system access to the vehicle's Commander, and a 2IC if so desired. Depending on the specific operational needs and equipment configuration, either one or both selectable user sub-groups (with 2 members) to also have authorized access to the vehicle's radio/s can be provided by the Console Command Panel with a press of a button/s.

When a team member has radio monitor access assigned, they will hear both local intercom voice traffic as well as the main radio's receive communications. Should someone be talking in local intercom mode when a radio reception occurs on the vehicle's host mobile radio, then audio from both sources will be mixed and users will hear both conversations. When authorized they can also transmit over the main radio channel by simply pressing the large side PTT button to talk. The Console Command Panel is normally located inside the vehicle cabin so user access can be pre-defined before arriving at the response scene. For long deployments where access requirements may evolve as circumstances change, additional Console Command Panels can be mounted elsewhere on the vehicle for easy access and so as to prevent the need to climb back into the cabin when a change is required.

Built for intuitive operation, Firefront™ communication systems provides all team members with simple to use, lightweight, IP67 rated waterproof shoulder personal communicators, while ensuring effective, controlled access to the vehicle's main radio network, as well as seamless, local "off net" intercom capability including game changing Handsfree operation.

## XFSB Firefront Smart Box

Provides Firefront handsfree specific protocol on three ports for single or dual radio control for one, two or three gateways. Dual radio transmit is achieved by pressing normal handset PTT for radio 1 and pressing the top "Control" (normally used for talkaround) button for radio 2 transmit. All received audio are mixed and sent to handset/s. Radio 2 receptions can\* include a short audio tag (beep) attached to end of each reception so that users can be sure on which radio the reception occurred. The audio level adjustments provided on the XFSB allow you to set transmit and receive volume levels to/from each radio as well as the audio level of the radio 2 audio tag.

When utilized with the XCCP Console Control panel, the patch radio (radio 2) transmit function can be disabled so the Elite handsets top "Control" button can still be used for local talkaround. For system where the secondary radio is used to link trucks into "super groups" or to communicate (cross-patch) with, for example, volunteer radios, then all local Talkaround PTT conversations will normally be sent over the secondary radio to those sharing that channel and vice versa. However, if handsfree is/becomes active on any handset then transmit over the secondary radio will be automatically disabled by the XFSB device.

The XCCP connects to the XFSB control port to control the desired Commander authorized connectivity. Pressing the Power buttons will cause them to glow indicating the main radio and the secondary "Patch" radios have been individually activated. Pressing/re-pressing the gateway control buttons cycle between Off, Red and Blue. A Red indicator means the users of that gateway can transmit and receive on the assigned radio. A Blue indicator means the users can only receive, i.e. monitor on that radio. If the Indicator is Off, it means the user can neither receive nor transmit on that radio.

To further expand the local intercom network, the Firefront™ communications system can be "super-grouped" by use of 2nd attached mobile radio which could then allow:

i/ **FIREFRONT TEAMING:** Multiple Firefront™ vehicle systems within range of each other who are sharing a common dedicated channel to be merged into a super-group where all Talkaround press to talk conversations are shared. (Note: Handsfree mode should not be enabled when super-grouping is enabled.)

ii/ **FIREFRONT VOLUNTEER:** The vehicle's Firefront™ system to be cross connected to a LMR/FRS/CB/PMR channel via the second connected radio and assigned by the vehicle Commander so those conversations can be shared with volunteer fire fighters who may be operating on their own volunteer radio equipment. This configuration can also be used to achieve multiple Firefront system patching as described above but utilizing a volunteer radio channel.

Assignment of the super-group capability to team members is via the Console Command Panel in the same manner that main radio access is granted. If enabled, the Commander would again normally have automatic access to the super-group channel.

### Notes:

All communications between the X10DR Elite handsets occurs via their specific paired gateway units and not directly between handsets. Effective maximum range of the system is significantly dependant on the location of the XRTG gateway installation and the location where the X10DR handset is actually worn by the user. Obstruction to antennas will effect the directivity of coverage and care must be taken when selecting a mounting location when maximum range is a system imperative.

