KENWOOD | VIKING

P25 SYSTEMS

Eliminate the Hidden Cost of

Radio Reprogramming

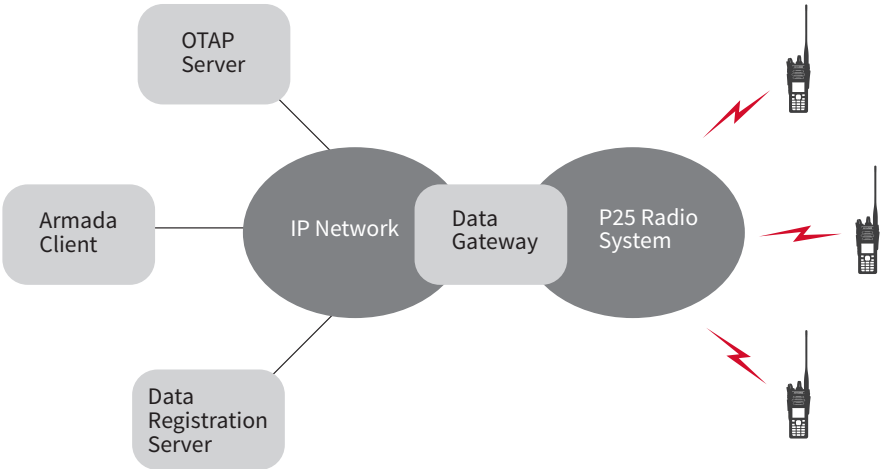
With Technology That Makes Radio Codeplug Programming **Safe And Simple**

Making Safe, Simple™

Updating radio software programming is often an overlooked cost for agencies. Performing necessary software updates after a system expansion or the addition of talkgroups requires a considerable amount of time, resources, and manpower. In most cases, the programmer needs to work with each agency to bring the radios into the service center, which leads to a significant amount of downtime. EFJohnson's Armada® OTAP is an "Over the Air" programming feature designed to make radio programming simple by reducing the logistics of updating a fleet of fielded radios. Using the OTAP feature, parameter files can be updated and changed in the field, eliminating the need to take the radio out of service to perform updates.

OTAP ARCHITECTURE

EFJohnson's OTAP feature requires a P25 trunked or conventional system that supports P25 data functionality. The OTAP implementation interfaces to the system through a Data Gateway, which is responsible for transferring IP datagrams between the OTAP components and the radios on the system. EFJohnson OTAP software is compatible with all major manufacturer's Data Gateway equipment, allowing it to work with Motorola, Harris and AirBus P25 systems, in addition to EFJohnson's ATLAS system.



EFJohnson's Armada OTAP implementation is made up of three components: Armada Fleet Management Software, the OTAP Server, and the Data Registration Server:

