MCC7500 P25 DISPATCH MIGRATION

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SYSTEM DESCRIPTION

1.1 PROJECT OVERVIEW

Motorola is pleased to provide City of Costa Mesa Police Department (Costa Mesa PD) with a proposal to replace their existing legacy dispatch operator positions with our ASTRO® 25 series MCC 7500 IP Dispatch Console. The new MCC 7500 Dispatch Consoles sub-system will connect to the Orange County ASTRO® 25 Master Site. The MCC 7500 Dispatch Console will provide Costa Mesa PD with scalable, flexible system architecture, sophisticated network management and security, and an easy migration to future capabilities. The system description section of the proposal expands on the operation, specifications, and equipment of each component of the proposed solution.

1.2 MCC 7500 SOLUTION OVERVIEW

Motorola's proposed dispatch solution for Costa Mesa PD features our MCC 7500 Dispatch Console, offering IP-based seamless connectivity between Costa Mesa PD's dispatch operators and field personnel.

The proposed solution will provide Costa Mesa PD with a scalable design, flexible system architecture, sophisticated network management, and an easy migration path to future capabilities.

MCC 7500 Console Configuration for Costa Mesa PD

The proposed solution includes eight (8) MCC 7500 Dispatch Console's designed to interface with the existing Orange County ASTRO® 25 system. All of the dispatch positions will be located at Costa Mesa PD's dispatch center. The proposal details the functionality of the following included components.

Licenses:

- (8) MCC 7500 advanced conventional licenses
- (8) MCC 7500 trunking licenses
- (8) MCC 7500 Over the Ethernet Keying (OTEK) licenses
- (2) UNC device licenses

Costa Mesa PD MCC 7500-based dispatch site:

- (8) 22" Non-Touch Monitors
- (8) MCC 7500 Operator PCs
- (8) MCC 7500 Voice Processor Modules (VPM)
- (16) Headset Jacks
- (32) Desktop Speakers
- (8) Single Pedal 24" Wide Footswitches
- (2) Motorola GGM 8000 Gateways
- (2) Site Ethernet LAN Switches
- (1) SDM 3000 AUX I/O Terminal Units
- (1) SDM 3000 AUX I/O Expansion
- (1) MKM 7000 Console Alias Manager
- (1) Keyboard/Video/Mouse (KVM)

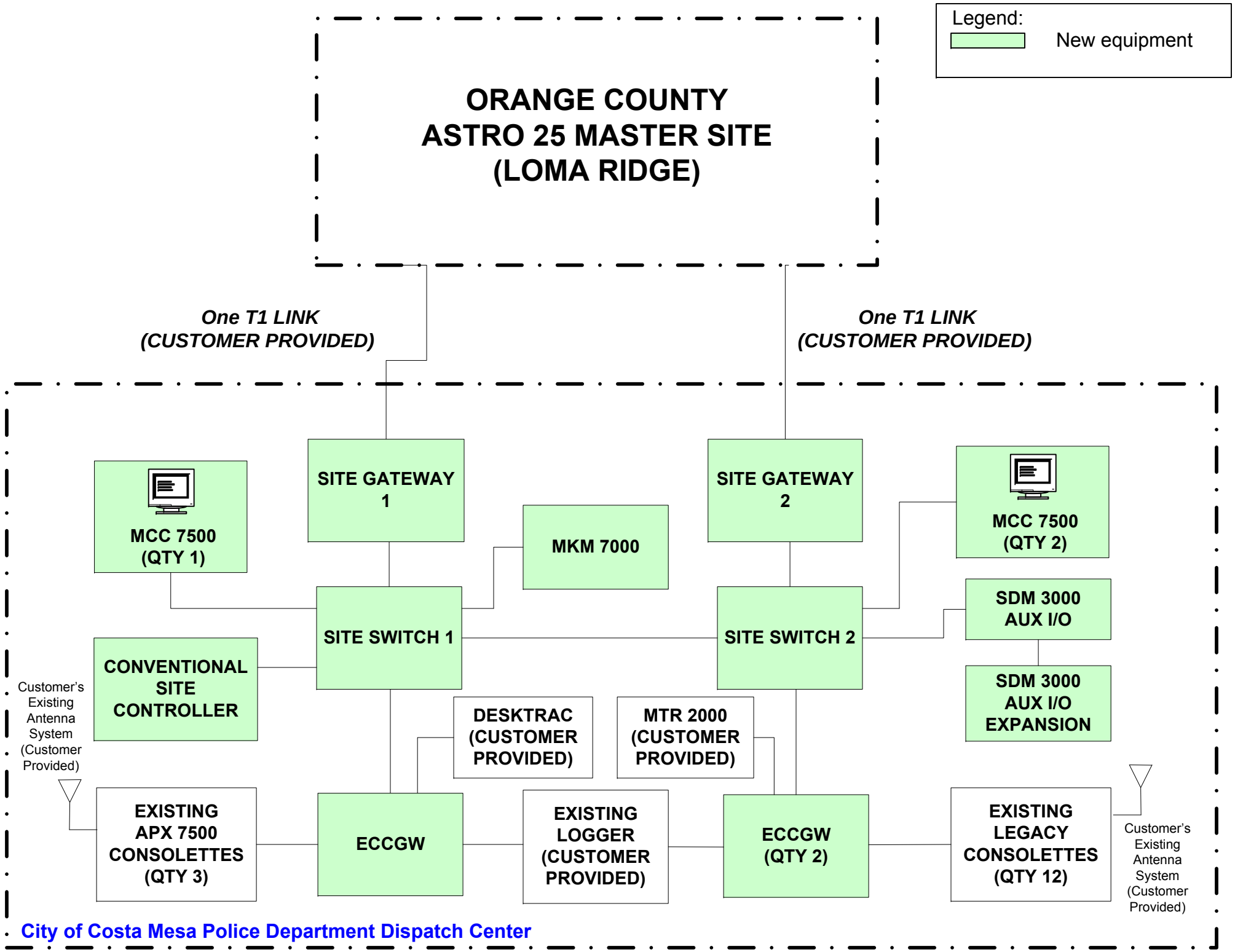
- (1) GCP 8000 Conventional Site Controller
- (3) Enhanced Conventional Channel Gateways (CCGW)
- (3) Flash Upgrades for existing APX 7500 Consolettes to Project 25 Trunking with Over-the-Air Rekeying (OTAR), Over-the-Air Programming (OTAP) and Multi-key
- (8) MCC 7500 custom headset interface devices (Note: Costa Mesa PD is responsible for providing an installed APX 7500 Consolette and antenna to support the custom headset interface devices. Per the County's request, we have not included this consolette and antenna in this proposal.)
- (7) MCD 5000 Desksets
- (3) MCD 5000 Radio Gateway Units (RGUs)
- (15) APX 7500 Consolettes with full front panel

Spares:

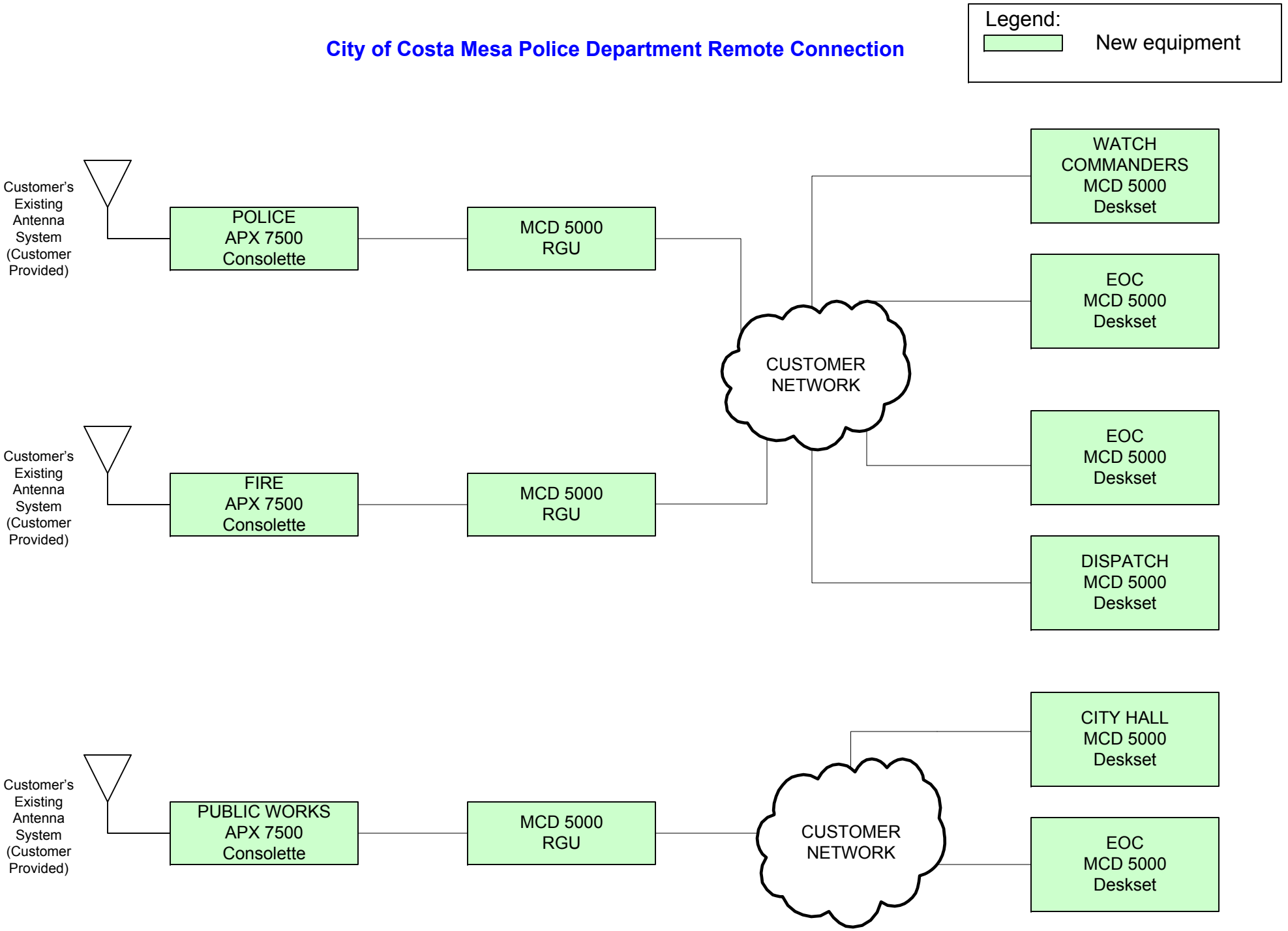
- (1) MCC 7500 Operator PC
- (1) MCC 7500 Voice Processor Module (VPM)
- (1) Headset Jack
- (2) Desktop Speakers
- (2) Single Pedal 24" Wide Footswitches
- (1) Motorola GGM 8000 Gateway
- (1) Site Ethernet LAN Switch
- (2) Enhanced Conventional Channel Gateway (CCGW)
- (1) FRU: GCP 8000 Conventional Site Controller
- (1) FRU: GCP 8000 Conventional Site Controller Fan Module
- (1) FRU: GCP 8000 Conventional Site Controller Power Supply
- (1) SDM 3000 AUX I/O Terminal Unit
- (1) MCD 5000 Radio Gateway Units (RGUs)

1.2.1 MCC 7500 Dispatch Site High Level Block Diagram

Motorola has provided a MCC 7500 Dispatch Site High Level Block Diagram on the following pages.


Legend:
New equipment
ORANGE COUNTY
ASTRO 25 MASTER SITE
(LOMA RIDGE)
One T1 LINK
(CUSTOMER PROVIDED)
One T1 LINK
(CUSTOMER PROVIDED)
MCC 7500
(QTY 1)
SITE GATEWAY
1
MKM 7000
SITE GATEWAY
2
MCC 7500
(QTY 2)
SITE SWITCH 1
SITE SWITCH 2
SDM 3000
AUX I/O
CONVENTIONAL
SITE
CONTROLLER
SDM 3000
AUX I/O
EXPANSION
Customer's
Existing
Antenna
System
(Customer
Provided)
DESKTRAC
(CUSTOMER
PROVIDED)
MTR 2000
(CUSTOMER
PROVIDED)
EXISTING
APX 7500
CONSOLETTES
(QTY 3)
ECCGW
EXISTING
LOGGER
(CUSTOMER
PROVIDED)
ECCGW
(QTY 2)
EXISTING
LEGACY
CONSOLETTES
(QTY 12)
Customer's
Existing
Antenna
System
(Customer
Provided)
City of Costa Mesa Police Department Dispatch Center

City of Costa Mesa Police Department Remote Connection



1.3 THE MCC 7500 DISPATCH EXPERIENCE

The MCC 7500 dispatch consoles offers Costa Mesa PD state-of-the-art communications, console management and configuration functionality, dispatch operation, and communications security.

1.3.1 Interoperability Features

Motorola's ASTRO® 25 product line is specifically designed around APCO P25 standards. All voice messages are digitized and all Land Mobile Radio (LMR) system features are compliant with P25 standards. As part of ongoing enhancements to this solution, Motorola has joined and actively participated in the P25 interoperability committee to ensure continuously improving interoperability with the radios of other P25 vendors. ASTRO® 25 is also fully Common Air Interface (CAI) compliant.

MUTUAL AID INTEROPERABILITY OFFERS FLEXIBILITY AND FUTURE EXPANSION.

Motorola can use multiple Costa Mesa PD-furnished interoperability radios to install, configure, and make operational the necessary hardware and software to provide two-way communications between the MCC 7500 dispatch consoles and Mutual Aid channels.

As shown in Figure 1-1, interoperable communications can be provided through a dispatcher-initiated interface (patch) to the Mutual Aid radios. The Motorola Conventional Channel Gateway (CCGW) forms the bridge between the MCC 7500 dispatch console on the ASTRO® 25 radio network and the Mutual Aid radios. This allows the dispatcher to patch together Mutual Aid radios and required subscribers on the ASTRO® 25 system as situations dictate.

As an incident occurs, local Mutual Aid agencies can initiate a radio conversation to an MCC 7500 dispatch location via a programmed channel. By selecting an icon on the console monitor, the dispatcher can initiate a patch to an RF channel for first responders as necessary. Incident conversations will be seamless from the moment of the patch initiation, and can be recorded like any talk group conversation within the LMR network. The dispatcher will also be able to take part in and monitor conversations for the duration of the incident, as necessary.

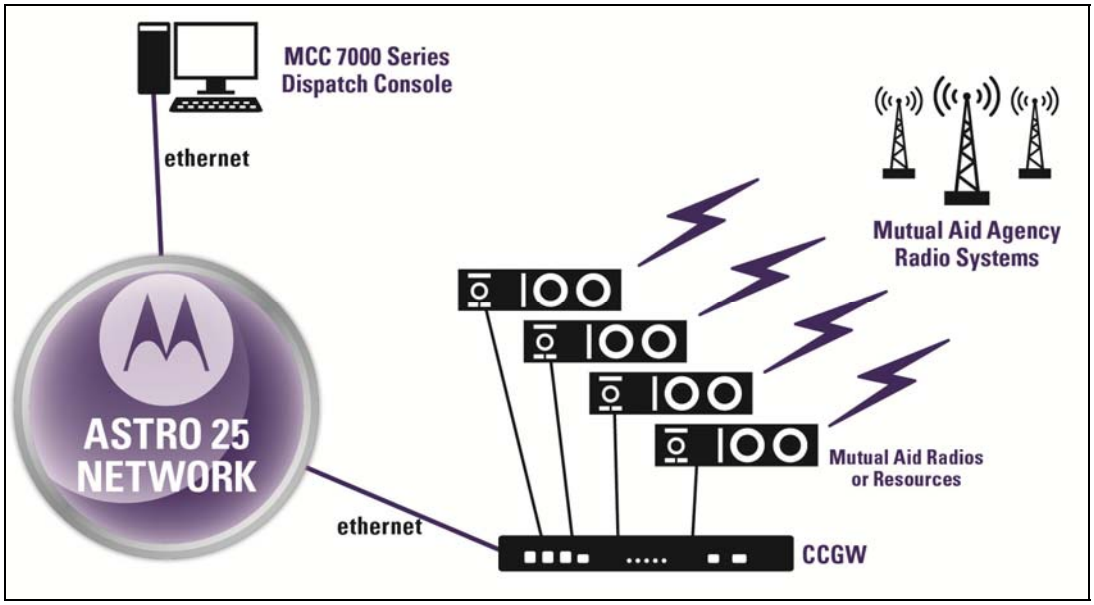


Figure 1-1: Mutual Aid Components

1.3.1.1 Integration with the ASTRO® 25 Network

The MCC 7500 IP Dispatch Console is designed to integrate seamlessly with the Orange County ASTRO® 25 system. This tight union between radio infrastructure and dispatch console equipment has several operational benefits to Costa Mesa PD.

This modular IP approach substantially reduces the amount of space needed for backroom electronics. All dispatch activity is performed over IP. The physical space needed to accommodate the MCC 7500 console position is comparable to that required for a personal computer.

Both trunked talkgroups and conventional radio channels can be accessed and controlled from one MCC 7500 IP Dispatch Console over the same network. This reduces overall transport costs and the need for duplicate fixed network equipment. Table 1-1 outlines the benefits of the MCC 7500's seamless integration to the ASTRO® 25 network.

THE MCC 7000 SERIES CONSOLES' IMPROVED USE OF BANDWIDTH ENSURES THAT EMERGENCY CALLS WILL MAKE IT THROUGH TO THE DISPATCH OPERATOR, REGARDLESS OF SYSTEM TRAFFIC.

Table 1-1: Benefits of Seamless Integration of the MCC 7500 IP Console with Orange County's ASTRO® 25 Network

Feature	Benefit to Costa Mesa PD
Tight coordination between the IP network and IP console eliminates the potential for audio degradation.	Subscribers and console operators will be able to communicate without loss of information.
Emergency calls are prioritized for successful delivery regardless of network traffic.	Console operators will always be able to hear emergency calls from users in the field.
Inherent access to all system resources within the network provides dispatch priority to reach any user when needed.	Console operators will always be able to reach out to users in the field.
Rapid call set up times and quality of service, regardless of the size of the system.	The ability to scale the system to handle future capacity, while maintaining efficient dispatch operations.
True end-to-end encryption capable from the subscriber to the console operator position, enhancing operational security	Assurance that sensitive, private communications will remain secure, from the user in the field to the console dispatch operator.
Improved bandwidth efficiencies reduce transport costs.	Ongoing cost savings for Costa Mesa PD.

1.3.1.2 Connection to ASTRO® 25 System

Details on the connectivity between the MCC 7500 dispatch console and the ASTRO® 25 system are described below.

Dual Site Link

The MCC 7500 dispatch console site for Costa Mesa PD is remote from the core site at Loma Ridge and requires redundant site links to provide path diversity. The console site has two logical connections to the Orange County Master Site at Loma Ridge, with each connection using a different core router. Each console site gateway provides an interface that handles all of the IP Network Management traffic between the Costa Mesa PD MCC 7500 dispatch console center and Orange County ASTRO® 25 system's core site.

