13.2 Subscriber Software Release
Effective Release: 01/14/14

FSN-0114-VIKING-01

This Field Software Notice serves to introduce EFJohnson's newest Viking® radio software release 13.2 (version 8.8.16). This software release supersedes previous radio software version 8.4.3. This is a major software release that introduces new features and products.

	Version	Part Number
Armada Client	1.8.15	039-5783-202
Armada Express	1.8.15	039-5786-202
Armada Key	3.8.6	n/a
Viking Option	3.8.9	n/a

13.2 New Features

Intra WACN Roaming

The P25 Standards describe a means for subscriber units to roam to sites from systems outside the home system. This feature requires the subscriber's home system to broadcast information about adjacent sites that are not members of the home system. The subscribers will roam to the non-home sites when moving out of the coverage area of the home system.

Single Touch

This feature allows a Status, Message, Call Alert, Unit Call, or Interconnect Call to be sent at the press and hold of one button. Up to four radio buttons are programmable in Armada for Single Touch.

Armada Printing

Armada now includes a print function. This allows the user to automatically generate a print-ready page containing an image of the radio with each button labeled with its programmed function. It also includes functions to print out the zone and channel configurations. General information of the radio can also be printed, which includes the radio options, version information, and security details.

P25 Trunking Authentication

The P25 specification describes a means by which a radio has to authenticate itself to the system before it is allowed to use that system. The authentication mechanism is cryptographically secure. The system has to be configured to require authentication to enable this feature.

The P25 Authentication option must be enabled for this feature. This is a purchased option.

TDMA

P25 phase 2 standard requires the protocol for the transmission of digital voice information for the trunked two-slot Time Division Multiple Access (two-slot TDMA) within a radio channel with a bandwidth of 12.5 kHz.

In Armada, Channel Bandwidth has been changed from a three item combo box (6.25, 12.5, and 25) to a two item combo box (FDMA (6.25 KHz), TDMA (12.5 KHz)), and has been relabeled as "Channel Type". For upgrade purposes, any radio programmed with a 25 KHz "channel bandwidth" will be converted to using the FDMA (6.25 KHz) setting.

The P25 TDMA option must be enabled for this feature. This is a purchased option.

Auto Unmute

If the user has the radio muted, this feature will auto unmute the radio if a Call Alert, Unit Call, and/or Emergency Call is received. This applies across the P25, Conventional, SMARTNET®, and SmartZone® systems.

A new group of three checkboxes have been added to the Global, Audio tab in Armada, under the heading of Auto Unmute. All checkboxes are off by default.

Subscriber Encryption Module (SEM) Upgrade

The P25 Trunking Authentication and TDMA features require new functionality in the SEM. For this reason, when upgrading to 13.2 code the radio will automatically upgrade the SEM.

- **When upgrading the SEM (or upgrading to 13.2) all keys will be destroyed.** This is unavoidable due to a change in FIPS requirements regarding how we store the encryption keys.

- No user interaction is required for SEM upgrade. The radio will indicate "SEM Download" when booting up after a firmware update. Simply wait for the upgrade to finish.

- When downgrading firmware to release 13.1, the radio will automatically downgrade the SEM to the previous version (3.4). As before, all keys will be destroyed.

- When downgrading from 13.2 to 12.1 or earlier the radio must first be downgraded to 13.1 to allow the SEM downgrade to occur. SEM downgrade will not occur when going directly from 13.2 to 12.1 or earlier and the encryption module will not work correctly.

Emergency Alarm Receive Indicator

This feature allows an Emergency Alarm to be received from another radio on the same system. When an Emergency Alarm is received the radio will either sound an alert tone, display the sending radio's ID or Alias, or do both depending on what the Emergency Alarm Rx settings are in Armada. This feature is supported in both P25 and SMARTNET/SmartZone systems. On SMARTNET/SmartZone systems the Emergency Alarm can only be received on a radio with the same Talkgroup as the sending radio. On P25 systems the Emergency Alarm can be received by any radio on the same system.