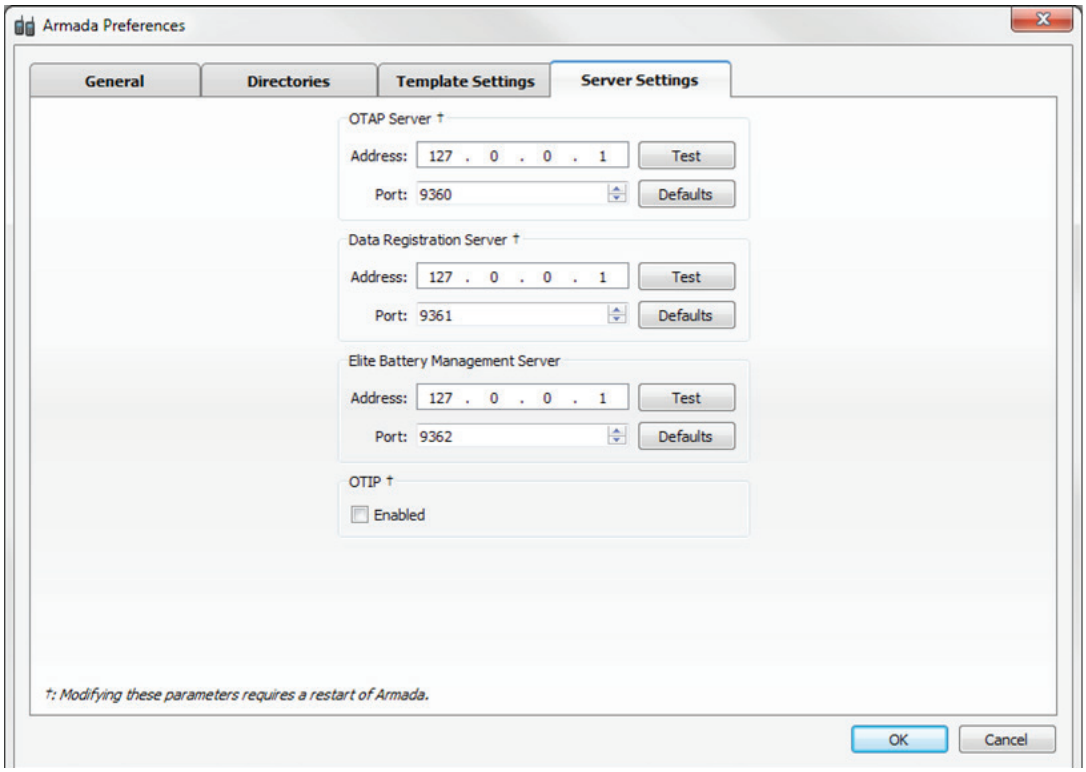
OTAP COMPONENTS

ARMADA CLIENT	The Armada Fleet Management Software is the primary user interface to OTAP. Armada is the industry's first fleet management and programming software platform.
OTAP SERVER	The OTAP Server performs file transfers between Armada and the radios. This server runs in the background and does not require a user interface.
DATA REGISTRATION SERVER	The Armada Data Registration Server tracks the radios that are currently available on the system and notifies Armada when radios register or de-register from the system. The Armada Data Registration Server runs in the background and does not require a user interface.

*All three applications are included in the Armada Fleet Management distribution

All of the components of an Armada OTAP implementation are software applications that run on off-the-shelf computers Microsoft® Windows 7, 8 or 10. When the components are installed and connected to the network, OTAP can be easily configured through the Armada client by entering the address and port number of the OTAP and Data Registration Servers.

Any KENWOOD Viking® radio optioned and configured for OTAP will work on an Armada OTAP implementation. When an OTAP-enabled radio registers on the system, the radio info is passed to the Data Registration server, which verifies that the radio is in its database. If the radio exists in the database, an OTAP connection is established by Armada.



OTAP-connected radios are indicated by a symbol next to the radio in the codeplug window of the Armada client software, and can be programmed exactly the same as a radio that is directly connected to Armada through a USB connection.

The following operations can be performed using OTAP:

- Read Codeplug
- Write Codeplug (All configurable radio fields and includes radio ID)
- Get Software Options
- Set Software Options
- Set Clock
- Set Security Policy

The following are operations that cannot be performed using OTAP:

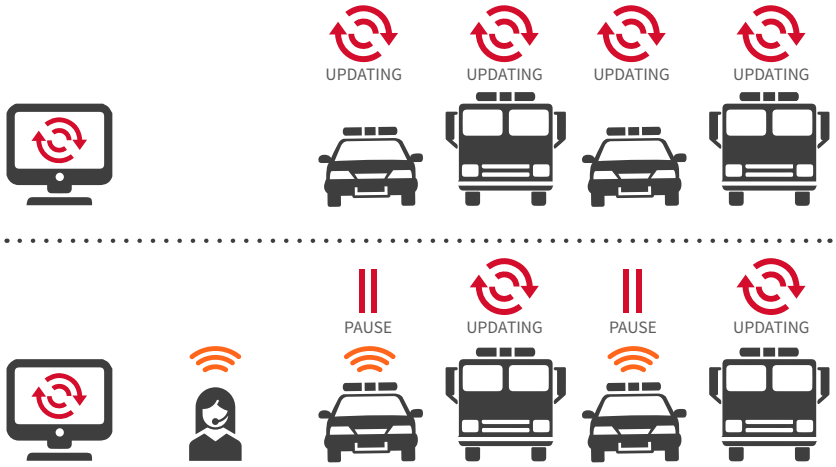
- Firmware Updates
- Cloning Wizard Updates
- Transferring Large Files, 1 MB After Compression
- Update Clock On Connect

***NOTE:** Armada can only program KENWOOD Viking radios. Each radio manufacturer offers their own radio programming software to program their own radios.*

REDUCE DOWNTIME, INTERRUPTIONS, AND MISSED CALLS

An OTAP-enabled Viking radio can be programmed automatically with a scheduled write update or manually written to by the programmer. The Update Confirmation option in the radio configuration settings determines when a codeplug update is applied to the radio—either the radio can restart and apply the new configuration as soon as it has been received, or the update can be applied the next time the radio is turned off and back on.