Orange County is responsible to provide two (2) T1 links to connect to Costa Mesa PD's dispatch center based on the requirements below:

T1 Specifications	
Bit Error Rate – BER	1 x 10^{-6}
Stratum Level	2 or Better
Max. Delay	5 milliseconds (ms)
Availability	99.999 %
Line Coding	B8ZS (bit 8 zero substitution)
Signaling	Clear Channel
Compression	None
Framing	ESF (extended super frame)
Pulse Amplitude	0 dBdsx (3.0V +/- 0.3V or 6V P-P)

T1 Specifications	
Dry or Wet	Dry, No voltage (-48 VDC or other) Present

***Public Safety Grade Circuits – Red Tag Status**

LAN Switch

The site LAN switch provides LAN interfaces for dispatch site equipment and a LAN port for the link to the core site. Through the switch, service technicians can access the system's configuration manager and service the equipment. Dual LAN switches have been provided to ensure dispatch functionality is not completely lost in the event of a LAN switch failure.

1.3.1.3 Encrypted Voice Communications

The MCC 7500 provides true end-to-end encryption from the subscriber to the console operator position, enhancing operational security. This assures that sensitive, private communications will remain secure, from the user in the field to the console dispatch operator. AES and DES-XL encryption algorithms have been included in the VPM in this proposal.

Over-the-Ethernet Keying (OTEK)

The Key Management via OTEK feature provides the ability to manage the keys for a dispatch console or archiving interface server using only a KMF (Key Management Facility).

In OTEK, the management and distribution aspects of key management are all performed by the KMF. Distribution of the key management information to the dispatch consoles and archiving interface servers is done across the radio system's IP network from the KMF to each dispatch console and archiving interface server.

1.3.2 Console Operations

The MCC 7500 dispatch console is designed to provide mission-critical audio between the dispatch console and users in the field. It is optimized for real-time audio, prioritizing emergency calls over other traffic, minimizing voice queuing, and transmitting calls in 450 milliseconds or less.

Using robust error mitigation to maintain call quality even when the system is heavily loaded, the MCC 7500 dispatch console reduces communication errors that may force dispatch console operators to repeat their transmissions.

1.3.2.1 Dispatch Interface

The MCC 7500 dispatch console's graphical user interface (GUI) optimizes user efficiency. It is designed to display the maximum number of resources a dispatch operator is able to easily view and control. Costa Mesa PD can customize the MCC 7500 dispatch GUI by agency or by individual user to meet their dynamic needs and requirements.

EASY TO USE, FLEXIBLE, AND CUSTOMIZABLE USER INTERFACE

Elite Dispatch Graphical User Interface

The MCC 7500 dispatch GUI is an enhanced version of Motorola's Gold Elite Dispatch GUI. For existing Gold Elite users, the GUI allows a smooth transition and minimal training for radio dispatch operators. For new users, the graphical icons and customization options make the MCC 7500 dispatch console GUI easy to learn and operate.

An example of the MCC 7500 dispatch GUI is shown in Figure 1-2.

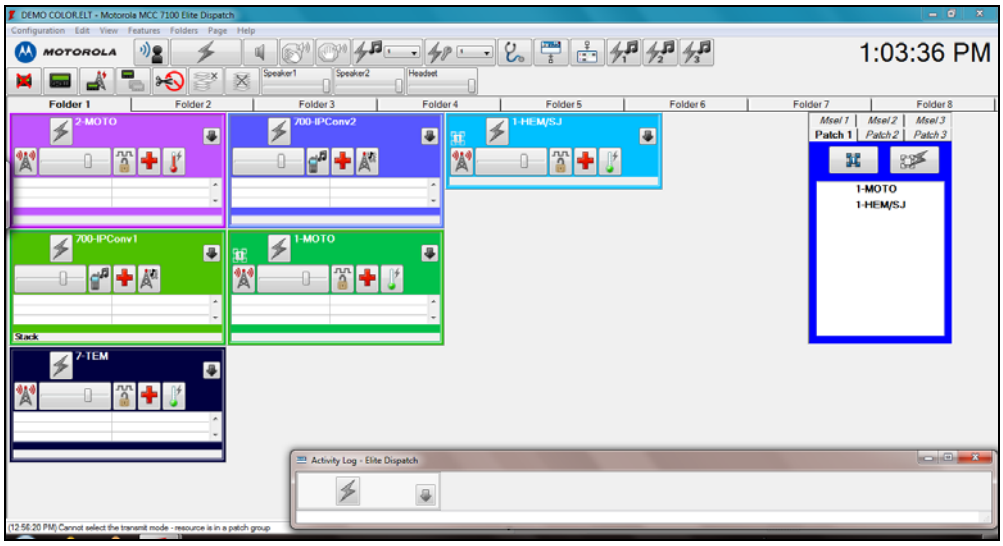


Figure 1-2: The MCC 7500 dispatch GUI delivers critical real-time information to console operators when and where they need it

Based on operator preference, the MCC 7500 dispatch GUI can be customized to show details of trunked and conventional RF channels on a per-channel basis. Various controls can be highlighted, such as patch status, frequency select, coded/clear select, and individual volume control. Per-channel controls can be fully or partially shown, or hidden to save space on the screen. Busy dispatch operators can respond to a missed call by simply clicking on an entry in the Activity Log. The number of calls and call information displayed in the Activity Log is customizable to suit the needs of the user. The status of auxiliary inputs and outputs can be conveniently interpreted from the GUI with the use of familiar graphical icons, such as a door shown open or closed.

1.3.2.2 Standard Radio Transmission and Reception

A typical MCC 7500 dispatch console has two speakers, one for selected audio and the second for all remaining unselected audio. Additional speakers can be added to the console, allowing dispatch operators to configure a specific speaker for a set of designated audio sources. This simplifies multitasking between multiple audio sources, allowing flexibility in the way the audio is presented to the dispatch operator.

Receiving Calls from the Field and Other Dispatch Operators

Dispatch operators have great flexibility as to how to hear calls from field radio users and other dispatch operators. Each console dispatch operator can define his or her own audio reception profile. They can select a single audio source, whether conventional or talkgroup, to be heard on a selected speaker ("Single Select"). The dispatcher can also define groups of radio resources that can all be heard on a selected speaker ("Multi-Select").

Initiating Calls to the Field and Other Dispatch Operators

The dispatch operator has several different ways of initiating a call. In most circumstances, a "General Transmit" is appropriate. With the general transmit, the dispatch operator selects a resource on the console and activates the transmission through a footswitch, headset transmit button, or a microphone transmit button.

If the dispatch operator needs to quickly transmit on a resource, they use the "Instant Transmit" function, which activates the resource regardless of whether it is selected. To prevent accidental activation of "Instant Transmit," it can be limited through an "Instant Transmit Safety Switch," which must be pressed prior to activation of "Instant Transmit."

Making Calls to the Field and Other Dispatch Operators

The dispatch operator can transmit audio in different ways, depending on who they need to speak with and how important that communication is. Most basically, they can make calls to all users listening to a specific conventional radio resource or a specific trunking talkgroup. When multiple resources are required, the operator can select additional talkgroups and/or conventional channels as needed for the call using the multi-select feature.

1.3.2.3 Dispatch Audio Experience

Emergency Alarms

The MCC 7500 dispatch console is capable of monitoring radio subscribers for user initiated emergency activations. On subscriber radios that are equipped and programmed to transmit an emergency alarm, the MCC 7500 dispatch console detects that this emergency has occurred and displays the emergency on operator positions that are preprogrammed to receive the emergency notification.

Operator positions can be programmed to either receive the emergency or to completely ignore it. In the event of an emergency condition from a radio user, all programmed consoles will give both an audible and visual indication of the event. The dispatch operator can then silence the emergency leaving the visual indication on the screen indicating information on the initiating radio allowing the call to be handled and dispatched appropriately.

Once an emergency is received all programmed operator positions will give the audible and visual indication of the event. Any one of these operator positions has the ability to silence the emergency at only their position or for all operator positions on the system.

In the event of a system that all channels are busy at the RF site that receives the emergency, that event is automatically given a Priority Level 1. This is the highest priority possible, putting the emergency call at the top of any busy queue. The emergency call will be given the next available voice channel at that site bumping all non-emergency calls in the queue.

Desktop Speakers

Each dispatch console is capable of supporting up to four audio speakers. In this design, four speakers are included per position. These speakers supply audio for select/unselect, as well as pre-determined audio sources to specific monitor speakers, each of which transmits unique audio—that is, an audio source cannot appear in multiple speakers at a single dispatch console.

Each speaker has individual volume controls, and contains an amplifier that provides a maximum of 2 Watts of power output. Speakers are self-contained units, and can be placed on a desktop, mounted in a rack/furniture, mounted on a wall, or mounted on a computer monitor.

Headset Jack

Each dispatch console is capable of supporting up to two headset jacks. A headset jack allows a dispatch console user to use a headset while operating the dispatch console. Each headset can either be connected to the console for supervisory applications, or to a desk telephone. The equipment design proposed includes two headset jacks per operator.

The headset jack contains two volume controls: one for adjusting the level of received radio audio and one for adjusting the level of received telephone audio.

The headset jack supports headsets which use either PJ7 (6-wire) or PJ327 (4-wire) longframe connectors (6-wire headsets have a PTT button while 4-wire headsets do not have a PTT button).

Headset Base

The Headset Base consists of an audio amplifier, a push-to-talk switch and a long cord with a PJ7 long frame connector at the end.

Headset

The headset plugs into the headset jack and allows the dispatcher to listen to receive audio on the selected radio channels and to talk on any radio channels. If the dispatch console is configured to do so, the dispatcher can also talk and listen to telephone resources using the headset.

No console headsets are included in this proposal.

Footswitch

Each dispatch console is capable of a single pedal footswitch. The footswitch can be configured to control general transmit function.

1.3.2.4 Radio Patch Control

MCC 7500 console users can patch communication between trunked and/or conventional radios that are normally unable to communicate with each other due to different features, programming, or even different frequency bands. A patch group is a group of linked resources that can both receive messages from a console and transmit to all other members of the patch group. The MCC 7500 supports a maximum of 16 active patch groups.

Setting up a Standard Patch

A dispatch operator can set up a standard patch between trunked resources and/or conventional resources. After the patch is created, the dispatch console transmits all audio on one resource to all other resources in the patch group.

Patched radio users see the ID or alias of the other patched radio(s), as opposed to that of the console, provided that the radio subscriber is capable of displaying IDs. This minimizes confusion and the need for the dispatch operator to intervene in the call. Patches are automatically re-established if interrupted so the MCC 7500 user can concentrate on continuing operations.

Pre-Defined Patches

Patches can also be pre-defined, and be automatically re-initiated each time a dispatch console computer is restarted ("Patch Auto-Start").

Using Multi-Select

The Multi-Select feature allows a dispatch console to define groups of selected radio resources. When a Multi-Select group is opened, all of the resources in the group are simultaneously selected. Resources can be added or removed from a Multi-Select group while it is open or while it is closed.

The Multi-Select feature:

- Selects multiple resources simultaneously.
- Defines and stores groups of resources so that multiple resources can be conveniently selected and deselected.

1.3.2.5 Call Management and Control

Automatic Prioritization of Calls

Calls on the MCC 7500 dispatch console are prioritized through a transmission hierarchy. Calls from primary supervisors take priority over those from secondary supervisors, which in turn take priority over non-supervisors. Instant Transmit or All-Points Bulletin (APB) transmissions, regardless of whether they are from a supervisor, will take priority over general or patch transmissions.

Multiple dispatch console operators can be designated as primary supervisors on the same system, which is useful when multiple agencies share one system, each with their own primary supervisor.

Console supervisors have the capability to disable and enable operator console functionality as necessary.

Manual Prioritization of Calls

"System Access Priority Select" allows a dispatch operator to prioritize trunked resources on the system as either "normal" or "tactical." A dispatch operator can change the priority of a trunked resource to tactical in order to give the resource a better chance of gaining communication access on a busy system. Only emergency calls have a higher priority than tactical. When the System Access Priority status of a resource is changed, it is updated at all dispatch consoles in the systems that are monitoring that trunked resource.

MKM 7000 Console Alias Manager

The Motorola MKM 7000 Console Alias Manager (CAM) manages the radio unit ID aliases that are displayed on MCC 7500 consoles. It enables agencies that are sharing a radio system to make changes to the aliases that are displayed on their dispatch positions and logging recorders (if applicable), without affecting the aliases displayed on the dispatch positions and logging recorders of other agencies on the system.

A typical dispatch console uses many types of aliases to make it easier for dispatchers to do their jobs by providing meaningful, descriptive names instead of numeric ID numbers for different resources on the console. For example, aliases are used for:

- Trunking talkgroups and conventional channels
- Aux I/Os
- Frequencies on multi-frequency conventional channels
- PL codes on conventional channels using PL
- Preconfigured pages
- Radio unit IDs (also called radio PTT IDs)

Most of these aliases are defined when the console is first installed and rarely or never change. But, radio unit IDs can change more often and thus need a way to easily make changes. The MKM 7000 Console Alias Manager satisfies this need.

1.4 MCC 7500 DISPATCH CONSOLE COMPONENT DESCRIPTION

An MCC 7500 Dispatch IP Console consists of the following elements:

- Operator position computer
- Voice Processing Module (VPM)
- Auxiliary Input/Outputs
- Instant Recall Recording (IRR)
- Network equipment
- Conventional Channel Interface equipment

This section discusses the various components that make up the proposed MCC 7500 Dispatch Console system, Figure 1-3. These components are connected together and to the rest of the ASTRO® 25 system on an IP network via console site routers and switches. The MCC 7500 Dispatch Console functions as an integrated component of the total radio system, fully participating in system level features such as end-to-end encryption and agency partitioning.

Since the network is IP-based, the system's interfaces and components can be distributed physically throughout the network. Logging components can be centrally located at the zone core or distributed at console sites. CCGWs can be located at conventional-only RF sites, at trunking RF sites, the master site, or at console sites with conventional stations. Aux I/O Servers can be placed anywhere in the zone, closest to where they are needed.

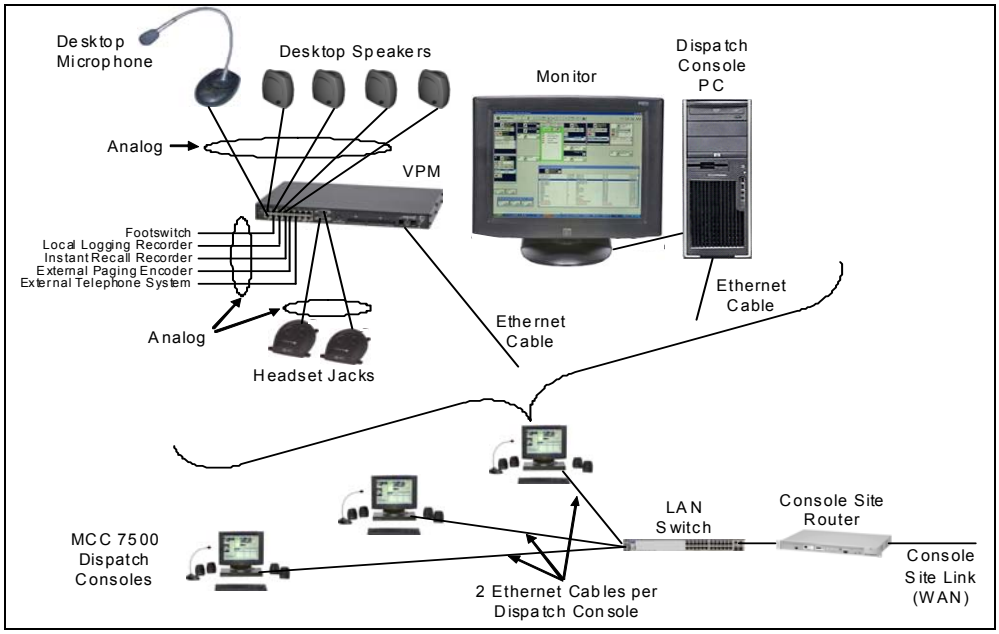


Figure 1-3: Typical Motorola MCC 7500 Dispatch Console Hardware Architecture

1.4.1 Operator Position Components

MCC 7500 operator positions connect directly to the radio system's IP transport network without gateways or interface boxes. Audio processing, encryption, and switching intelligence for dispatch are performed within each software-based operator position, without additional centralized electronics.

An MCC 7500 operator position consists of a computer, a Voice Processing Module (VPM), one select speaker, up to three unselect speakers, a desktop gooseneck microphone (not provided in this proposal per the County's request) and/or headset jack box with in-line PTT amplifier and headset, and optional footswitch.

Typical MCC 7500 Operator Position Components

Voice Processing Module (VPM)

The VPM provides vocoding and audio processing services for the dispatch console. It connects to the console site LAN switch and communicates with the dispatch console PC via Ethernet. Each operator position includes a PC and a dedicated VPM. The VPM also provides connections for analog devices to be connected to the digital console.

The VPM has connectors for the following devices:

- One desktop microphone
- Two headset jacks
- Four desktop speakers
- Logging recorder
- Radio instant recall recorder

- External telephone set
- External paging encoder
- Footswitch
- Generic transmit audio input

Some of the connectors listed above can be used to provide audio inputs and outputs for connecting other types of dispatch consoles to the Motorola radio system in conjunction with the Motorola MCC 7500 Dispatch APIs.

The secure card provides encryption and decryption services for the dispatch console. It is capable of supporting multiple, simultaneous encryption/decryption sessions using multiple algorithms and multiple secure keys.

Personal Computer (PC)

The dispatch console uses a customized Motorola-certified HP PC running the Microsoft Windows operating system, containing a Motorola-designed voice card and a Motorola-designed secure card. The PCs used in ASTRO® 25 systems have a mini-tower form factor.

The PCs are processed through Motorola factories in Elgin so that the application software, voice cards, and secure cards can be installed and tested to ensure they are operating properly.

1.4.2 Auxiliary Inputs and Outputs

Included in the proposed dispatch solution is an Auxiliary Input/Output server. AUX I/O enables console operators to control and monitor external devices, such as doors and lights, from the console user interface. Multiple dispatch consoles anywhere in the network may monitor and control the same relay output and/or external inputs. Changes are indicated across all dispatch consoles simultaneously. Customizable graphic icons are also used to provide a visual indication of both the function and state of external inputs.

The contact closures and input buffers required to interface to these devices are housed in Remote Terminal Units (RTUs). These RTUs can be physically located close to where they are needed, at any console site or RF site. The dispatch consoles and RTUs communicate with each other across the radio system's IP transport network. Individual relay outputs can be configured so that they require a safety switch to be pressed before they respond to any commands from the dispatch console user.

Supported Aux I/O Configurations

The following Aux I/O configurations are supported.

Aux I/O Configuration	Description
Momentary Input	This is an input where the user interface always shows the true state of the input.
Latched Input	This is an input where the user interface does not necessarily show the true state of the input. When the input goes active, the user interface shows the state as active. The display will continue to show the state as active even if the input changes to the inactive state. A dispatch console user must manually reset the display to return it to the inactive state.
Momentary Output	This output relay is activated when the dispatch console user presses the button on the user interface and deactivated when the dispatch console user releases the button.