SMARTNET/SmartZone Legacy ID Support

When the "Legacy UnitIDs Enabled" checkbox is enabled in Armada, the radio will display every unit ID with a leading digit of 7. For example, if the unit ID in question is 5, the radio will display 700005. This applies all cases where the radio displays unit IDs.
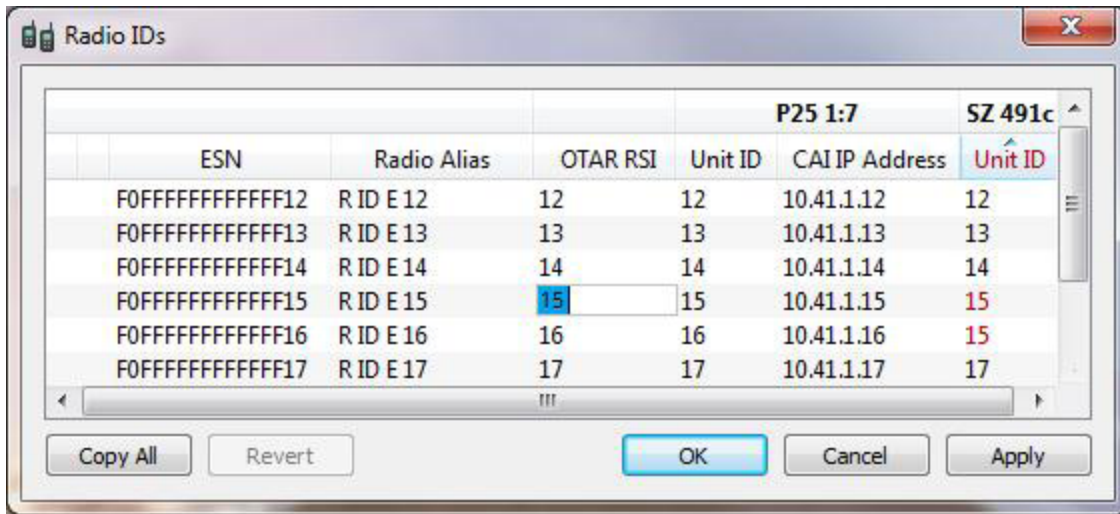
13.2 Feature Enhancements

Increase Unit Call List Size to 2048 Entries

Armada will now allow the entry of up 2048 Unit IDs for all protocols.

Armada Radio ID Editor

Every radio in a fleet has a unique ID for each system. The Radio ID Editor is a dialog that displays each radio and each of its IDs in a table, as seen in **Figure 4**. The Radio ID Editor is accessed from the tools dropdown. Armada now enables edit functionality in the radio IDs dialog and flags radios with duplicate IDs outside of the dialog. Detailed information on Radio ID Editor is available in the Armada Programming Manual; EFJohnson part number 002-0601-205 dated January 2014.

Figure 4: Radio ID Editor Dialog in Armada, which highlights duplicate IDs

Firmware Update Enhancements

A firmware download instruction dialog and stop button integration have been added to improve firmware update support in Armada.

Supporting Apps Style Update

All apps must use the same style sheet and palette, which support the high contrast modes and other themes of Windows (or any other OS). The custom colors for selection and hex from Armada have been removed – these now follow the user's OS theme.

SMARTNET/SmartZone Announcement Group Updates

Motorola subscribers allow Smartnet/Smartzone Talkgroups and Announcement Groups to have the same ID. The radio uses over the air information to determine which mode is active in the radio.

Allow Wideband Rx and Support FCC Part 80 Frequencies

The FCC has wideband transmit restrictions on Part 90 frequencies in UHF and VHF bands. Part 80 frequencies do not have wideband restrictions. The Viking radios support both Part 90 and Part 80 frequencies.

This feature allows wideband (5 kHz modulation) transmit on Part 80 Maritime Frequencies and allows wideband (5 kHz modulation) receive on all frequencies.

Frequency Group	Rule
Part 80	5kHz modulation level always allowed
Part 90	5kHz modulation allowed if ANY of the following: 1. "Wideband Disable" Option is NOT enabled 2. The channel Tx is disabled (Rx only channel) 3. The Tx frequency is not in the UHF or VHF bands.

Frequency/Bandwidth Rules

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