Refer to Interface cable and TDMA Application notes before ordering.

\* radio must have available COR output

X6WC



XDTC



Alternate Desktop Charging

## Firefront Standard

### Single Commander with two member subgroups

Commander's handset can choose to always transmit & receive on all radios and decides which of their sub-groups can receive and/or transmit on what radios



## X10DR Gateway local coverage area

## Firefront Volunteer

### Commander with two member subgroups

Commander's handset can always transmit & receive on all radios

Each Commander decides which of their sub-groups can receive and/or transmit to Volunteers

### Simplex local coverage area



### X10DR Gateway local coverage area

A second radio on a chosen, designated LMR, PMR, FRS, GMRS, CB channel connected to the XFSB interface box's secondary radio port.

All users assigned with secondary radio Rx & Tx access can communicate amongst each other and with any other user within range operating on the designated channel.

Handsfree operation is barred when secondary radio is enabled.

## Application Note - Firefront<sup>™</sup> (cont.)

### Firefront Teaming

#### Multiple Commander with two member subgroups

Each Commander's handset can always transmit & receive on all radios

Each Commander decides which of their sub-groups can receive and/or transmit on what radios



**X10DR Gateway local coverage area**

### Simplex local coverage area

All vehicles share a common simplex channel selected on a second radio connected to the XFSB interface box's secondary radio port.



**X10DR Gateway local coverage area**

All users assigned with secondary radio Rx & Tx access can communicate amongst each other through multiple vehicles. (or any other user operating on the simplex channel)

Handsfree operation is barred when secondary radio is enabled.