Aux I/O Configuration	Description
Latched Output	This output relay changes state only when the dispatch console user presses the button.
Interlocked Latched Output	This latched output relay is part of a group of latched output relays. Only one of the relays in the group may be active at a time. Interlocked relays work in a “break before make” fashion; that is, the previously active relay is deactivated before the new relay is activated.

1.4.3 Conventional Channel Gateway Equipment

Conventional Channel Gateways (CCGWs) are used to interface analog and ASTRO® 25 conventional channels to the ASTRO® 25 radio system infrastructure. CCGWs provide 4-wire analog interfaces for analog channels and V.24 and IP digital interfaces for ASTRO® 25 conventional channels. The platform that is hosting a CCGW may be solely dedicated to that task or it may also be used as a console site router or an RF site router, provided the WAN link is not redundant.

The enhanced GGM 8000-based CCGW is available for interfacing to conventional channels. The enhanced CCGW can support combinations of analog, MDC 1200, ACIM Link, digital and mixed mode channels simultaneously.

Conventional Site Controllers

The conventional site controller allows dispatch console users to continue to access and control local conventional channels if connectivity to the radio system’s controller is lost. This mode of operation is often called “fallback operation” or “site conventional operation”. The conventional site controller is comprised of the GCP 8000 site controller hardware with different software to provide the conventional capabilities. When used as a conventional site controller, the GCP 8000 site controller is outfitted with a single site controller module rather than two site controller modules.

Only one conventional site controller is required per console site or conventional subsystem. This single conventional site controller is capable of supporting the full set of dispatch consoles, archiving interface servers and CCGWs that can be placed in a console site or conventional subsystem.

Motorola is providing one (1) Conventional Site Controller at Costa Mesa PD.

Features Supported in Fallback Operation

While in fallback operation, the dispatch consoles continue to support the vast majority of their capabilities and features. The following general feature groups are supported:

- Station Control Features on Conventional Channels
- Main/Alternate Conventional Channel Interfaces
- Integrated Paging Encoder (analog channels only)
- Channel Marker
- Alert Tones
- RF Cross Mute
- RF Cross Busy
- Acoustic Cross Mute
- Patch
- Select and Multi-Select
- Aux I/Os (that are located at the console site)
- Call Alert (ASTRO® 25 Conventional channels only)

- Emergency Call (ASTRO® 25 Conventional channels only)

1.4.4 APX 7500 Consolettes

Fifteen (15) APX 7500 consolettes with full front panel are included in this proposal for Costa Mesa PD to provide backup communications for the dispatchers. These consolettes will replace the existing XTL 5000 consolettes for PD and Fire.

APX 7500 Consolette with full front panel

Each consolette comes with a front panel equipped with a LCD display, numeric keypad, programmable buttons, VU meter, internal local speaker, auxiliary display, keyload port, IV&D port, and a myriad of ports for additional control and programming. Every APX 7500 consolette has a dedicated logging port for use with logging recorders. Each consolette will be connected to the proposed GGM 8000 Conventional Channel Gateways (CCGWs), allowing dispatchers to communicate with field users in the unlikely event that the dispatch center loses connectivity to the system core.

The proposed APX 7500 consolettes will reuse Costa Mesa PD's existing antenna system.

1.4.5 MCD 5000 Deskset

The MCD 5000 Deskset is an IP-based desktop console that provides digital control to a variety of Motorola two-way radios. The deskset emulates the buttons and display of the connected radio and performs all the functions of the radio control head. Users can use this deskset in dispatch environments, at back-up sites, for special events, or for call monitoring. With IP technology, users have the flexibility to quickly install desksets where they need them using their IP network infrastructure. And users can easily expand communication capabilities throughout their organization for increased safety, awareness and coordination.

MCD 5000 Deskset

There are six (7) proposed MCD 5000 Desksets that are included in this proposal.

1.4.6 MCD 5000 Radio Gateway Unit (RGU)

The MCD 5000 RGU connect the MCD 5000 Deskset to radios over your IP network using the MCD 5000 RGU. The MCD 5000 Deskset allows users to dynamically switch between MCD 5000 RGUs, giving access to additional radios across the network and expanding communications. Each MCD 5000 RGU can connect up to four radios, and each MCD 5000 Deskset can connect to one channel at a time.

MCD 5000 RGU

There are three (3) proposed MCD 5000 RGU included in this proposal.

1.5 DESIGN ASSUMPTIONS

Motorola has made several assumptions in preparing this proposal for Costa Mesa PD.

- All existing sites or equipment locations will have sufficient space available for the system described.
  - This includes available space for proposed racks, cabinets, MCC 7500 dispatch positions, cables, and cable entry ports.
- All existing sites or equipment locations will have adequate electrical power and site grounding suitable to support the requirements of the system described.
  - It is assumed that Costa Mesa PD will provide AC and/or DC power distribution units.
  - Costa Mesa PD is responsible for providing open conduit space for Motorola to route and install CAT6, RF and ground cables.
- Any site/location upgrades or modifications are the responsibility of Costa Mesa PD.
- Where applicable, approved FCC licensing will be provided by Costa Mesa PD.
- Approved local, State, or Federal permits as may be required for the installation and operation of the proposed equipment, are the responsibility of Costa Mesa PD.
- Motorola does not recommend the use of unlicensed PTP microwave for Public Safety use for the MCC 7500 subsystem.
- Motorola's MCC 7500 subsystem design requires Orange County to provide two (2) T1 links, which meet and exceed the provided T1 specification (built and Red Tagged as Public Safety grade circuits) to each dispatch center. Orange County is responsible to provide, configure, test, maintain and demark these circuits within 20' of the proposed MCC 7500 rack and/or equipment.
  - Dual T1 site links will be provided by Orange County to the ASTRO® 25 CCCS Master Site.
- No new logging solution has been included in this proposal. Motorola has included analog recording audio outputs. Actual audio recording equipment is the responsibility of Costa Mesa PD.
- No gooseneck microphones are included in this proposal.
- No console headsets are included in this proposal.

- Costa Mesa PD is responsible for providing the antenna connections for the proposed APX 7500 consolettes.
- It is assumed that Costa Mesa PD will provide the Ethernet connectivity for the proposed MCD 5000 desksets and base radios or consolettes.
- Upgrading and programming of the existing and/or new APX 7500 consolettes will be performed by Orange County.
- Motorola will create, support and provide a custom headset interface device that allows the user to switch to a backup consolette (Green 1 TG only) in the event of a temporary T1 link loss. This solution will mitigate the temporary downtime by providing the dispatcher the ability to immediately switch to a back up consolette and maintain communication with the users in the event when both primary and secondary T1 links are lost. The custom headset interface device does not support telephone operation. Costa Mesa PD is responsible for providing an installed APX 7500 Consolette and antenna to support the custom headset interface devices. Per the County's request, we have not included this consolette and antenna system in this proposal.
- Where necessary, Costa Mesa PD will provide a dedicated delivery point, such as a warehouse, for receipt, inventory, and storage of equipment prior to delivery to the sites.
- Motorola's MCC 7500 design is built with dedicated workstations for each MCC 7500 operator positions. The Motorola provided computers will not be configured to share/support CAD, E911 network or any other third party applications.
- Costa Mesa PD is responsible for transporting and disposal of existing third party (non-Motorola) console racks and equipment.

EQUIPMENT LIST

2.1 ORANGE COUNTY LICENSES FOR COSTA MESA POLICE DEPARTMENT

QTY	NOMENCLATURE	DESCRIPTION
1	SQM01SUM0239	MASTER SITE CONFIG UPGRADE
1	CA00996AK	NM/ZC LICENSE KEY 7.13
1	CA00997AK	UCS LICENSE KEY 7.13
2	CA01316AA	ADD: UNC ADDTL DEVICE LIC (QTY 10)

2.2 COSTA MESA POLICE DEPARTMENT DISPATCH POSITIONS

QTY	NOMENCLATURE	DESCRIPTION
1	B1905	MCC 7500 ASTRO 25 SOFTWARE
8	B1933	MOTOROLA VOICE PROCESSOR MODULE
8	CA01642AA	ADD: MCC 7500 BASIC CONSOLE FUNCTIONALITY SOFTWARE LICENSE
8	CA01643AA	ADD: MCC 7500 / MCC 7100 TRUNKING OPERATION
8	CA01644AA	ADD: MCC 7500 /MCC 7100 ADV CONVL OPERATION
8	CA00147AF	ADD: MCC 7500 SECURE OPERATION
8	CA01220AA	ADD: MCC 7500 / MCC 7100 OTEK OPERATION
8	CA00144AC	ADD: DES-XL ALGORITHM
8	CA00182AB	ADD: AES ALGORITHM
8	CA00140AA	ADD: AC LINE CORD, NORTH AMERICAN
8	DSTG221	TECH GLOBAL EVOLUTION SERIES 22INCH NON TOUCH
8	DSPCM250006	PS/2 KEY/MOUSE EXT MINI DIN 6FT
8	DSPWR100012	STANDARD IEC AC POWER CORD 12 FOOT
8	TT2833	COMPUTER, Z440 WORKSTATION WINDOWS 7 (NON RETURNABLE)
8	T7449	WINDOWS SUPPLEMENTAL TRANS CONFIG
8	DSRMP615A	SPD, TYPE 3, 120V RACK MOUNT, 15A PLUG-IN W/ (6) 15A NEMA 5-15 OUTLETS
32	B1912	MCC SERIES DESKTOP SPEAKER
24	B1913	MCC SERIES HEADSET JACK
24	RLN6098	HDST MODULE BASE W/PTT, 15' CBL
8	DSACM3151	TRANSMIT FOOT SWITCH 24 IN
8	T7885	MCAFEE WINDOWS AV CLIENT
8	DDN2089	DUAL IRR SW USB HASP WITH LICENSE (V47)
8	DDN2134	SOUND BLASTER AUDIGY FX PCIE SOUND CARD
8	CDN6673	CREATIVE LABS INSPIRE A60
2	CLN1856	2620-24 ETHERNET SWITCH
2	SQM01SUM0205	GGM 8000 GATEWAY

QTY	NOMENCLATURE	DESCRIPTION
2	CA01616AA	ADD: AC POWER
2	TRN7343	SEVEN AND A HALF FOOT RACK
2	DDN9748	19 INCH BLACK SHELF
3	DSRMP615A	SPD, TYPE 3, 120V RACK MOUNT, 15A PLUG-IN W/ (6) 15A NEMA 5-15 OUTLETS
6	DSTSJ48CLT	SPD, RJ-45 OR HARDWIRE CONNECTED FOR T1/E1, PROTECTS 4 WIRES
2	DSTSJADP	RACK MOUNT GROUND BAR, 19 IN FOR TSJ AND WPH SERIES DATA SPDS

2.3 CUSTOM HEADSET EQUIPMENT

QTY	NOMENCLATURE	DESCRIPTION
8	STMCC 7500INTDEV	MCC 7500 CUSTOM HEADSET INTERFACE DEVICE

2.4 AUXILIARY INPUTS/OUTPUTS

QTY	NOMENCLATURE	DESCRIPTION
1	F4543	SITE MANAGER BASIC
1	VA00874	ADD: AUX I-O SERV FW CURR ASTRO REL
1	V266	ADD: 90VAC TO 260VAC PS TO SM
3	V592	AAD TERM BLCK & CONN WI
1	F4547	SM IO EXPANSION BASIC
1	V266	ADD: 90VAC TO 260VAC PS TO SM
3	V592	AAD TERM BLCK & CONN WI

2.5 MKM 7000 CONSOLE ALIAS MANAGER (CAM)

QTY	NOMENCLATURE	DESCRIPTION
1	BVN1013	MKM 7000 Console Alias Manager Software
1	TT2833	COMPUTER, Z440 WORKSTATION WINDOWS 7 (NON RETURNABLE)
1	T7885	MCAFEE WINDOWS AV CLIENT
1	T7449	WINDOWS SUPPLEMENTAL TRANS CONFIG
1	DSCL5808NCKIT	8 PORT LCD KVM 8 USB-PS 2 COMBO CABLES

2.6 CONVENTIONAL FALLBACK SYSTEM

QTY	NOMENCLATURE	DESCRIPTION
1	T7038	GCP 8000 SITE CONTROLLER
1	CA00303AA	ADD: QTY (1) SITE CONTROLLER
1	X153AW	ADD: RACK MOUNT HARDWARE
1	CA01136AA	ADD: MCC 7500 CONVEN SITE OPER
3	SQM01SUM0205	GGM 8000 GATEWAY

3	CA01616AA	ADD: AC POWER
3	CA02086AA	ADD: HIGH DENSITY ENH CONV GATEWAY

2.7 APX 7500 CONSOLETTE FLASH UPGRADE

QTY	NOMENCLATURE	DESCRIPTION
1	T7562	DIGITAL SMARTZONE
2	G361AJ	ENH: ASTRO P25 TRUNK SOFTWARE
2	GA00469AB	ENH: EXTENDED DISPATCH APX CONSOLETTE
2	W947AW	ADD: ASTRO 25 INTEGRATED VOICE & DATA
2	G996AW	ENH: OVER THE AIR PROVISIONING
2	G298AU	ADD: ENCRYPTION P25 AND MDC OTAR
2	W969BJ	ENH: MULTI KEY OPERATION
1	T7562	DIGITAL SMARTZONE
1	G361AJ	ENH: ASTRO P25 TRUNK SOFTWARE
1	GA00469AB	ENH: EXTENDED DISPATCH APX CONSOLETTE
1	G996AW	ENH: OVER THE AIR PROVISIONING
1	G298AU	ADD: ENCRYPTION P25 AND MDC OTAR
1	T7936	APX UCM UPGRADE CD
3	CA00182AR	ADD: AES ENCRYPTION SOFTWARE

2.8 MCD 5000 DESKSETS AND MCD 5000 RADIO GATEWAY UNITS

QTY	NOMENCLATURE	DESCRIPTION
7	F2380	MCD 5000 DESKSET
7	FHN7469	MCD 5000 DESKSET / RGU POWER SUPPLY WITH USA POWER CORD
7	FKN8695	ETHERNET CABLE 10' WITH RED & BLACK LABELS
1	FVN5847	MCD 5000 DESKSET SYSTEM CONFIG TOOL - SYSTEM W/OUT OMC
3	F7979	MCD 5000 DESKSET RADIO GATEWAY UNIT (RGU)
3	FHN7469	MCD 5000 DESKSET / RGU POWER SUPPLY WITH USA POWER CORD
3	FKN8695	ETHERNET CABLE 10' WITH RED & BLACK LABELS
3	FTN7490	MCD 5000 DESKSET RGU RACK MOUNT PANEL PLUS SCREWS
3	TDN1114	ETHERNET CABLE 100'

2.9 APX 7500 CONSOLETTES

QTY	NOMENCLATURE	DESCRIPTION
15	L30URS9PW1 N	APX7500 SINGLE BAND 7/800
15	G806	ADD: ASTRO DIGITAL CAI OPERATION
15	G51	ENH: SMARTZONE OPERATION APX
15	G361	ADD: P25 TRUNKING SOFTWARE
15	GA00469	ENH: EXTENDED DISPATCH APX CONSOLETTE

15	W382	ADD: CONTROL STATION DESK GCAI MIC
15	CA01598	ADD: AC LINE CORD US
15	L999	ADD: FULL FP W/05/KEYPAD/CLOCK/VU
15	G996	ENH: OVER THE AIR PROVISIONING
15	G298	ENH: ASTRO 25 OTAR W/ MULTIKEY
15	G851	ADD: AES/DES-XL/DES-OFB ENCRYPTION
15	GA00249AB	ADD: 3 YEAR SERVICE FROM THE START COMPREHENSIVE
15	HKN6184C	CABLE CH, PROGRAMMING,USB
15	HKN6233C	APX CONSOLETTE RACK MOUNT KIT
3	TRN7343	SEVEN AND A HALF FOOT RACK
6	DSRMP615A	SPD, TYPE 3, 120V RACK MOUNT, 15A PLUG-IN W/ (6) 15A NEMA 5-15 OUTLETS

2.10 SPARES

QTY	NOMENCLATURE	DESCRIPTION
1	CLN1856	2620-24 ETHERNET SWITCH
1	SQM01SUM0205	GGM 8000 GATEWAY
1	CA01616AA	ADD: AC POWER
2	B1912	MCC SERIES DESKTOP SPEAKER
1	B1913	MCC SERIES HEADSET JACK
1	RLN6098	HDST MODULE BASE W/PTT, 15' CBL
1	RMN5078B	SUPRAPLUS NC SINGLE MUFF HEADSET
2	DSACM3151	TRANSMIT FOOT SWITCH 24 IN
1	TT2833	COMPUTER, Z440 WORKSTATION WINDOWS 7 (NON RETURNABLE)
1	DSPCM250006	PS/2 KEY/MOUSE EXT MINI DIN 6FT
1	DSPWR100012	STANDARD IEC AC POWER CORD 12 FOOT
1	B1934	MCC 7500 VOICE PROCESSOR MODULE FRU
1	CA00147AF	ADD: MCC 7500 SECURE OPERATION
1	CA00182AB	ADD: AES ALGORITHM
1	CA00144AC	ADD: DES-XL ALGORITHM
2	SQM01SUM0205	GGM 8000 GATEWAY
2	CA01616AA	ADD: AC POWER
2	CA02086AA	ADD: HIGH DENSITY ENH CONV GATEWAY
1	DLN6966	FRU: GCP 8000/GCM 8000/GPB 8000
1	DLN6898	FRU: FAN MODULE
1	DLN6781	FRU POWER SUPPLY
1	F4543	SITE MANAGER BASIC
1	VA00874	ADD: AUX I-O SERV FW CURR ASTRO REL
1	V266	ADD: 90VAC TO 260VAC PS TO SM
3	V592	AAD TERM BLCK & CONN WI
1	F7979	MCD 5000 DESKSET RADIO GATEWAY UNIT (RGU)
1	FHN7469	MCD 5000 DESKSET / RGU POWER SUPPLY WITH USA POWER CORD
1	FKN8695	ETHERNET CABLE 10' WITH RED & BLACK LABELS
1	FTN7490	MCD 5000 DESKSET RGU RACK MOUNT PANEL PLUS

		SCREWS
1	TDN1114	ETHERNET CABLE 100'

ACCEPTANCE TEST PLAN

3.1 MCC 7100/7500 TRUNKED RESOURCES

3.1.1 Instant Transmit

1. DESCRIPTION

The instant transmit switch provides immediate operator access to a channel, independent of its select status (selected or unselected). It provides priority over other dispatcher transmit bars or optional footswitches.

SETUP

RADIO-1 - TALKGROUP 1
CONSOLE-1 – TALKGROUP 1 (Selected), TALKGROUP 2 (Unselect mode)

VERSION #1.010

2. TEST

Step 1. Using CONSOLE-1, press the Instant Transmit button on TALKGROUP 1.