The radio configuration settings also have an Rx Voice Interrupts Data setting to ensure that a voice call can interrupt a data transmission. When this setting is enabled, if a voice call is received during OTAP programming, the programming session is immediately suspended to allow the user to take the call. Once the call is completed, programming is automatically restarted.



OPTIMIZE CAPACITY

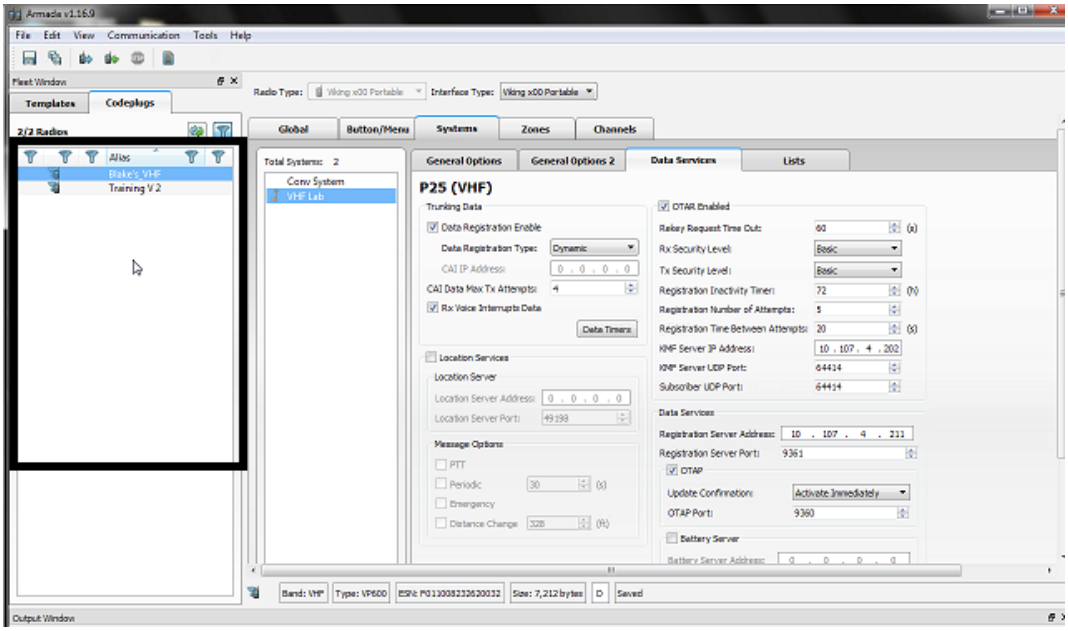
To prevent overloading the system, the number of file transfer operations performed at a time can be set in the OTAP server configuration file according to system size and usage. In a small system where radios are equally as likely to be on any given voice/data channel, setting the number of concurrent operations to equal the total number of voice/data channels in the system ensures the highest amount of transfers can occur efficiently.

If the system is large, or if radios are likely to be on a smaller number of voice/data channels, the optimal number of file transfer operations can be determined and set according to the percentage of active radios on the highest loaded voice/data channel. This will result in the number of concurrent operations being lower than the total number of voice/data channels.

EFJohnson's OTAP also includes a Smart Update feature to reduce the amount of data being transferred to the radio during a write operation. With Smart Update, when a write operation is performed on an OTAP-connected radio after a programmer has made changes to the radio template, a compressed file will be transferred to the radio containing only the changes made rather than the entire codeplug. If the configuration includes voice announcements, which consume a disproportionate ***amount of configuration space, only the voice files that are needed will be transferred. The codeplug*** files are compressed for OTAP transfer at a 10:1 compression ratio.

ADVANTAGES OF ARMADA'S OTAP

- Smart Update—Fastest OTAP in the industry
- No missed calls—Set priorities for voice and data
- Automatic or user-selectable codeplug update
- No user interface changes—Radios can be programmed exactly the same as a USB-connected radio and the Events Log will record the update the same way
- Armada keeps track of which radios have been updated providing a simple visual queue on the OTAP progress



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