**X10DR Gateway local coverage area**



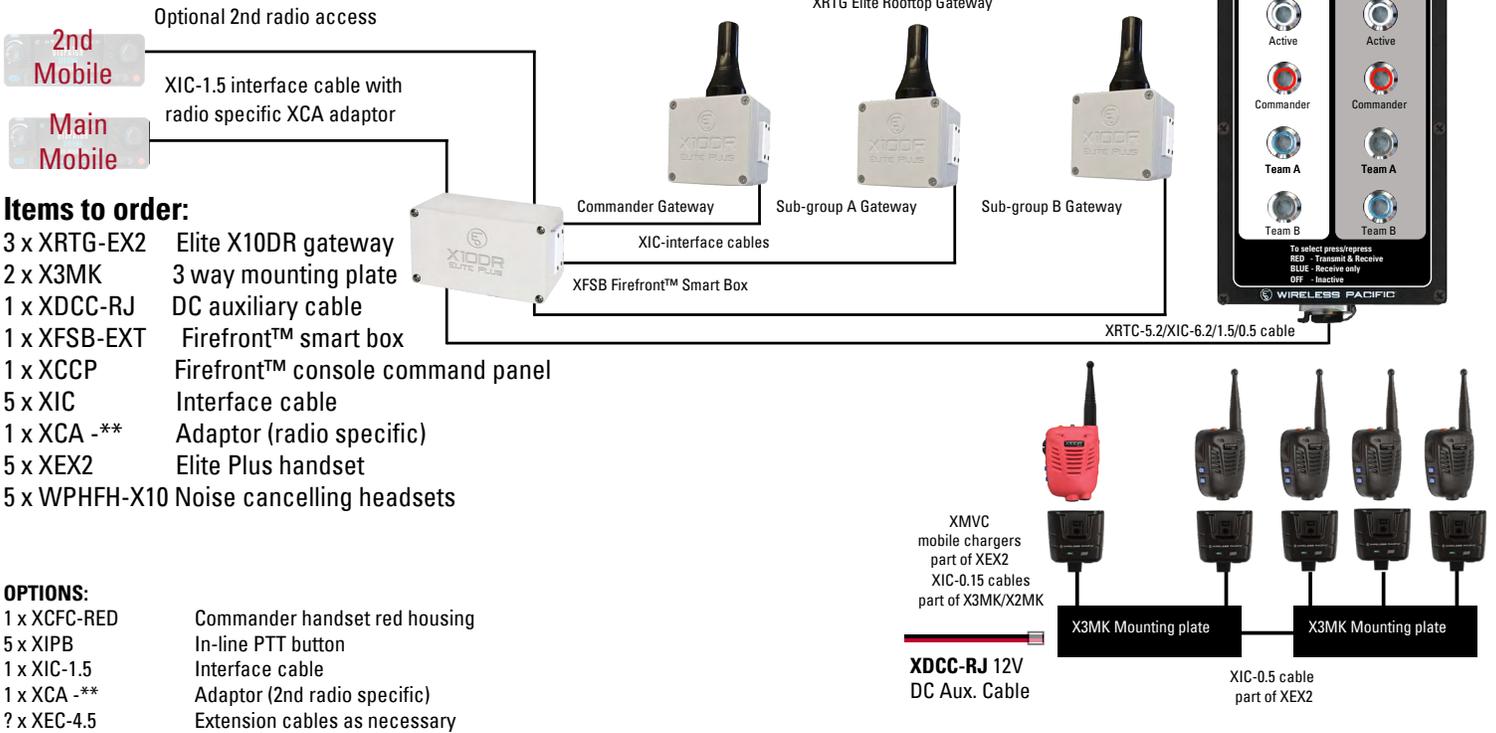
**X10DR Gateway local coverage area**

## Application Note - Firefront™ (cont.)

### Ordering Guide

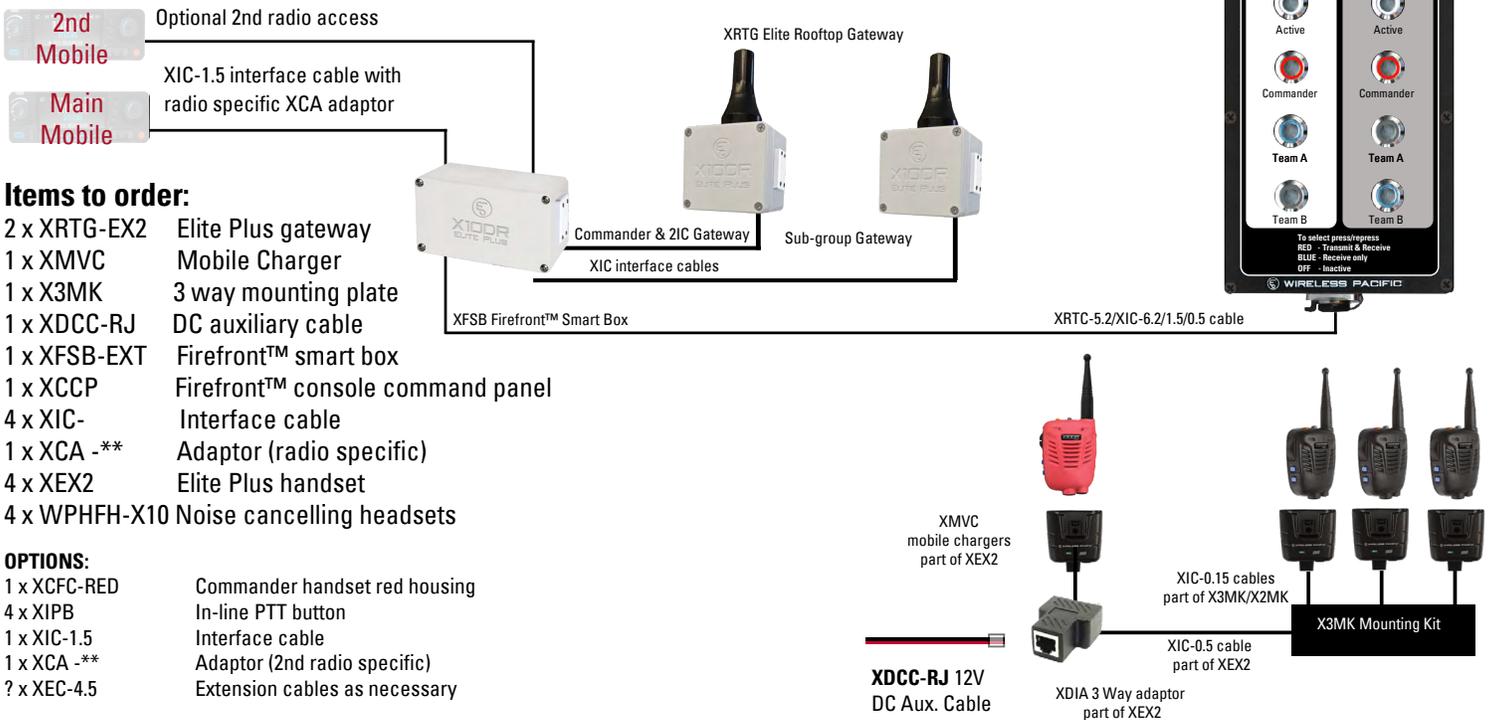
#### Commander with dual 2 member subgroups