Step 2. Verify that the Transmit indicator is lit.

Step 3. Verify RADIO-1 can monitor and respond to the call on TALKGROUP 1.

Step 4. On RADIO-1 change to TALKGROUP 2

Step 5. Using CONSOLE-1, press the Instant Transmit button on the TALKGROUP 2 radio resource.

Step 6. Verify RADIO-1 can monitor and respond to the call on TALKGROUP 2.

Pass____ Fail____

3.1.2 Talkgroup Selection and Call

1. DESCRIPTION

The Talkgroup Call is the primary level of organization for communications on a trunked radio system. Dispatchers with Talkgroup Call capability will be able to communicate with other members of the same talkgroup. This provides the effect of an assigned channel down to the talkgroup level. When a Talkgroup Call is initiated from a subscriber unit, the call is indicated on each dispatch operator position that has a channel control resource associated with the unit's channel/talkgroup.

SETUP

RADIO-1 - TALKGROUP 1
RADIO-2 - TALKGROUP 2
RADIO-3 - TALKGROUP 1
RADIO-4 - TALKGROUP 2
CONSOLE-1 - TALKGROUP 1
CONSOLE-2 - TALKGROUP 2

VERSION #1.010

2. TEST

Step 1. Initiate a wide area call from CONSOLE-1 on TALKGROUP 1.

Step 2. Observe that RADIO-1 and RADIO-3 will be able to monitor the call. Dekey the console and have either radio respond to the call.

Step 3. Observe that all consoles with TALKGROUP 1 can monitor both sides of the conversation.

Step 4. Initiate a wide area call from CONSOLE-2 on TALKGROUP 2.

Step 5. Observe that RADIO-2 and RADIO-4 will be able to monitor the call. Dekey the console and have either radio respond to the call.

Step 6. Observe that all consoles with TALKGROUP 2 can monitor both sides of the conversation.

Pass____ Fail____

3.1.3 Emergency Alarm and Call Display Description

1. DESCRIPTION

Users in life threatening situations can use the emergency button on the radio to send an audible alarm and a visual alarm signal to a console operator in order to request immediate system access to a voice channel for an emergency call. An emergency alarm begins after the radio user presses the radio's emergency button. Pressing the emergency button places the radio in "emergency mode". To begin an emergency call, the radio user must press the radio's PTT button while in "emergency mode." The assigned voice channel will be dedicated to the emergency caller's talkgroup for an extended period of time, equal to the Message Hang Time plus the Emergency Hang Time. As with other call types, emergency calls can operate across sites as well as within the same site.

SETUP

RADIO-1 - TALKGROUP 1
CONSOLE-1 - TALKGROUP 1
CONSOLE-2 - TALKGROUP 1

VERSION #1.010

2. TEST

Step 1. Initiate an Emergency Alarm from RADIO-1.

Step 2. Observe the Emergency from RADIO-1 is received at CONSOLE-1 for TALKGROUP 1.

Step 3. Acknowledge the Emergency at the operator position. Verify CONSOLE-2 receives notification that the call has been acknowledged.

Step 4. Initiate a call with RADIO-1 to initiate an Emergency call.

Step 5. Observe CONSOLE-1 and CONSOLE-2 can monitor RADIO-1

Step 6. Clear the Emergency from CONSOLE-1 on TALKGROUP 1.

Step 7. End the Emergency Alarm from RADIO-1.

Pass____ Fail____

3.1.4 Multigroup Call

1. DESCRIPTION

This trunking feature allows an equipped console operator position to transmit an announcement to several different talkgroups simultaneously. As with Talkgroup Calls, multigroup calls operate across sites as well as within the same site.

SETUP

RADIO-1 - TALKGROUP 1
RADIO-2 - TALKGROUP 2
RADIO-3 - RANDOM
CONSOLE-1 - ATG 1

Note: TALKGROUP 1 and TALKGROUP 2 are members of ATG 1. RANDOM is any talkgroup not a member of ATG 1.

VERSION #1.010

2. TEST

Step 1. Using CONSOLE-1, select the ATG 1 resource.

Step 2. Initiate the Multigroup Call from CONSOLE-1.

Step 3. Observe that RADIO-1 and RADIO-2 receive the Multigroup Call.

Step 4. Verify that RADIO-3 does not receive the Multigroup Call because it is not a member of ATG 1.

Step 5. Answer the Multigroup Call using RADIO-1 and observe CONSOLE-1 receives the response.

Step 6. Verify that if the call is answered within the repeater hang time, the console will receive the call on the ATG 1 resource tile, otherwise the console will receive the call on the TALKGROUP 1 tile.

Step 7. Verify that if the call is answered within the repeater hang time, RADIO-2 will monitor the call.

Pass____ Fail____

3.1.5 Multi-Select Operation

1. DESCRIPTION

Multi-Select (Msel) allows the console operator to group a number of channels/talkgroups together such that when the general transmit bar is depressed, all of the multi-selected channels/talkgroups will transmit at the same time with the same information. Multi-Select is one way communication call. If a radio user responds to a Multi-Select call the talkgroup the user is affiliated to will be the only one to hear the call. There is no super-group formed, so radio communication is still at the single talkgroup level. Multi-Select is utilized to send an APB to several channels/talkgroups. A Multi-Select has a limit of twenty (20) trunking/conventional resources

SETUP

RADIO-1 - TALKGROUP 1
RADIO-2 - TALKGROUP 2
CONSOLE-1 - TALKGROUP 1, TALKGROUP 2

VERSION #1.010

2. TEST

Step 1. From CONSOLE-1, create an Msel group with TALKGROUP 1 and TALKGROUP 2.

Step 2. Transmit on the Msel using the Msel instant transmit button.

Step 3. Verify that RADIO-1 and RADIO-2 hear the call.

Step 4. Initiate a call with RADIO-1.

Step 5. Verify the call is heard on CONSOLE-1 but not on RADIO-2.

Step 6. Initiate a call with RADIO-2.

Step 7. Verify the call is heard on CONSOLE-1 but not on RADIO-1.

Step 8. On CONSOLE-1 dissolve the Msel.

Pass____ Fail____

3.1.6 Talkgroup Patch

1. DESCRIPTION

Talkgroup Patch allows a dispatcher to merge several talkgroups together on one voice channel to participate in a single conversation. This can be used for situations involving two or more talkgroups that need to communicate with each other.
Using the Patch feature, the console operator can talk and listen to all of the selected talkgroups grouped; in addition, the members of the individual talkgroups can also talk or listen to members of other talkgroups. Patched talkgroups can communicate with the console dispatcher and other members of different talkgroups because of the "supergroup" nature of the Patch feature.

NOTE : If "secure" and "clear" resources are patched together, one repeater for each mode may be assigned per site.

SETUP

RADIO-1 - TALKGROUP 1
RADIO-2 - TALKGROUP 2
RADIO-3 - TALKGROUP 1
RADIO-4 - TALKGROUP 2
CONSOLE-1 - TALKGROUP 1 and TALKGROUP 2

Note: All 4 Radios must have the same home zone.

VERSION #1.010

2. TEST

Step 1. Using CONSOLE-1 create a patch between TALKGROUP 1 and TALKGROUP 2.

Step 2. Initiate a patch call from CONSOLE-1.

Step 3. Verify RADIO-1, RADIO-2, RADIO-3, and RADIO-4 can monitor the call.

Step 4. Initiate several calls between the radios and verify successful communication.

Step 5. Dissolve the patch created in step 1.

Pass____ Fail____

3.1.7 Console Priority

1. DESCRIPTION

Console Operator Positions have ultimate control of transmitted audio on an assigned voice channel resource. The Console Position has the capability to take control of an assigned voice channel for a talkgroup call so that the operator's audio overrides any subscriber audio. Console priority is a feature that enables dispatchers to gain immediate access to an assigned voice channel so that a central point of audio control exists.

SETUP

RADIO-1 - TALKGROUP 1
RADIO-2 - TALKGROUP 1
CONSOLE-1 - TALKGROUP 1

VERSION #1.020

2. TEST

Step 1. Initiate a Talkgroup call from RADIO-1 on TALKGROUP 1. Keep this call in progress until the test has completed.

Step 2. Observe that RADIO-2 receives the call

Step 3. While the call is in progress, key up CONSOLE-1 on TALKGROUP 1.

Step 4. Observe that RADIO-2 is now receiving audio from CONSOLE-1 on TALKGROUP 1.

Step 5. De-key CONSOLE-1.

Step 6. Verify RADIO-2 now receives RADIO-1 audio.

Step 7. End the TALKGROUP 1 call from RADIO-1.

Pass____ Fail____

3.1.8 Channel Marker

1. DESCRIPTION

A Channel Marker is a distinct, short duration, audible tone over radio and Console speakers. The tone is initiated and cancelled by a console operator.
The tone can be initiated only for the talkgroups or conventional channels. On initiation, it is generated periodically when there is no voice activity. The tone can be used for various purposes. The primary purpose of the tone is to inform radio users that the conventional channel or the trunked talkgroup is currently involved in a high priority situation and they should stay off the channel unless they are involved in the high priority situation. The tone also informs the users that a console operator is actively monitoring the talkgroup.
Note that the Channel Marker tone will only start when there is no voice activity for the selected Talkgroup or conventional channel. The channel Marker tone is sent in a current transmission mode of the Console user.

SETUP

RADIO-1 - TALKGROUP 1
RADIO-2 - TALKGROUP 1
CONSOLE-1 - TALKGROUP 1
CONSOLE-2 - TALKGROUP 1

VERSION #1.010

2. TEST

Step 1. Initiate a Channel Marker tone on TALKGROUP 1 from CONSOLE-1.

Step 2. Verify RADIO-1 and RADIO-2 can monitor the Channel Marker tone on TALKGROUP 1.

Step 3. Verify CONSOLE-1 and CONSOLE-2 also monitor the Channel Marker tone on TALKGROUP 1.

Step 4. Initiate a call from RADIO-1 and continue to key longer than the preset Channel Marker tone period for TALKGROUP 1.

Step 5. Verify while RADIO-1 is keyed, the Channel Marker tone is suppressed.

Step 6. Verify after RADIO-1 de-keys, the periodic Channel Marker tone continues to be transmitted on TALKGROUP 1.

Step 7. Cancel the Channel Marker on TALKGROUP 1 from CONSOLE-1.

Step 8. Verify the Channel Marker is no longer monitored on TALKGROUP 1.

Pass____ Fail____

3.1.9 Alarm Input / Outputs - Aux I/O Option

1. DESCRIPTION

A dispatch console user can simultaneously view the status of all Aux I/O instances pertaining to the AUX I/O object. Change to one AUX I/O instance is simultaneously viewable by all other instances.

SETUP

CONSOLE-1 - TALKGROUP 1
CONSOLE-1 - SITE - CONSITE-1
CONSOLE-2 - TALKGROUP 1
CONSOLE-2 - SITE - CONSITE-1
For this test-
An instance of AUXIO_1 has been created and is assigned as a standalone tile on CONSOLE-1 and CONSOLE-2.

VERSION #1.020

2. TEST

Step 1. Assign an instance of AUXIO_1 to CONSOLE-1 to a talk resource tile on TALKGROUP 1

Step 2. Assign instance of AUXIO_1 to CONSOLE-2 to a talk resource tile on TALKGROUP 1.

Step 3. Change the status of AUXIO_1 on CONSOLE-1.

Step 4. Verify the standalone tile as well as the talk resource instance on CONSOLE-1 and CONSOLE-2 change and display the same state for AUXIO_1.

Step 5. Change the status of AUXIO_1 on CONSOLE-2.

Step 6. Verify the standalone tile as well as the talk resource instance on CONSOLE-1 and CONSOLE-2 change and display the same state for AUXIO_1.

Pass____ Fail___

3.2 MKM 7000 CONSOLE ALIAS MANAGER (CAM)

3.2.1 Alias Display When Using the MKM 7000

1. DESCRIPTION

This test will demonstrate that a Provisioning Manager (PM) defined alias still works on incoming calls when MKM 7000 solution is installed, although the locally defined ones take precedence, i.e. centrally defined ones will only be used if there is no locally defined alias for the radio that is making an incoming call.

SETUP

RADIO-1 - TALKGROUP 1
RADIO-2 - TALKGROUP 1

CONSOLE-1 - TALKGROUP 1

A standalone or cohab'ed MKM 7000 server is connected and communicating normally with an MCC 7100/7500 Console.

CONSOLE-1 user is configured to use local alias service.

VERSION #1.030

2. TEST

Step 1. Log into MKM 7000 GUI and configure an alias for RADIO-1.

Step 2. Verify that RADIO-2 does not have any alias defined in MKM 7000.

Step 3. Verify both RADIO-1 and RADIO-2 have their own PM defined aliases. Also verify the PM defined alias for RADIO-1 is different from the one defined by MKM 7000.

Step 4. Key up RADIO-1 and verify that its locally defined alias shows up on CONSOLE-1, not the PM defined alias.

Step 5. Key up RADIO-2 and verify that its PM defined alias shows up.

Pass____ Fail____

MKM 7000 Console Alias Manager (CAM)

3.2.2 Create a new Subscriber Unit ID to Subscriber Unit Alias Mapping - Trunking

1. DESCRIPTION

This test will demonstrate the capability to create a Subscriber Unit (SU) alias for an SU ID via the MKM 7000 GUI and have it show up on MCC 7100/7500 Console automatically.
The test will work on either a trunked or conventional system. This test will also demonstrate the capability to monitor connection status between MKM 7000 and MCC 7100/7500 Console.

SETUP

A standalone (not cohab) MKM 7000 server is connected and communicating normally with CONSOLE-1.
RADIO-1 - TALKGROUP 1

CONSOLE-1 - TALKGROUP 1
CONSOLE-1 user is configured to use the local alias service.

VERSION #1.040

2. TEST

Step 1. CONSOLE-1 user logs into the MCC 7100/7500 console and verifies that the consoles synchronization status with Localized Aliasing is OK, as indicated by a green check mark on the “status screen”.

Step 2. Local Alias Admin logs into MKM 7000 GUI, verify under Connected Consoles tab that the MCC 7100/7500 console is connected to MKM7000.

Step 3. Create a new SU ID that matches RADIO-1 to be used for this test.

Step 4. Create a new SU Alias for the SU ID (new mapping between SU ID and SU Alias).

Step 5. Submit the change.

Step 6. Wait (up to) 30 seconds, initiate a call using RADIO-1 ON TALKGROUP 1, verify the defined SU Alias shows up on CONSOLE-1's TALKGROUP 1 resource.

Pass____ Fail____

MKM 7000 Console Alias Manager (CAM)

3.2.3 Fault Management of MKM 7000 and MCC 7100/7500 Link

1. DESCRIPTION

This test will demonstrate that the link status between MKM 7000 and MCC 7100/7500 is monitored and fault managed by the Unified Event Manager (UEM).
This test will also demonstrate that the MKM 7000 and MCC 7100/7500 both monitor the link status between them.

SETUP

A standalone (not cohabed) MKM 7000 server is connected and communicating normally with an MCC 7100/7500 Console.
The console user is configured to use local alias service.

VERSION #1.050

2. TEST

Step 1. The console user logs into CONSOLE-1 and verifies that MCC 7100/7500's synchronization status with MKM 7000 server is OK, as indicated by a green check mark on the "system status" screen.

Step 2. Log into the MKM 7000 GUI and verify the connection to MCC 7100/7500 is up and running under Connected Consoles tab.

Step 3. Unplug the connection cable between MKM 7000 and MCC 7100/7500 and verify that the UEM shows link failure between MKM 7000 and MCC 7100/7500. Also verify the change of link status shows up on MKM 7000 GUI's Connected Consoles tab and MCC 7100/7500's "system status" screen.

Step 4. Restore the connection cable between MKM 7000 and MCC 7100/7500 and verify that the UEM shows link failure between MKM 7000 and MCC 7100/7500 has recovered. Also verify the change of link status shows up on MKM 7000 GUI's Connected Consoles tab and MCC 7100/7500's "system status" screen.

Step 5. Log the console user out of CONSOLE-1 and verify that UEM shows link status is now "unconfigured user logout".

Pass____ Fail____

3.2.4 Create Subscriber Unit ID to Subscriber Unit Alias Mapping

1. DESCRIPTION

This test will demonstrate the capability to create a Subscriber Unit (SU) alias for an SU ID via MKM 7000 GUI and have it show up on MCC 7100/7500 Console automatically.
The test will work on either a trunked or conventional system. For this test, we'll assume this will be done on a trunked system.
This test will also demonstrate the capability to monitor connection status between MKM 7000 and MCC 7100/7500 Console.

SETUP

RADIO-1 - TALKGROUP 1

CONSOLE-1 - TALKGROUP 1

A standalone (not cohab) MKM 7000 server is connected and communicating normally with an MCC 7100/7500 Console.
Console user is configured to use local alias service.

VERSION #1.020

2. TEST

Step 1. The console user logs into CONSOLE-1 and verifies that the synchronization status with Localized Aliasing is OK, as indicated by a green check mark on the "status screen".

Step 2. The Local Alias Admin logs into the MKM 7000 GUI, verify under Connected Consoles tab that CONSOLE-1 is connected to the MKM7000.

Step 3. Create a new SU ID that matches RADIO-1.

Step 4. Create a new SU Alias for the SU ID (new mapping between SU ID and SU Alias)

Step 5. Submit the change.

Step 6. Wait (up to) 30 seconds, then key up RADIO-1. Verify the defined SU Alias shows up on the TALKGROUP 1 resource of CONSOLE-1.

Pass____ Fail____

3.3 MCC 7100/7500 CONVENTIONAL RESOURCES

3.3.1 Enhanced CCGW Analog Audio Logging

1. DESCRIPTION

This test will demonstrate recording of the audio from the analog channel interface on the conventional channel gateway (CCGW). The enhanced CCGW will sum receive and transmit audio received on an analog conventional channel and deliver the summed audio to the audio logging output pins 3 and 6 of the second analog connector (9A to 9D or 13A to 13D) of the same analog conventional channel.

SETUP

The CCGW is either a Low Density Enhanced Conventional Gateway or a High Density Enhanced Conventional Gateway.

A conventional channel, CONVCH-1, with an analog interface has been configured (analog, MDC 1200, mixed mode, or ACIM).

The customer's audio recording device has been connected to the audio recording output pins 3 and 6 of the second analog connector for CONVCH-1 on the enhanced CCGW.

Conventional RADIO-1 - CONVCH-1

CONSOLE-1 - CONVCH-1

VERSION #1.030

2. TEST

Step 1. Key RADIO-1 on CONVCH-1. Communicate with CONSOLE-1.

Step 2. Key CONSOLE-1 on CONVCH-1. Communicate with RADIO-1.

Step 3. Verify the audio from the previous two steps at the audio recording device.

Pass____ Fail____

3.4 SIGNOFF CERTIFICATE

By their signatures below, the following witnesses certify they have observed the system Acceptance Test Procedures.

Signatures

WITNESS: _____Date: _____

Please Print Name: _____ _____

Initials:

Please Print Title: _____

WITNESS: _____Date: _____

Please Print Name: _____ _____

Initials:

Please Print Title: _____

SECTION 4

STATEMENT OF WORK

4.1 OVERVIEW

This Statement of Work (SOW) describes the deliverables to be furnished to Costa Mesa PD.

The tasks described herein will be performed by Motorola, its subcontractors, and Costa Mesa PD to implement the solution described in the System Description. This SOW describes the actual work involved in installation; identifies the installation standards to be followed; and clarifies the responsibilities for both Motorola and Customer during the project implementation. Specifically, this SOW provides:

- A summary of the phases and tasks to be completed within the project lifecycle.
- A list of the deliverables associated with the project.
- A description of the responsibilities for both Motorola and Customer.
- The qualifications and assumptions taken into consideration during the development of this project.

This SOW provides the most current understanding of the work required by both parties to ensure a successful project implementation. Motorola has identified the equipment locations to be used for the new system. Should any of the locations change, a revision to the SOW and associated pricing will be required. It is understood that this SOW is a working document, and that it will be revised as needed to incorporate any changes associated with contract negotiations, Contract Design Review (CDR), and any other change orders that may occur during the execution of the project.

The proposed solution will provide Costa Mesa PD eight MCC 7500 Dispatch Consoles to interface with the Orange County ASTRO® 25 CCCS. Included are three flash upgrades (to Project 25 Trunking, AES Encryption and Multi-key, OTAR, IV&D, OTAP) for existing APX 7500 Consolettes. Costa Mesa PD is responsible for providing an installed APX 7500 Consolette and antenna to support the custom headset interface devices. Per the County's request, we have not included this consolette and antenna in this proposal. This radio console subsystem will be a standalone voice system in which special interface, non-integrated features, and CAD 9-1-1 are not included.

There are 15 APX 7500 Consolettes with full front panel, 7 MCD 5000 Desksets, and 4 MCD 5000 RGU proposed for the MCC 7500 Dispatch Console proposal.

Costa Mesa Police Department's new console subsystem will connect to the Orange County ASTRO® 25 CCCS Master Site at Loma Ridge. The proposed solution has been tailored to the needs of Costa Mesa PD, providing a demarcation point to the existing analog audio logger, auxiliary input/output (AUX I/O) console capabilities, dual instant recall recorder (IRR), and multiple encryption options.

4.2 ASSUMPTIONS

Motorola has based the system design on information provided by Costa Mesa PD and an analysis of their system requirements. All assumptions have been listed below for review. Should Motorola's assumptions be deemed incorrect or not agreeable to Costa Mesa PD, a revised proposal with the

necessary changes and adjusted costs may be required. Changes to the equipment or scope of the project after contract may require a change order.

- All work is to be performed during normal work hours, Monday through Friday 8:00 a.m. to 5:00 p.m.
- All existing sites or equipment locations will have sufficient space available for the system described.
  - This includes available space for proposed racks, cabinets, MCC 7500 dispatch positions, cables, and cable entry ports.
- All existing sites or equipment locations will have adequate electrical power and site grounding suitable to support the requirements of the system described.
  - It is assumed that Costa Mesa PD will provide AC and/or DC power distribution units.
  - Costa Mesa PD is responsible for providing open conduit space for Motorola to route and install CAT6, RF and ground cables.
- Any site/location upgrades or modifications are the responsibility of Costa Mesa PD.
- Where applicable, approved FCC licensing will be provided by Costa Mesa PD.
- Where applicable, approved local, State, or Federal permits as may be required for the installation and operation of the proposed equipment, are the responsibility of Costa Mesa PD.
- Motorola does not recommend the use of unlicensed PTP microwave for Public Safety use on the MCC 7500 subsystem.
- Motorola's MCC 7500 subsystem design requires Costa Mesa PD and/or Orange County to provide two T1 links which meet and exceed the provided T1 specification (built and Red Tagged as Public Safety grade circuits) to each dispatch center. Costa Mesa PD and/or Orange County will be responsible to provide, configure, test, maintain and demark these circuits within 20' of the proposed MCC 7500 rack and/or equipment.
- No new logging solution has been included in this proposal. Motorola has included analog recording outputs but actual recording is the responsibility of Costa Mesa PD.
- No CAD 9-1-1 has been included in this proposal.
- Three flash upgradable consolettes to P25 will reuse the existing antenna interconnect system. Costa Mesa PD is responsible for providing the antenna interconnect system for all new APX 7500 consolettes.
- Costa Mesa PD is responsible to provide the Ethernet connectivity for the seven MCD 5000 desksets and base radios or consolettes.
- No new base radios or base radio upgrades have been included in this proposal.
- No headsets and desktop microphones are included in this proposal.
- Motorola will create, support and provide a custom headset interface device that allows the user to switch to a backup consolette (Green 1 TG only) in the event of a temporary T1 link loss. This solution will mitigate the temporary downtime by providing the dispatcher the ability to immediately switch to a back up consolette and maintain radio communication with the users in the event when both primary and secondary T1 links are lost. The custom headset interface device does not support telephone operation.
  - Orange County Engineering will be responsible to provide all end user training on the MCC 7500 console equipment and the custom headset interface operation.
- Any required system interconnections not specifically outlined here will be provided by Costa Mesa PD, including but not limited to dedicated phone circuits or Ethernet.
- Where necessary, Costa Mesa PD will provide a dedicated delivery point, such as a warehouse, for receipt, inventory, and storage of equipment prior to delivery to the site(s).
- Motorola's MCC 7500 design is built with dedicated workstations for the MCC 7500 operator positions. The Motorola provided computers will not be configured to share/support CAD, E911 network or any other third party applications.

- Costa Mesa PD is responsible for transporting and disposal of existing third party console racks and equipment.

4.3 CONTRACT

4.3.1 Contract Award (Milestone)

- Costa Mesa PD and Motorola execute the contract and both parties receive all the necessary documentation.

4.3.2 Contract Administration

Motorola Responsibilities:

- Assign a Project Manager, as the single point of contact with authority to make project decisions.
- Assign resources necessary for project implementation.
- Set up the project in the Motorola information system.
- Schedule the project kickoff meeting with Costa Mesa PD.

Customer Responsibilities:

- Assign a Project Manager, as the single point of contact responsible for Costa Mesa PD signed approvals.
- Assign other resources necessary to ensure completion of project tasks for which Costa Mesa PD is responsible.

Completion Criteria:

- Motorola internal processes are set up for project management.
- Both Motorola and Costa Mesa PD assign all required resources.
- Project kickoff meeting is scheduled.

4.3.3 Project Kickoff

Motorola Responsibilities:

- Conduct a project kickoff meeting during the CDR phase of the project.
- Ensure key project team participants attend the meeting.
- Introduce all project participants attending the meeting.
- Review the roles of the project participants to identify communication flows and decision-making authority between project participants.
- Review the overall project scope and objectives with Costa Mesa PD.
- Review the resource and scheduling requirements with Costa Mesa PD.
- Review the Project Schedule with Costa Mesa PD to address upcoming milestones and/or events.
- Review the teams' interactions (Motorola and Costa Mesa PD), meetings, reports, milestone acceptance, and Costa Mesa PD's participation in particular phases.

Customer Responsibilities:

- Costa Mesa PD's key project team participants attend the meeting.
- Review Motorola and Costa Mesa PD responsibilities.

Completion Criteria:

- Project kickoff meeting completed.
- Meeting notes identify the next action items.

4.4 CONTRACT DESIGN REVIEW

4.4.1 Review Contract Design

Motorola Responsibilities:

- Meet with Costa Mesa PD project team.
- Review the operational requirements and the impact of those requirements on various equipment configurations.
- Establish a defined baseline for the system design and identify any special product requirements and their impact on system implementation.
- Review the System Design, Statement of Work, Project Schedule, and Acceptance Test Plans, and update the contract documents accordingly.
- Discuss the proposed Cutover Plan and methods to document a detailed procedure.
- Submit design documents to Costa Mesa PD for approval. These documents form the basis of the system, which Motorola will manufacture, assemble, stage, and install.
- Prepare equipment layout plans for staging.
- Provide minimum acceptable performance specifications for microwave, fiber, or copper links.
- Establish demarcation point (supplied by the Motorola system engineer) to define the connection point between the Motorola-supplied equipment and Costa Mesa PD-supplied link(s) and external interfaces.
- Finalize site readiness plan.
  - Conduct site evaluations to capture site details of the system design and to determine site readiness.
  - Determine each site's ability to accommodate proposed equipment based upon physical capacity.

Customer Responsibilities:

- Costa Mesa PD's key project team participants attend the meeting.
- Make timely decisions, according to the Project Schedule.
- Frequency Licensing and Interference:
  - As mandated by the FCC, Costa Mesa PD, as the licensee, has the ultimate responsibility for providing all required radio licensing or licensing modifications for the system prior to system staging. This responsibility includes paying for FCC licensing and frequency coordination fees.
  - Provide the FCC "call sign" station identifier for each site prior to system staging.

Completion Criteria:

- Complete Design Documentation, which may include updated System Description, Equipment List, system drawings, or other documents applicable to the project.
- Incorporate any deviations from the proposed system into the contract documents accordingly.
- The system design is "frozen" in preparation for subsequent project phases such as Order Processing and Manufacturing.
- A Change Order is executed in accordance with all material changes resulting from the Design Review to the contract.

4.4.2 Design Approval (Milestone)

- Costa Mesa PD executes a Design Approval milestone document.

4.5 ORDER PROCESSING

4.5.1 Process Equipment List

Motorola Responsibilities:

- Validate Equipment List by checking for valid model numbers, versions, compatible options to main equipment, and delivery data.
- Enter order into Motorola's Customer Order Fulfillment (COF) system.
- Create Ship Views, to confirm with Costa Mesa PD the secure storage location(s) to which the equipment will ship. Ship Views are the mailing labels that carry complete equipment shipping information, which direct the timing, method of shipment, and ship path for ultimate destination receipt.
- Create equipment orders.
- Reconcile the equipment list(s) to the Contract.
- Procure third-party equipment if applicable.

Customer Responsibilities:

- Approve shipping location(s).
- Complete and provide Tax Certificate information verifying tax status of shipping location.

Completion Criteria:

- Verify that the Equipment List contains the correct model numbers, version, options, and delivery data.
- Trial validation completed.
- Bridge the equipment order to the manufacturing facility.

4.6 MANUFACTURING AND STAGING

4.6.1 Manufacture Motorola Fixed Network Equipment

Motorola Responsibilities:

- Manufacture the Fixed Network Equipment (FNE) necessary for the system based on the equipment order.

Customer Responsibilities:

- None.

Completion Criteria:

- FNE shipped to the staging facility.

4.6.2 Manufacture Non-Motorola Equipment

Motorola Responsibilities:

- Procure non-Motorola equipment necessary for the system based on the equipment order.

Customer Responsibilities:

- None.

Completion Criteria:

- Ship non-Motorola manufactured equipment to the field or to the staging facility.

4.6.3 Ship to Staging (Milestone)

- Ship all equipment needed for staging to the Customer Center for Solutions Integration (CCSi), Motorola's factory staging facility in Elgin, Illinois.

4.6.4 Stage System

Motorola Responsibilities:

- Set up and rack the system equipment on a site-by-site basis, as it will be configured in the field.
- Cut and label cables according to the approved CDR documentation.
- Label the cables with to/from information to specify interconnection for field installation and future servicing needs.
- Complete the cabling/connecting of the subsystems to each other ("connectorization" of the subsystems).
- Assemble required subsystems to assure system functionality.
- Power up, program, and test all staged equipment.
- Confirm system configuration and software compatibility to the existing system.
- Load application parameters on all equipment according to input from Systems Engineering.
- Complete programming of the Fixed Network Equipment.
- Program the approved templates into a radio-programming template tool.
- Inventory the equipment with serial numbers and installation references.
- Complete system documentation.
- Third party subsystems may be staged at the manufacturer's facilities and integrated in the field.

Customer Responsibilities:

- Provide information on existing system interfaces as may be required.
- Provide information on room layouts or other information necessary for the assembly to meet field conditions.

Completion Criteria:

- System staging completed and ready for testing.

4.6.5 Perform Staging Acceptance Test Procedures

Motorola Responsibilities:

- Test and validate system software and features.
- Functional testing of standard system features.
- Conduct site and system level testing.

- Power-up site equipment and perform standardized functionality tests.
- Perform system burn-in 24 hours a day during staging to isolate and capture any defects.

Customer Responsibilities:

- None.

4.6.6 Ship Equipment to Field

Motorola Responsibilities:

- Pack system for shipment to final destination.
- Arrange for shipment to the field.

Customer Responsibilities:

- None.

Completion Criteria:

- Equipment ready for shipment to the field.

4.6.7 CCSi Ship Acceptance (Milestone)

- All equipment shipped to the field.

4.6.8 Develop Templates

Motorola Responsibilities:

- Motorola assists Costa Mesa PD in defining each console template. Up to four templates will be included.
- Motorola participates in a meeting to finalize any changes among user groups.
- Program the approved templates into a radio-programming template tool.
- Program sample radios with approved templates and deliver for Costa Mesa PD's evaluation.

Customer Responsibilities:

- User groups create templates.
- Forward electronic copies of the spreadsheets to the committee members for their review and comment.
- Approve templates.

Completion Criteria:

- Templates completed and approved by Costa Mesa PD.

4.7 CIVIL WORK FOR THE CUSTOMER-PROVIDED FACILITIES

Motorola Responsibilities:

- Provide electrical requirements for each equipment rack to be installed in Costa Mesa PD-provided facilities.
- Provide heat load for each equipment rack to be installed in Costa Mesa PD-provided facilities.
- Relocate existing equipment, if needed, to provide required space for the installation of Motorola-supplied equipment.

Customer Responsibilities:

- If applicable and based on local jurisdictional authority, Costa Mesa PD will be responsible for any installation or upgrades of the Critical Operation Power Systems in order to comply with NFPA 70, Article 708.
- Secure site lease/ownership, zoning, permits, regulatory approvals, easements, power, and Telco connections.
- Provide clear and stable access to the sites for transporting electronics and other materials. Sufficient site access must be available for trucks to deliver materials under their own power and for personnel to move materials to the facility without assistance from special equipment.
- Design and construct facilities for housing communications equipment such as shelters, towers, generators, fuel tanks, fenced compounds, etc.
- Supply adequately sized electrical service, backup power (UPS, generator, batteries, etc.) including the installation of conduit, circuit breakers, outlets, etc., at each backroom equipment location.
- Provide AC power to the demarcation point(s) indicated in the documentation, including the associated electrical service and wiring (conduit, circuit breakers, etc.).
- Extend electrical to Motorola equipment and terminate at the OP6 or Cabinet electric panel.
- Provide adequate HVAC, grounding, lighting, cable routing, and surge protection (also, among existing and Motorola-provided equipment) based upon Motorola's Standards and Guidelines for Communication Sites. Ceiling (minimum 9 feet) and cable tray heights (minimum 8 feet) in the equipment rooms need to accommodate 7-foot, 6-inch equipment racks.
- Provide floor space and desk space for the system equipment at Costa Mesa PD-provided facilities. Each rack shall be provided a minimum of 24-inch x 24-inch footprint with 36-inch clearance in the front and back. This activity includes moving the supply cabinet and arranging to have cameras moved in the last rack in the equipment room to make space.
- Bring grounding system up to Motorola's standards and supply a single point system ground, of 5 ohms or less, to be used on all FNE supplied under the Contract. Supply grounding tie point within 10 feet from the Motorola-supplied equipment.
- Provide all necessary wall or roof penetrations on existing buildings for antenna coax and microwave waveguide (if applicable) for main transmitter antennas, microwave radios, and control station Yagi antennas.
- Provide obstruction-free area for the cable run between the demarcation point and the communications equipment.
- Resolve any environmental issues including, but not limited to, asbestos, structural integrity (rooftop, water tank, tower, etc.) of the site, and any other building risks. (Resolve environmental or hazardous material issues).
- Arrange for space on the tower for installation of new antennas at the proposed heights, as applicable.
- Perform structural analysis of existing tower and rooftops as required to confirm that the structure is capable of supporting proposed and future antenna loads, as applicable.
- Supply all permits as contractually required.
- Supply interior building cable trays, raceways, conduits, and wire supports.
- Supply engineering and drafting as required for modifications to existing building drawings for site construction.
- Pay for usage costs of power and generator fueling, both during the construction and installation effort, and on an ongoing basis.
- Complete all customer deliverables in accordance within the approved project schedule.

Completion Criteria:

- All sites are ready for equipment installations in compliance with Motorola's standards.

4.8 SYSTEM INSTALLATION

4.8.1 Install Fixed Network Equipment

Motorola Responsibilities:

- Motorola will be responsible for the installation of all fixed equipment contained in the equipment list and outlined in the System Description based upon the agreed to floor plans, at the sites where the physical facility improvement is complete and the site is ready for installation. All equipment will be properly secured to the floor and installed in a neat and professional manner, employing a standard of workmanship consistent with its own R-56 installation standards and in compliance with applicable National Electrical Code (NEC), EIA, Federal Aviation Administration (FAA)/Transport Canada, and FCC standards and regulations/Industry Canada.
- For installation of the fixed equipment at the various sites, Motorola will furnish all cables for power, audio, control, and radio transmission to connect the Motorola supplied equipment to the power panels or receptacles and the audio/control line connection point.
- During field installation of the equipment, any required changes to the installation will be noted and assembled per the final 'as-built' documentation of the system.
- Receive and inventory all equipment.
- Bond the supplied equipment to the site ground system in accordance with Motorola's standards.
- Provide demarcation points to the following network connections:
  - T1 interfaces
- Remove existing intercom system to make room for new equipment.
- Remove existing Motorola console equipment and Motorola cables.
- Dispose of existing equipment as part of the trade in.

Customer Responsibilities:

- Provide secure storage for the Motorola-provided equipment, at a location central to the sites. Motorola will coordinate the receipt of the equipment with Costa Mesa PD's designated contact, and inventory all equipment.
- Provide access to the sites, as necessary.

Completion Criteria:

- Fixed Network Equipment installation completed and ready for optimization.

4.8.2 Fixed Network Equipment Installation Complete

- All fixed network equipment installed and accepted by Costa Mesa PD.

4.8.3 Console Installation

Motorola Responsibilities:

- Install the consoles in the space provided by Costa Mesa PD.
- Connect Costa Mesa PD -supplied, previously-identified circuits into the console, to a demarcation point located within 25 feet of the console interface.
- Terminate the audio outputs for the logged talkgroups onto a punchblock, and then terminate these outputs into the logging recorder.
- Install a dedicated Local Area Network (LAN) at each dispatch center to connect the proposed console positions.

- Connect the appropriate equipment to Costa Mesa PD-supplied ground system in accordance with Motorola's Site Installation standards.
- Perform the console programming, based on the console templates designed during the fleetmapping process.
- Configure current method of operation for the telephone and radio headset on the proposed console positions.

Customer Responsibilities:

- Provide demarcation point located within 25 feet of the console interface.
- Provide Ethernet network connection for the remote connections.
- Provide console furniture.