Commander's handset can always transmit & receive on all radios  
 Commander decides which sub-groups can receive and/or transmit on what radios



#### Commander with 2IC & one 2 member subgroup

Commander & 2IC handsets can always transmit & receive on all radios  
 Commander decides if sub-group can receive and/or transmit on what radios



## Installation Notes

A single XFSB Smart Box allows three Elite Plus XRTG gateways, the Console Command Panel the host mobile radio and an optional secondary mobile unit to be connected by XIC-1.5 interface cables and a radio specific adaptor.

This configuration provides five X10DR Elite Plus handsets, one for the Commander and two handsets for subgroup A and another two handsets on subgroup B.

To simplify installation a XJB junction box allows connection of the XMVC mobile chargers (supplied as part of XEX2 packages) required for charging the Elite Plus handsets. Alternatively, to simplify wiring and installation a three (X3MK) way mount kit is available.

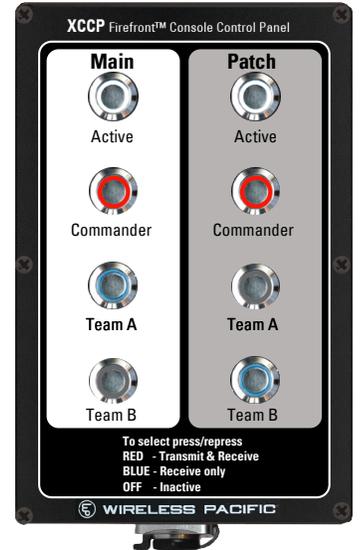
The XRTG rooftop gateways should be mounted on the vehicle rooftop area so as to provide similar unobstructed coverage patterns. The devices should then be individually paired with their assigned gateway as per the XRTG procedure at the time of installation.

Prior to operational deployment, the precise placement of the Elite Plus Handsets on the fire fighters clothing should be agreed upon. This should always be in the shoulder area to not only ensure maximum radio range but also as close to the users mouth as is practical to ensure maximum voice transmission quality especially where handsfree mode using simple earpieces is required. For optimum performance use of the WPHFH-X10 noise cancelling lightweight headset is recommended.

Once the precise handset placement is established, the optimum audio level settings should be determined and programmed into both handset and gateway devices using the XFPK field programmer.

Note: The Internal Mic Boost will be automatically enabled when Handsfree is activated by double pressing the Talkaround button for those Handsfree users with earpiece only operation. Special attention should be made to the boost setting so as to balance optimum clarity with minimal background noise sensitivity. Users of headset should set External Mic Sensitivity again for optimum performance.

### XCCP Firefront Console Control Panel



### XFSB-EXT Firefront Smart Box



### X3MK 3 way mounting kit (XMVC not included)



### XRTG-EX2 Rooftop Gateway with XMPA-ANT Multipolarity antenna and stainless steel L shape mounting bracket included)



## Color coded PTT buttons are available by special order.

### ACPB COLOR PTT BUTTONS





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