Completion Criteria:

- Console installation is complete.

4.8.4 Console Installation Complete

- Console installation completed and accepted by Costa Mesa PD.

4.8.5 Control Station Flash Upgrade

Motorola Responsibilities:

- Perform the following tasks for the three APX 7500 Single Band Consolette installations:
  - Flash Upgrade three existing APX 7500 Consolettes to Project 25 Trunking, AES and DES-XL Encryption, Multi-key, OTAR, IV&D, OTAP.

Customer Responsibilities:

- Program all consolettes.

Completion Criteria:

- Completion of all the control station flash upgrades, and approval by Costa Mesa PD.

4.8.6 Control Station Complete

- Control Station flash upgrades completed and accepted by Costa Mesa PD.

4.8.7 System Installation Acceptance (Milestone)

- All equipment installations are completed and accepted by Costa Mesa PD.

4.9 SYSTEM OPTIMIZATION

4.9.1 Optimize System FNE

Motorola Responsibilities:

- Motorola and its subcontractors optimize each subsystem.
- Verify that all equipment is operating properly and that all electrical and signal levels are set accurately.

- Verify that all audio and data levels are at factory settings.
- Verify communication interfaces between devices for proper operation.
- Test features and functionality are in accordance with manufacturers' specifications and that they comply with the final configuration established during the CDR/system staging.
- Set up the consoles on the radio system to perform the dispatching operation.

Customer Responsibilities:

- Provide access/escort to the sites.
- Provide required radio ID and alias information to enable alias database setup for interface to console.
- Configure existing logging recorder to accept analog audio inputs.
- Dispatchers to use the existing conventional system icons for dispatching until cutover

Completion Criteria:

- System FNE optimization is complete.

4.9.2 Link Verification

Motorola Responsibilities:

- Perform test to verify site link performance, prior to the interconnection of the Motorola-supplied equipment to the link equipment.

Customer Responsibilities:

- Make available the required links which meet the specifications supplied by Motorola at the CDR.

4.9.3 Completion Criteria:

- Link verification successfully completed.

4.9.4 Optimization Complete

- System optimization is completed. Motorola and Costa Mesa PD agree that the equipment is ready for acceptance testing.

4.10 TRAINING

4.10.1 Perform Training

Training is not included.

4.11 AUDIT AND ACCEPTANCE TESTING

4.11.1 Perform Installation Audit

Motorola Responsibilities:

- Perform site-installation quality audits, verifying proper physical installation and operational configurations.
- Create site evaluation report to verify site meets or exceeds requirements, as defined in Motorola's Standards and Guidelines for Communication Sites.

Customer Responsibilities:

- Provide access/escort to the sites.
- Witness tests (if desired).

Completion Criteria:

- All installation audits completed successfully.

4.11.2 Perform Equipment Testing

Motorola Responsibilities:

- Test individual components of the system to verify compliance to the equipment specifications.
- Repeat any failed test(s) once Motorola (or Costa Mesa PD) has completed the corrective action(s).
- Prepare documentation of component tests to be delivered as part of the final documentation package.

Customer Responsibilities:

- Witness tests if desired.

Completion Criteria:

- Successful completion of equipment testing.

4.11.3 Perform Functional Testing

Motorola Responsibilities:

- Verify the operational functionality and features of the individual subsystems and the system supplied by Motorola, as contracted.
- If any major task as contractually described fails, repeat that particular task after Motorola determines that corrective action has been taken.
- Document all issues that arise during the acceptance tests.
- Document the results of the acceptance tests and present to Costa Mesa PD for review.
- Resolve any minor task failures before Final System Acceptance.

Customer Responsibilities:

- Witness the functional testing.

Completion Criteria:

- Successful completion of the functional testing.
- Customer approval of the functional testing.

4.11.4 System Acceptance Test Procedures (Milestone)

- Costa Mesa PD approves the completion of all the required tests.

4.12 FINALIZE

4.12.1 Cutover

Motorola Responsibilities:

- Motorola and Costa Mesa PD develop a mutually agreed upon cutover plan based upon discussions held during the CDR.
- During cutover, follow the written plan and implement the defined contingencies, as required.
- Conduct cutover meeting(s) with user group representatives to address both how to mitigate technical and communication problem impact to the users during cutover and during the general operation of the system.

Customer Responsibilities:

- Attend cutover meetings and approve the cutover plan.
- Notify the user group(s) affected by the cutover (date and time).
- Conduct a roll call of all users working during the cutover, in an organized and methodical manner.
- Ensure that all subscriber users and console users are trained.
- Provide Motorola with the subscriber information for input into the system database, for activation.

Completion Criteria:

- Successful migration from the old system to the new system.

4.12.2 Resolve Punchlist

Motorola Responsibilities:

- Work with Costa Mesa PD to resolve punchlist items, documented during the Acceptance Testing phase, in order to meet all the criteria for final system acceptance.

Customer Responsibilities:

- Assist Motorola with resolution of identified punchlist items by providing support, such as access to the sites, equipment and system, and approval of the resolved punchlist item(s).

Completion Criteria:

- All punchlist items resolved and approved by Costa Mesa PD.

4.12.3 Transition to Service/Project Transition Certificate

Motorola Responsibilities:

- Review the items necessary for transitioning the project to warranty support and service.
- Provide a Customer Support Plan detailing the warranty and post-warranty support, if applicable, associated with the Contract equipment.

Customer Responsibilities:

- Participate in the Transition Service/Project Transition Certificate (PTC) process.

Completion Criteria:

- All service information has been delivered and approved by Costa Mesa PD.

4.12.4 Finalize Documentation

Motorola Responsibilities:

- Provide an electronic as-built system manual on a Compact Disc (CD). The documentation will include the following:
  - System-Level Diagram
  - Site Floor Plans
  - Site Equipment Rack Configurations
  - ATP Test Checklists
  - Functional Acceptance Test Plan Test Sheets and Results
  - Equipment Inventory List
  - Console Programming Template
  - Maintenance Manuals (where applicable)
  - Technical Service Manuals (where applicable)

Drawings are created utilizing AutoCAD design software and will be delivered in Adobe PDF format. All other system manual documents will be converted from native format to Adobe PDF format to be included on the System Manual CD.

- Provide two console operator manuals at every dispatch center

Customer Responsibilities:

- Receive and approve all documentation provided by Motorola.

Completion Criteria:

- All required documentation is provided and approved by Costa Mesa PD.

4.12.5 Final Acceptance (Milestone)

- All deliverables completed, as contractually required.
- Final System Acceptance received from Costa Mesa PD.

4.13 PROJECT ADMINISTRATION

4.13.1 Project Status Meetings

Motorola Responsibilities:

- Once a month, Motorola Project Manager, or designee, will attend all project status meetings with Costa Mesa PD, as determined during the CDR.
- Record the meeting minutes and supply the report.
- The agenda will include the following:
  - Overall project status compared to the Project Schedule.
  - Product or service related issues that may affect the Project Schedule.

- Status of the action items and the responsibilities associated with them, in accordance with the Project Schedule.
- Any miscellaneous concerns of either Costa Mesa PD or Motorola.

Customer Responsibilities:

- Attend meetings.
- Respond to issues in a timely manner.

Completion Criteria:

- Completion of the meetings and submission of meeting minutes.

4.13.2 Progress Milestone Submittal

Motorola Responsibilities:

- Submit progress (non-payment) milestone completion certificate/documentation.

Customer Responsibilities:

- Approve milestone, which will signify confirmation of completion of the work associated with the scheduled task.

Completion Criteria:

- Costa Mesa PD approval of the Milestone Completion document(s).

4.13.3 Change Order Process

- Either Party may request changes within the general scope of this Agreement. If a requested change causes an increase or decrease in the cost, change in system configuration or adds time to the project's timeline required to perform this Agreement, the Parties will agree to an equitable adjustment of the Contract Price, Performance Schedule, or both, and will reflect the adjustment in a change order. Neither Party is obligated to perform requested changes unless both Parties execute a written change order.

SECTION 5

WARRANTY SERVICES

Motorola has over 88 years of experience supporting mission critical communications for public safety and public service agencies. Motorola's technical and service professionals use a structured approach to life cycle service delivery and provide comprehensive maintenance and support throughout the life of the system. The value of support is measured by system availability, which is optimized through the use of proactive processes, such as preventive maintenance, fault monitoring and active response management. System availability is a function of having in place a support plan delivered by highly skilled support professionals, backed by proven processes, tools, and continuous training.

5.1 THE MOTOROLA SERVICE DELIVERY TEAM

5.1.1 Account Services Manager

Your Motorola Account Services Manager provides coordination of support resources to enhance the quality of service delivery and to ensure your satisfaction. The Account Services Manager (ASM) is responsible to oversee the execution of the Warranty and Service Agreement and ensure that Motorola meets its response and restoration cycle time commitments. The ASM will supervise and manage the Motorola Authorized Servicer's functions.

5.1.2 Motorola System Technologists

The Motorola System Technologists (ST) is available to assist Motorola's Authorized Servicers when needed for network health and operations.

5.1.3 Motorola System Support Center

Located in Schaumburg, Illinois, the System Support Center (SSC) is a key component to the overall management and system maintenance. As detailed in this Customer Support Plan, the following services are provided by the System Support Center:

- Dispatch Service
- Technical Support.
- Infrastructure Repair with Advanced Replacement.
- OnSite Support Regular (four hour response time).
- Network Preventative Maintenance.
- Security Update Service (SUS).

5.1.4 Motorola Local Service Provider

Motorola's authorized service centers are staffed with trained and qualified technicians. They provide rapid response, repair, restoration, installations, removals, programming, and scheduled preventive maintenance tasks for site standards compliance and RF operability. Motorola's authorized service centers are assessed annually for technical and administrative competency.

Motorola places great emphasis on ensuring that communications systems, such as the one proposed for Costa Mesa PD, meet high standards for design, manufacture, and performance. To enhance the value of the communications system being acquired, Motorola offers customized warranty and post-warranty services as outlined in this section.

5.2 WARRANTY SERVICES

Motorola will provide warranty services per our standard warranty terms and conditions as outlined within the Communication Systems Agreement within this proposal. In addition to the Standard Commercial Warranty, the service products that comprise the Custom Warranty package mirror those delivered to Costa Mesa PD and are listed below along with a brief description.

- Dispatch Service.
- Technical Support.
- Infrastructure Repair with Advanced Replacement.
- OnSite Support Regular (four hour response time).
- Network Preventative Maintenance.
- Security Update Service (SUS).

5.2.1 Dispatch Service

Motorola's Dispatch Service ensures that trained and qualified technicians are dispatched to diagnose and restore your communications network. Following proven response and restoration processes, the local authorized service center in your area is contacted and a qualified technician is sent to your site. An automated escalation and case management process is followed to ensure that technician site arrival and system restoration comply with contracted response and restore times. Once the issue has been resolved, the System Support Center verifies resolution and with your approval, closes the case. Activity records are also available to provide a comprehensive history of site performance, issues, and resolution.

5.2.2 On-Site Infrastructure Response

Motorola On-Site Infrastructure Response provides local, trained and qualified technicians who arrive at your location to diagnose and restore your communications network. Following proven response and restore processes, Motorola Dispatch contacts the local authorized service center in your area and dispatches a qualified technician to your site. An automated escalation and case management process ensures that technician site arrival and system restoration comply with contracted response times. The field technician restores the system by performing first level troubleshooting on site. If the technician is unable to resolve the issue, the case is escalated to the System Support Center or product engineering teams as needed.

5.2.3 Network Preventative Maintenance

Network Preventative Maintenance provides an operational test and alignment on your infrastructure or fixed network equipment to ensure that it meets original manufacturer's specifications. Trained technicians:

- Physically inspect equipment.
- Remove dust and foreign substances.
- Clean filters.
- Measure, record, align and adjust equipment to meet original manufacturer's specifications.

This service is performed based on a schedule agreed upon between you and Motorola. Network Preventative Maintenance proactively detects issues that may result in system malfunctions and operational interruptions.

5.2.4 Infrastructure Repair

Infrastructure Repair service provides for the repair of all Motorola-manufactured equipment, as well as equipment from third-party infrastructure vendors. All repair management is handled through a central location eliminating your need to send equipment to multiple locations.

Comprehensive test labs replicate your network in order to reproduce and analyze the issue. State-of-the-art, industry-standard repair tools enable our technicians to troubleshoot, analyze, test, and repair your equipment. Our ISO9001 and TL9000-certified processes and methodologies ensure that your equipment is quickly returned maintaining the highest quality standards.

Service agreements allow you to budget your maintenance costs on an annual basis. Equipment covered under service agreements also receives higher service priority, which results in quicker repair times.

5.2.5 Infrastructure Repair with Advanced Replacement

Infrastructure Repair with our Advanced Replacement upgrade supplements your spares inventory with Motorola's centralized inventory of critical equipment. In advance of Motorola repairing the malfunctioning unit, a replacement unit is sent to you within 24 hours to ensure a spare unit is available. Upon receipt of the malfunctioning unit, Motorola repairs the unit and replace it in our centralized inventory.

5.2.6 Technical Support Service

Motorola Technical Support service provides an additional layer of support through centralized, telephone consultation for issues that require a high level of communications network expertise and troubleshooting capabilities. Technical Support is delivered by the System Support Center (SSC). The SSC is staffed with trained, skilled technologists specializing in the diagnosis and swift resolution of network performance issues. These technologists have access to a solutions database as well as in house test labs and development engineers. Technical Support cases are continuously monitored against stringent inbound call management and case management standards to ensure rapid and consistent issue resolution. Technical Support service translates into measurable, customer-specific metrics for assured network performance and system availability.

5.2.7 Security Update Service (SUS)

Commercial security software updates are often designed without RF systems in mind and could cause inadvertent harm to your radio network, disrupting mission-critical communications and putting your first responders and citizens at risk. The Motorola Security Update Service assures that commercial anti-virus definitions, operating system software patches, and Intrusion Detection Sensor signature files are compatible with your ASTRO 25 network and do not interfere with network functionality. Our expert network security technologists analyze, perform testing, and validate the latest security software updates in a dedicated test lab and provide continuous monitoring of updates to provide you regular electronic updates upon completion of successful testing. See Table 5-1 for details.

Table 5-1: Security Update Services

	SUS
Anti-virus Definition Update	✓
Minor Release (patch release)	✓

- Anti-virus definitions and intrusion detection sensor updates for Motorola supplied equipment from applicable original equipment manufacturer.
- Minor releases may include commercial OS and application security updates, patches and service pack updates for Microsoft Windows and Server OS, Red Hat Linux, Sun Solaris and any Motorola software service packs that may be available.

5.2.8 Service from the Start (SfS) Comprehensive (Proposed)

Service from the Start Comprehensive offers all the protection of a SfS—LITE support plan with even more coverage that includes chemical, liquid, and other physical damage on your Motorola portable and mobile subscriber radios. SfS Comprehensive gives you the support you need to help you keep your subscriber radios operating in peak condition. When repair is required, the Motorola Depot tests, repairs, and returns the radio to original factory specifications. Firmware is also upgraded to the latest version. SfS adheres to a proven process of analysis and restoration, backed by a 90-day warranty. Service agreements allow you to budget your maintenance costs on an annual basis. Equipment covered under service agreements also receives higher service priority, which results in quicker repair times. Currently, SfS Comprehensive is available on most MOTOTRBO™, XTS™, XTL™ and APX™ radio product lines.

5.3 POST WARRANTY SERVICES

As Motorola's continuing commitment to supporting your system, warranty services can be extended after the first year to provide maintenance and service support in future years. Any of the services that we identify can be customized in future years, and are available for purchase either in "System Support Services" packages or as individual service offerings. These system support services significantly benefit Costa Mesa PD because the system can be effectively supported after the warranty period, thereby maximizing the operational capabilities and useful life of the system and protecting your investment in the system.

Post-warranty support has not been included with this offering but can be provided upon request.

5.4 SUMMARY

Whether it's a routine service call, or a disaster situation, Motorola understands its responsibility and takes pride in its commitment to deliver proven response service to the public safety community. Motorola has the capability to provide the technical, administrative, consultative, and maintenance repair services needed to support, enhance, and maintain the effectiveness of your communications network. Motorola's goal is to provide Costa Mesa PD with the qualified resources, to maintain and improve system operation and availability, and to deliver world-class service support.

Warranty and Post Warranty Service support services to be delivered are outlined in Table 5-2.

Table 5-2: Warranty and Post Warranty Service Overview

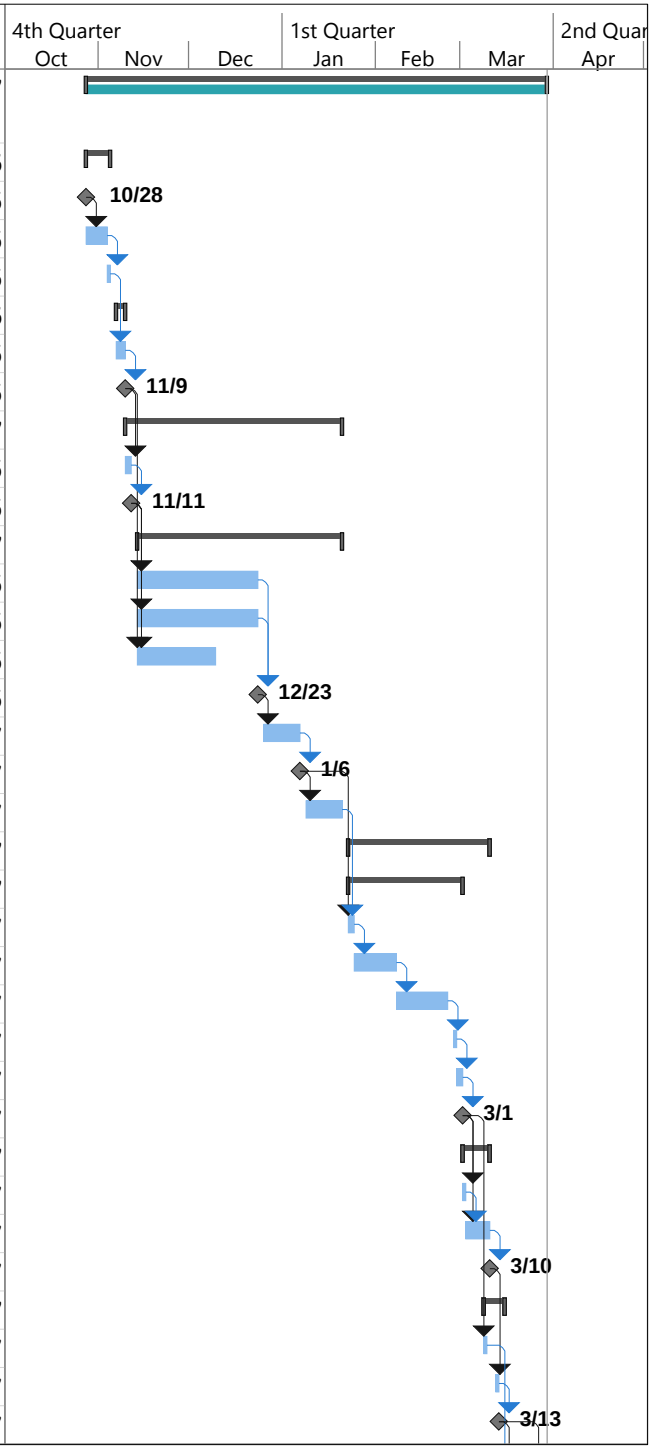
Warranty and Post Warranty Service Overview	Warranty Year	Post Warranty Year
Dispatch Service	✓	
On Site Infrastructure Response	✓	
Network Preventative Maintenance	✓	
Infrastructure Repair	✓	
Infrastructure Repair with Advanced Replacement	✓	
Technical Support Service	✓	
Security Update Service (SUS)	✓	
Service from the Start - LITE	**Not available**	
Service from the Start Comprehensive	✓	

SECTION 6

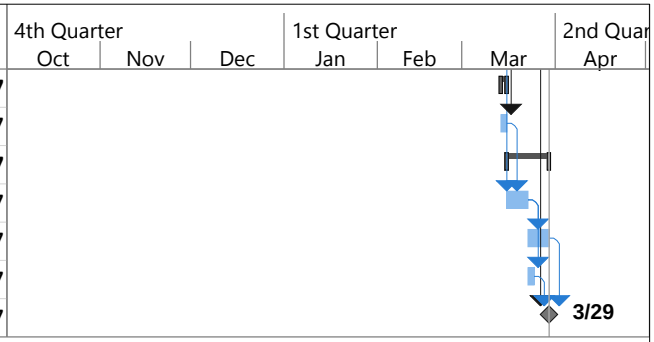
PROJECT SCHEDULE

The project schedule is included on the following pages.

ID	Task Name	Duration	Start	Finish
1	**Implementation Project - Costa Mesa PD Dispatch**	**109d**	**Fri 10/28/16**	**Wed 3/29/17**
2	**Contract**	**6d**	**Fri 10/28/16**	**Fri 11/4/16**
3	Contract Award	0d	Fri 10/28/16	Fri 10/28/16
4	Contract Administration	5d	Fri 10/28/16	Thu 11/3/16
5	Project Kick-Off	1d	Fri 11/4/16	Fri 11/4/16
6	**Contract Design Review**	**3d**	**Mon 11/7/16**	**Wed 11/9/16**
7	Review Contract Design	3d	Mon 11/7/16	Wed 11/9/16
8	Design Approval	0d	Wed 11/9/16	Wed 11/9/16
9	**Order Processing**	**52d**	**Thu 11/10/16**	**Fri 1/20/17**
10	Process Equipment list	2d	Thu 11/10/16	Fri 11/11/16
11	Order Bridged	0d	Fri 11/11/16	Fri 11/11/16
12	**Manufacturing and Staging**	**50d**	**Mon 11/14/16**	**Fri 1/20/17**
13	Manufacture Motorola FNE	30d	Mon 11/14/16	Fri 12/23/16
14	Manufacture Non-Motorola Equipment	30d	Mon 11/14/16	Fri 12/23/16
15	Develop Programming Configurations	20d	Mon 11/14/16	Fri 12/9/16
16	Ship to Staging	0d	Fri 12/23/16	Fri 12/23/16
17	Stage System	10d	Mon 12/26/16	Fri 1/6/17
18	CCSI Acceptance	0d	Fri 1/6/17	Fri 1/6/17
19	Ship Equipment to Field	10d	Mon 1/9/17	Fri 1/20/17
20	**Installation**	**35d**	**Mon 1/23/17**	**Fri 3/10/17**
21	**Console Installation**	**28d**	**Mon 1/23/17**	**Wed 3/1/17**
22	Receive and Inventory	2d	Mon 1/23/17	Tue 1/24/17
23	Field Staging at Loma Ridge	10d	Wed 1/25/17	Tue 2/7/17
24	Install Console Equipment	13d	Wed 2/8/17	Fri 2/24/17
25	Upgrade Operations	1d	Mon 2/27/17	Mon 2/27/17
26	Program Console	2d	Tue 2/28/17	Wed 3/1/17
27	Installation Acceptance	0d	Wed 3/1/17	Wed 3/1/17
28	**System Optimization**	**7d**	**Thu 3/2/17**	**Fri 3/10/17**
29	Link Verification	1d	Thu 3/2/17	Thu 3/2/17
30	Optimize System FNE	6d	Fri 3/3/17	Fri 3/10/17
31	Optimization Complete	0d	Fri 3/10/17	Fri 3/10/17
32	**Audit and Acceptance Testing**	**5d**	**Thu 3/9/17**	**Wed 3/15/17**
33	Perform Installation Audit	1d	Thu 3/9/17	Thu 3/9/17
34	Perform System Testing	1d	Mon 3/13/17	Mon 3/13/17
35	SATP Acceptance	0d	Mon 3/13/17	Mon 3/13/17



ID	Task Name	Duration	Start	Finish
36	**Cutover**	**2d**	**Tue 3/14/17**	**Wed 3/15/17**
37	Cut-Over	2d	Tue 3/14/17	Wed 3/15/17
38	**Finalize**	**10d**	**Thu 3/16/17**	**Wed 3/29/17**
39	Resolve Punchlist	5d	Thu 3/16/17	Wed 3/22/17
40	Finalize Documentation	5d	Thu 3/23/17	Wed 3/29/17
41	Transition Service/PTC	2d	Thu 3/23/17	Fri 3/24/17
42	Final Acceptance	0d	Wed 3/29/17	Wed 3/29/17



SYSTEM PRICING SUMMARY

The proposed pricing is shown below:

Equipment and Services Description	Price ($)
Equipment	$734,422
Equipment Discount- Pricing per Orange County Price Book Agreement # MA-060-10012594	(-$72,760)
Equipment Total with OC Price Book Discount	**$661,662**
System Integration and Services	$446,695
Equipment and Services Total	**$1,108,357**
Shipping	$1,038
System Subtotal	**$1,109,395**
System Discount if ordered by November 4, 2016 and shipped by December 19, 2016	(-$88,000)
SYSTEM TOTAL	**$1,021,395**
Estimated Tax (Based on 8% of equipment after discount)	$81,712
System Total with Tax and Shipping	**$1,103,107**

Except for a payment that is due on the Effective Date, Customer will make payments to Motorola within twenty (30) days after the date of each invoice. Customer will make payments when due in the form of a check, cashier's check, or wire transfer drawn on a U.S. financial institution and in accordance with the following milestones.

A. 25% of the Contract Price due upon contract execution.
B. 60% of the Contract Price due upon shipment of equipment.
C. 5% of the Contract Price due upon installation of equipment.
D. 5% of the Contract Price due upon system acceptance or start of beneficial use.
E. 5% of the Contract Price due upon Final Acceptance.

Motorola reserves the right to make partial shipments of equipment and to request payment upon shipment of such equipment. In addition, Motorola reserves the right to invoice for installations or civil work completed on a site-by-site basis, when applicable.

SECTION 8

TERMS AND CONDITIONS

The terms and conditions are included on the following pages.

Communications System Agreement

Motorola Solutions, Inc. ("Motorola") and _____ ("Customer") enter into this "Agreement," pursuant to which Customer will purchase and Motorola will sell the System, as described below. Motorola and Customer may be referred to individually as a "Party" and collectively as the "Parties." For good and valuable consideration, the Parties agree as follows:

Section 1 EXHIBITS

The exhibits listed below are incorporated into and made a part of this Agreement. In interpreting this Agreement and resolving any ambiguities, the main body of this Agreement takes precedence over the exhibits and any inconsistency between Exhibits A through E will be resolved in their listed order.

Exhibit A Motorola "Software License Agreement"
Exhibit B "Payment Schedule"
Exhibit C "Technical and Implementation Documents"
- C-1 "System Description" dated _____
- C-2 "Equipment List" dated _____
- C-3 "Statement of Work" dated _____
- C-4 "Acceptance Test Plan" or "ATP" dated _____
- C-5 "Performance Schedule" dated _____

Exhibit D Service Statement(s) of Work and "Service Terms and Conditions" (if applicable)

Section 2 DEFINITIONS

Capitalized terms used in this Agreement have the following meanings:

2.1. "Acceptance Tests" means those tests described in the Acceptance Test Plan.

2.2. "Administrative User Credentials" means an account that has total access over the operating system, files, end user accounts and passwords at either the System level or box level. Customer's personnel with access to the Administrative User Credentials may be referred to as the Administrative User.

2.3. "Beneficial Use" means when Customer first uses the System or a Subsystem for operational purposes (excluding training or testing).

2.4. "Confidential Information" means any information that is disclosed in written, graphic, verbal, or machine-recognizable form, and is marked, designated, or identified at the time of disclosure as being confidential or its equivalent; or if the information is in verbal form, it is identified as confidential at the time of disclosure and is confirmed in writing within thirty (30) days of the disclosure. Confidential Information does not include any information that: is or becomes publicly known through no wrongful act of the receiving Party; is already known to the receiving Party without restriction when it is disclosed; is or becomes, rightfully and without breach of this Agreement, in the receiving Party's possession without any obligation restricting disclosure; is independently developed by the receiving Party without breach of this Agreement; or is explicitly approved for release by written authorization of the disclosing Party.

2.5. "Contract Price" means the price for the System, excluding applicable sales or similar taxes and freight charges.

2.6. "Effective Date" means that date upon which the last Party executes this Agreement.

2.7. "Equipment" means the equipment that Customer purchases from Motorola under this Agreement. Equipment that is part of the System is described in the Equipment List.

2.8. “Force Majeure” means an event, circumstance, or act of a third party that is beyond a Party’s reasonable control (e.g., an act of God, an act of the public enemy, an act of a government entity, strikes or other labor disturbances, hurricanes, earthquakes, fires, floods, epidemics, embargoes, war, and riots).

2.9. “Infringement Claim” means a third party claim alleging that the Equipment manufactured by Motorola or the Motorola Software directly infringes a United States patent or copyright.

2.10. “Motorola Software” means Software that Motorola or its affiliated company owns.

2.11. “Non-Motorola Software” means Software that another party owns.

2.12. “Open Source Software” (also called “freeware” or “shareware”) means software with either freely obtainable source code, license for modification, or permission for free distribution.

2.13. “Proprietary Rights” means the patents, patent applications, inventions, copyrights, trade secrets, trademarks, trade names, mask works, know-how, and other intellectual property rights in and to the Equipment and Software, including those created or produced by Motorola under this Agreement and any corrections, bug fixes, enhancements, updates or modifications to or derivative works from the Software whether made by Motorola or another party.

2.14. “Software” means the Motorola Software and Non-Motorola Software, in object code format that is furnished with the System or Equipment.

2.15. “Specifications” means the functionality and performance requirements that are described in the Technical and Implementation Documents.

2.16. “Subsystem” means a major part of the System that performs specific functions or operations. Subsystems are described in the Technical and Implementation Documents.

2.17. “System” means the Equipment, Software, and incidental hardware and materials that are combined together into an integrated system; the System is described in the Technical and Implementation Documents.

2.18. “System Acceptance” means the Acceptance Tests have been successfully completed.

2.19. “Warranty Period” means one (1) year from the date of System Acceptance or Beneficial Use, whichever occurs first. For non-system purchase and sale transactions (such as the purchase and sale of products only or products plus incidental services), the “Warranty Period” means one (1) year from the date of shipment.

Section 3 SCOPE OF AGREEMENT AND TERM

3.1. SCOPE OF WORK. Motorola will provide, install and test the System, and perform its other contractual responsibilities, all in accordance with this Agreement. Customer will perform its contractual responsibilities in accordance with this Agreement.

3.2. CHANGE ORDERS. Either Party may request changes within the general scope of this Agreement. If a requested change causes an increase or decrease in the cost or time required to perform this Agreement, the Parties will agree to an equitable adjustment of the Contract Price, Performance Schedule, or both, and will reflect the adjustment in a change order. Neither Party is obligated to perform requested changes unless both Parties execute a written change order.

3.3. TERM. Unless terminated in accordance with other provisions of this Agreement or extended by mutual agreement of the Parties, the term of this Agreement begins on the Effective Date and continues until the date of expiration of (i) the Warranty Period or (ii) the rights under Section 3.4 below, whichever occurs last.

3.4. ADDITIONAL EQUIPMENT OR SOFTWARE. For three (3) years after the Effective Date, Customer may order additional Equipment or Software if it is then available and related services. Each order must refer to this Agreement and must specify the pricing and delivery terms. Notwithstanding any additional or contrary terms in the order, the applicable provisions of this Agreement (except for pricing, delivery, passage of title and risk of loss to Equipment, warranty commencement, and payment terms) will govern the purchase and sale of the additional Equipment or Software. Title and risk of loss to additional Equipment will pass at shipment, warranty will commence upon delivery, and payment is due within thirty (30) days after the invoice date. Motorola will send Customer an invoice as the additional Equipment is shipped or Software is licensed. Alternatively, Customer may register with and place orders through Motorola Online ("MOL"), and this Agreement will be the "Underlying Agreement" for those MOL transactions rather than the MOL On-Line Terms and Conditions of Sale. MOL information may be found at https://businessonline.motorolasolutions.com and the MOL telephone number is (800) 814-0601.

3.5. MAINTENANCE SERVICE. During the Warranty Period, in addition to warranty services, Motorola will provide maintenance services for the Equipment and support for the Motorola Software pursuant to the Statement of Work set forth in Exhibit D. Those services and support are included in the Contract Price. If Customer wishes to purchase additional maintenance and support services for the Equipment during the Warranty Period, or any maintenance and support services for the Equipment either during the Warranty Period or after the Warranty Period, the description of and pricing for the services will be set forth in a separate document. If Customer wishes to purchase extended support for the Motorola Software after the Warranty Period, it may do so by ordering software maintenance or upgrade services. Unless otherwise agreed by the Parties in writing, the terms and conditions applicable to the maintenance, support or software services will be Motorola's standard Service Terms and Conditions, together with the appropriate statements of work.

3.6. MOTOROLA SOFTWARE. Any Motorola Software, including subsequent releases, is licensed to Customer solely in accordance with the Software License Agreement. Customer hereby accepts and agrees to abide by all of the terms and restrictions of the Software License Agreement.

3.7. NON-MOTOROLA SOFTWARE. Any Non-Motorola Software is licensed to Customer in accordance with the standard license, terms, and restrictions of the copyright owner on the Effective Date unless the copyright owner has granted to Motorola the right to sublicense the Non-Motorola Software pursuant to the Software License Agreement, in which case it applies and the copyright owner will have all of Licensor's rights and protections under the Software License Agreement. Motorola makes no representations or warranties of any kind regarding Non-Motorola Software. Non-Motorola Software may include Open Source Software. All Open Source Software is licensed to Customer in accordance with, and Customer agrees to abide by, the provisions of the standard license of the copyright owner and not the Software License Agreement.

3.8. SUBSTITUTIONS. At no additional cost to Customer, Motorola may substitute any Equipment, Software, or services to be provided by Motorola, if the substitute meets or exceeds the Specifications and is of equivalent or better quality to the Customer. Any substitution will be reflected in a change order.

Section 4 PERFORMANCE SCHEDULE

The Parties will perform their respective responsibilities in accordance with the Performance Schedule. By executing this Agreement, Customer authorizes Motorola to proceed with contract performance.

Section 5 CONTRACT PRICE, PAYMENT AND INVOICING

5.1. CONTRACT PRICE. The Contract Price in U.S. dollars is $_____. Motorola has priced the services, Software, and Equipment as an integrated system. A reduction in Software or Equipment quantities, or services, may affect the overall Contract Price, including discounts if applicable.

5.2. INVOICING AND PAYMENT. Motorola will submit invoices to Customer according to the Payment Schedule. Except for a payment that is due on the Effective Date, Customer will make

payments to Motorola within thirty (30) days after the date of each invoice. Customer will make payments when due in the form of a wire transfer, check, or cashier's check from a U.S. financial institution. Overdue invoices will bear simple interest at the maximum allowable rate. For reference, the Federal Tax Identification Number for Motorola Solutions, Inc. is 36-1115800.

5.3. FREIGHT, TITLE, AND RISK OF LOSS. Motorola will pre-pay and add all freight charges to the invoices. Title to the Equipment will pass to Customer upon shipment. Title to Software will not pass to Customer at any time. Risk of loss will pass to Customer upon delivery of the Equipment to the Customer. Motorola will pack and ship all Equipment in accordance with good commercial practices.

5.4. INVOICING AND SHIPPING ADDRESSES. Invoices will be sent to the Customer at the following address: _____
_____

The address which is the ultimate destination where the Equipment will be delivered to Customer is:
_____
_____

The Equipment will be shipped to the Customer at the following address (insert if this information is known): _____
_____

Customer may change this information by giving written notice to Motorola.

Section 6 SITES AND SITE CONDITIONS

6.1. ACCESS TO SITES. Customer will provide a designated project manager; all necessary construction and building permits, zoning variances, licenses, and any other approvals that are necessary to develop or use the sites and mounting locations; and access to the work sites or vehicles identified in the Technical and Implementation Documents as reasonably requested by Motorola so that it may perform its duties in accordance with the Performance Schedule and Statement of Work. Motorola may assist Customer in the local building permit process.

6.2. SITE CONDITIONS. Customer will ensure that all work sites it provides will be safe, secure, and in compliance with all applicable industry and OSHA standards. To the extent applicable and unless the Statement of Work states to the contrary, Customer will ensure that these work sites have adequate: physical space; air conditioning and other environmental conditions; adequate and appropriate electrical power outlets, distribution, equipment and connections; and adequate telephone or other communication lines (including modem access and adequate interfacing networking capabilities), all for the installation, use and maintenance of the System. Before installing the Equipment or Software at a work site, Motorola may inspect the work site and advise Customer of any apparent deficiencies or non-conformities with the requirements of this Section. This Agreement is predicated upon normal soil conditions as defined by the version of E.I.A. standard RS-222 in effect on the Effective Date.

6.3. SITE ISSUES. If a Party determines that the sites identified in the Technical and Implementation Documents are no longer available or desired, or if subsurface, structural, adverse environmental or latent conditions at any site differ from those indicated in the Technical and Implementation Documents, the Parties will promptly investigate the conditions and will select replacement sites or adjust the installation plans and Specifications as necessary. If change in sites or adjustment to the installation plans and Specifications causes a change in the cost or time to perform, the Parties will equitably amend the Contract Price, Performance Schedule, or both, by a change order.

Section 7 TRAINING

Any training to be provided by Motorola to Customer will be described in the Statement of Work. Customer will notify Motorola immediately if a date change for a scheduled training program is required.

If Motorola incurs additional costs because Customer reschedules a training program less than thirty (30) days before its scheduled start date, Motorola may recover these additional costs.

Section 8 SYSTEM ACCEPTANCE

8.1. COMMENCEMENT OF ACCEPTANCE TESTING. Motorola will provide to Customer at least ten (10) days notice before the Acceptance Tests commence. System testing will occur only in accordance with the Acceptance Test Plan.

8.2. SYSTEM ACCEPTANCE. System Acceptance will occur upon successful completion of the Acceptance Tests. Upon System Acceptance, the Parties will memorialize this event by promptly executing a System Acceptance Certificate. If the Acceptance Test Plan includes separate tests for individual Subsystems or phases of the System, acceptance of the individual Subsystem or phase will occur upon the successful completion of the Acceptance Tests for the Subsystem or phase, and the Parties will promptly execute an acceptance certificate for the Subsystem or phase. If Customer believes the System has failed the completed Acceptance Tests, Customer will provide to Motorola a written notice that includes the specific details of the failure. If Customer does not provide to Motorola a failure notice within thirty (30) days after completion of the Acceptance Tests, System Acceptance will be deemed to have occurred as of the completion of the Acceptance Tests. Minor omissions or variances in the System that do not materially impair the operation of the System will not postpone System Acceptance or Subsystem Acceptance, but will be corrected according to a mutually agreed punch list schedule.

8.3. BENEFICIAL USE. Motorola's ability to perform its implementation and testing responsibilities may be impeded if Customer begins using the System before System Acceptance. Therefore, Customer will not commence Beneficial Use before System Acceptance without Motorola's prior written authorization, which will not be unreasonably withheld. Motorola is not responsible for System performance deficiencies that occur during unauthorized Beneficial Use. Upon commencement of Beneficial Use, Customer assumes responsibility for the use and operation of the System.

8.4 FINAL PROJECT ACCEPTANCE. Final Project Acceptance will occur after System Acceptance when all deliverables and other work have been completed. When Final Project Acceptance occurs, the Parties will promptly memorialize this final event by means of a Final Project Acceptance Certificate.

Section 9 REPRESENTATIONS AND WARRANTIES

9.1. SYSTEM FUNCTIONALITY. Motorola represents that the System will perform in accordance with the Specifications in all material respects. Upon System Acceptance or Beneficial Use, whichever occurs first, this System functionality representation is fulfilled. Motorola is not responsible for System performance deficiencies that are caused by ancillary equipment not furnished by Motorola which is attached to or used in connection with the System or for reasons or parties beyond Motorola's control, such as natural causes; the construction of a building that adversely affects the microwave path reliability or radio frequency (RF) coverage; the addition of frequencies at System sites that cause RF interference or intermodulation; or Customer changes to load usage or configuration outside the Specifications.

9.2. EQUIPMENT WARRANTY. During the Warranty Period, Motorola warrants that the Equipment under normal use and service will be free from material defects in materials and workmanship. If System Acceptance is delayed beyond six (6) months after shipment of the Equipment by events or causes within Customer's control, this warranty expires eighteen (18) months after the shipment of the Equipment.

9.3. MOTOROLA SOFTWARE WARRANTY. Unless otherwise stated in the Software License Agreement, during the Warranty Period, Motorola warrants the Motorola Software in accordance with the terms of the Software License Agreement and the provisions of this Section 9 that are applicable to the Motorola Software. If System Acceptance is delayed beyond six (6) months after shipment of the Motorola Software by events or causes within Customer's control, this warranty expires eighteen (18) months after the shipment of the Motorola Software.

9.4. EXCLUSIONS TO EQUIPMENT AND MOTOROLA SOFTWARE WARRANTIES. These warranties do not apply to: (i) defects or damage resulting from: use of the Equipment or Motorola Software in other than its normal, customary, and authorized manner; accident, liquids, neglect, or acts of God; testing, maintenance, disassembly, repair, installation, alteration, modification, or adjustment not provided or authorized in writing by Motorola; Customer's failure to comply with all applicable industry and OSHA standards; (ii) breakage of or damage to antennas unless caused directly by defects in material or workmanship; (iii) Equipment that has had the serial number removed or made illegible; (iv) batteries (because they carry their own separate limited warranty) or consumables; (v) freight costs to ship Equipment to the repair depot; (vi) scratches or other cosmetic damage to Equipment surfaces that does not affect the operation of the Equipment; and (vii) normal or customary wear and tear.

9.5. WARRANTY CLAIMS. To assert a warranty claim, Customer must notify Motorola in writing of the claim before the expiration of the Warranty Period. Upon receipt of this notice, Motorola will investigate the warranty claim. If this investigation confirms a valid warranty claim, Motorola will (at its option and at no additional charge to Customer) repair the defective Equipment or Motorola Software, replace it with the same or equivalent product, or refund the price of the defective Equipment or Motorola Software. That action will be the full extent of Motorola's liability for the warranty claim. Repaired or replaced product is warranted for the balance of the original applicable warranty period. All replaced products or parts will become the property of Motorola.

9.6. ORIGINAL END USER IS COVERED. These express limited warranties are extended by Motorola to the original user purchasing the System for commercial, industrial, or governmental use only, and are not assignable or transferable.

9.7. DISCLAIMER OF OTHER WARRANTIES. THESE WARRANTIES ARE THE COMPLETE WARRANTIES FOR THE EQUIPMENT AND MOTOROLA SOFTWARE PROVIDED UNDER THIS AGREEMENT AND ARE GIVEN IN LIEU OF ALL OTHER WARRANTIES. MOTOROLA DISCLAIMS ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Section 10 DELAYS

10.1. FORCE MAJEURE. Neither Party will be liable for its non-performance or delayed performance if caused by a Force Majeure. A Party that becomes aware of a Force Majeure that will significantly delay performance will notify the other Party promptly (but in no event later than fifteen days) after it discovers the Force Majeure. If a Force Majeure occurs, the Parties will execute a change order to extend the Performance Schedule for a time period that is reasonable under the circumstances.

10.2. PERFORMANCE SCHEDULE DELAYS CAUSED BY CUSTOMER. If Customer (including its other contractors) delays the Performance Schedule, it will make the promised payments according to the Payment Schedule as if no delay occurred; and the Parties will execute a change order to extend the Performance Schedule and, if requested, compensate Motorola for all reasonable charges incurred because of the delay. Delay charges may include costs incurred by Motorola or its subcontractors for additional freight, warehousing and handling of Equipment; extension of the warranties; travel; suspending and re-mobilizing the work; additional engineering, project management, and standby time calculated at then current rates; and preparing and implementing an alternative implementation plan.

Section 11 DISPUTES

The Parties will use the following procedure to address any dispute arising under this Agreement (a "Dispute").

11.1. GOVERNING LAW. This Agreement will be governed by and construed in accordance with the laws of the State in which the System is installed.

11.2. NEGOTIATION. Either Party may initiate the Dispute resolution procedures by sending a notice of Dispute ("Notice of Dispute"). The Parties will attempt to resolve the Dispute promptly through good

faith negotiations, including timely escalation of the Dispute to executives who have authority to settle the Dispute and who are at a higher level of management than the persons with direct responsibility for the matter and direct communication between the executives. If the Dispute has not been resolved within ten (10) days from the Notice of Dispute, the Parties will proceed to mediation.

11.3 MEDIATION. The Parties will choose an independent mediator within thirty (30) days of a notice to mediate from either Party ("Notice of Mediation"). A Party may not unreasonably withhold consent to the mediator selection. If the Parties are unable to agree upon a mediator, either Party may request that American Arbitration Association nominate a mediator. Each Party will bear its own costs of mediation, but the Parties will share the cost of the mediator equally. Each Party will participate in the mediation in good faith and will be represented at the mediation by an executive with authority to settle the Dispute.

11.4. LITIGATION, VENUE AND JURISDICTION. If a Dispute remains unresolved for sixty (60) days after the Notice of Mediation, either Party may submit the Dispute to a court of competent jurisdiction in the state in which the System is installed. Each Party agrees to submit to the exclusive jurisdiction of the courts in such state over any claim or matter arising under or in connection with this Agreement.

11.5. CONFIDENTIALITY. All communications pursuant to subsections 11.2 and 11.3 will be treated as compromise and settlement negotiations for purposes of applicable rules of evidence and any additional confidentiality protections provided by applicable law. The use of these Dispute resolution procedures will not be construed under the doctrines of laches, waiver or estoppel to affect adversely the rights of either Party.

Section 12 DEFAULT AND TERMINATION

12.1 DEFAULT BY A PARTY. If either Party fails to perform a material obligation under this Agreement, the other Party may consider the non-performing Party to be in default (unless a Force Majeure causes the failure) and may assert a default claim by giving the non-performing Party a written and detailed notice of default. Except for a default by Customer for failing to pay any amount when due under this Agreement which must be cured immediately, the defaulting Party will have thirty (30) days after receipt of the notice of default to either cure the default or, if the default is not curable within thirty (30) days, provide a written cure plan. The defaulting Party will begin implementing the cure plan immediately after receipt of notice by the other Party that it approves the plan. If Customer is the defaulting Party, Motorola may stop work on the project until it approves the Customer's cure plan.

12.2. FAILURE TO CURE. If a defaulting Party fails to cure the default as provided above in Section 12.1, unless otherwise agreed in writing, the non-defaulting Party may terminate any unfulfilled portion of this Agreement. In the event of termination for default, the defaulting Party will promptly return to the non-defaulting Party any of its Confidential Information. If Customer is the non-defaulting Party, terminates this Agreement as permitted by this Section, and completes the System through a third Party, Customer may as its exclusive remedy recover from Motorola reasonable costs incurred to complete the System to a capability not exceeding that specified in this Agreement less the unpaid portion of the Contract Price. Customer will mitigate damages and provide Motorola with detailed invoices substantiating the charges.

Section 13 INDEMNIFICATION

13.1. GENERAL INDEMNITY BY MOTOROLA. Motorola will indemnify and hold Customer harmless from any and all liability, expense, judgment, suit, cause of action, or demand for personal injury, death, or direct damage to tangible property which may accrue against Customer to the extent it is caused by the negligence of Motorola, its subcontractors, or their employees or agents, while performing their duties under this Agreement, if Customer gives Motorola prompt, written notice of any the claim or suit. Customer will cooperate with Motorola in its defense or settlement of the claim or suit. This section sets forth the full extent of Motorola's general indemnification of Customer from liabilities that are in any way related to Motorola's performance under this Agreement.

13.2. GENERAL INDEMNITY BY CUSTOMER. Customer will indemnify and hold Motorola harmless from any and all liability, expense, judgment, suit, cause of action, or demand for personal injury, death,

or direct damage to tangible property which may accrue against Motorola to the extent it is caused by the negligence of Customer, its other contractors, or their employees or agents, while performing their duties under this Agreement, if Motorola gives Customer prompt, written notice of any the claim or suit. Motorola will cooperate with Customer in its defense or settlement of the claim or suit. This section sets forth the full extent of Customer's general indemnification of Motorola from liabilities that are in any way related to Customer's performance under this Agreement.

13.3. PATENT AND COPYRIGHT INFRINGEMENT.

13.3.1. Motorola will defend at its expense any suit brought against Customer to the extent it is based on a third-party claim alleging that the Equipment manufactured by Motorola or the Motorola Software ("Motorola Product") directly infringes a United States patent or copyright ("Infringement Claim"). Motorola's duties to defend and indemnify are conditioned upon: Customer promptly notifying Motorola in writing of the Infringement Claim; Motorola having sole control of the defense of the suit and all negotiations for its settlement or compromise; and Customer providing to Motorola cooperation and, if requested by Motorola, reasonable assistance in the defense of the Infringement Claim. In addition to Motorola's obligation to defend, and subject to the same conditions, Motorola will pay all damages finally awarded against Customer by a court of competent jurisdiction for an Infringement Claim or agreed to, in writing, by Motorola in settlement of an Infringement Claim.

13.3.2. If an Infringement Claim occurs, or in Motorola's opinion is likely to occur, Motorola may at its option and expense: (a) procure for Customer the right to continue using the Motorola Product; (b) replace or modify the Motorola Product so that it becomes non-infringing while providing functionally equivalent performance; or (c) accept the return of the Motorola Product and grant Customer a credit for the Motorola Product, less a reasonable charge for depreciation. The depreciation amount will be calculated based upon generally accepted accounting standards.

13.3.3. Motorola will have no duty to defend or indemnify for any Infringement Claim that is based upon: (a) the combination of the Motorola Product with any software, apparatus or device not furnished by Motorola; (b) the use of ancillary equipment or software not furnished by Motorola and that is attached to or used in connection with the Motorola Product; (c) Motorola Product designed or manufactured in accordance with Customer's designs, specifications, guidelines or instructions, if the alleged infringement would not have occurred without such designs, specifications, guidelines or instructions; (d) a modification of the Motorola Product by a party other than Motorola; (e) use of the Motorola Product in a manner for which the Motorola Product was not designed or that is inconsistent with the terms of this Agreement; or (f) the failure by Customer to install an enhancement release to the Motorola Software that is intended to correct the claimed infringement. In no event will Motorola's liability resulting from its indemnity obligation to Customer extend in any way to royalties payable on a per use basis or the Customer's revenues, or any royalty basis other than a reasonable royalty based upon revenue derived by Motorola from Customer from sales or license of the infringing Motorola Product.

13.3.4. This Section 13 provides Customer's sole and exclusive remedies and Motorola's entire liability in the event of an Infringement Claim. Customer has no right to recover and Motorola has no obligation to provide any other or further remedies, whether under another provision of this Agreement or any other legal theory or principle, in connection with an Infringement Claim. In addition, the rights and remedies provided in this Section 13 are subject to and limited by the restrictions set forth in Section 14.

Section 14 LIMITATION OF LIABILITY

Except for personal injury or death, Motorola's total liability, whether for breach of contract, warranty, negligence, strict liability in tort, indemnification, or otherwise, will be limited to the direct damages recoverable under law, but not to exceed the price of the Equipment, Software, or services with respect to which losses or damages are claimed. ALTHOUGH THE PARTIES ACKNOWLEDGE THE POSSIBILITY OF SUCH LOSSES OR DAMAGES, THEY AGREE THAT MOTOROLA WILL NOT BE LIABLE FOR ANY COMMERCIAL LOSS; INCONVENIENCE; LOSS OF USE, TIME, DATA, GOOD WILL, REVENUES, PROFITS OR SAVINGS; OR OTHER SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES IN ANY WAY RELATED TO OR ARISING FROM THIS AGREEMENT, THE SALE OR USE

OF THE EQUIPMENT OR SOFTWARE, OR THE PERFORMANCE OF SERVICES BY MOTOROLA PURSUANT TO THIS AGREEMENT. This limitation of liability provision survives the expiration or termination of the Agreement and applies notwithstanding any contrary provision. No action for contract breach or otherwise relating to the transactions contemplated by this Agreement may be brought more than one (1) year after the accrual of the cause of action, except for money due upon an open account.

Section 15 CONFIDENTIALITY AND PROPRIETARY RIGHTS

15.1. CONFIDENTIAL INFORMATION. During the term of this Agreement, the Parties may provide each other with Confidential Information. Subject to the requirements of any applicable public records law, each Party will: maintain the confidentiality of the other Party's Confidential Information and not disclose it to any third party, except as authorized by the disclosing Party in writing or as required by a court of competent jurisdiction; restrict disclosure of the Confidential Information to its employees who have a "need to know" and not copy or reproduce the Confidential Information; take necessary and appropriate precautions to guard the confidentiality of the Confidential Information, including informing its employees who handle the Confidential Information that it is confidential and is not to be disclosed to others, but these precautions will be at least the same degree of care that the receiving Party applies to its own confidential information and will not be less than reasonable care; and use the Confidential Information only in furtherance of the performance of this Agreement. Confidential Information is and will at all times remain the property of the disclosing Party, and no grant of any proprietary rights in the Confidential Information is given or intended, including any express or implied license, other than the limited right of the recipient to use the Confidential Information in the manner and to the extent permitted by this Agreement.

15.2. PRESERVATION OF MOTOROLA'S PROPRIETARY RIGHTS. Motorola, the third party manufacturer of any Equipment, and the copyright owner of any Non-Motorola Software own and retain all of their respective Proprietary Rights in the Equipment and Software, and nothing in this Agreement is intended to restrict their Proprietary Rights. All intellectual property developed, originated, or prepared by Motorola in connection with providing to Customer the Equipment, Software, or related services remain vested exclusively in Motorola, and this Agreement does not grant to Customer any shared development rights of intellectual property. Except as explicitly provided in the Software License Agreement, Motorola does not grant to Customer, either directly or by implication, estoppel, or otherwise, any right, title or interest in Motorola's Proprietary Rights. Customer will not modify, disassemble, peel components, decompile, otherwise reverse engineer or attempt to reverse engineer, derive source code or create derivative works from, adapt, translate, merge with other software, reproduce, distribute, sublicense, sell or export the Software, or permit or encourage any third party to do so. The preceding sentence does not apply to Open Source Software which is governed by the standard license of the copyright owner.

Section 16 GENERAL

16.1. TAXES. The Contract Price does not include any excise, sales, lease, use, property, or other taxes, assessments or duties, all of which will be paid by Customer except as exempt by law. If Motorola is required to pay any of these taxes, Motorola will send an invoice to Customer and Customer will pay to Motorola the amount of the taxes (including any interest and penalties) within twenty (20) days after the date of the invoice. Customer will be solely responsible for reporting the Equipment for personal property tax purposes, and Motorola will be solely responsible for reporting taxes on its income or net worth.

16.2. ASSIGNABILITY AND SUBCONTRACTING. Except as provided herein, neither Party may assign this Agreement or any of its rights or obligations hereunder without the prior written consent of the other Party, which consent will not be unreasonably withheld. Any attempted assignment, delegation, or transfer without the necessary consent will be void. Notwithstanding the foregoing, Motorola may assign this Agreement to any of its affiliates or its right to receive payment without the prior consent of Customer. In addition, in the event Motorola separates one or more of its businesses (each a "Separated Business"), whether by way of a sale, establishment of a joint venture, spin-off or otherwise (each a "Separation Event"), Motorola may, without the prior written consent of the other Party and at no additional cost to Motorola, assign this Agreement such that it will continue to benefit the Separated Business and its affiliates (and Motorola and its affiliates, to the extent applicable) following the Separation Event.

Motorola may subcontract any of the work, but subcontracting will not relieve Motorola of its duties under this Agreement.

16.3 WAIVER. Failure or delay by either Party to exercise a right or power under this Agreement will not be a waiver of the right or power. For a waiver of a right or power to be effective, it must be in a writing signed by the waiving Party. An effective waiver of a right or power will not be construed as either a future or continuing waiver of that same right or power, or the waiver of any other right or power.

16.4. SEVERABILITY. If a court having jurisdiction finds any part of this Agreement to be invalid or unenforceable, that part will be severed and the remainder will continue in full force and effect.

16.5. INDEPENDENT CONTRACTORS. Each Party will perform its duties under this Agreement as an independent contractor. The Parties and their personnel will not be considered to be employees or agents of the other Party. Nothing in this Agreement will be interpreted as granting either Party the right or authority to make commitments of any kind for the other. This Agreement will not constitute, create, or be interpreted as a joint venture, partnership or formal business organization of any kind.

16.6. HEADINGS AND SECTION REFERENCES. The section headings in this Agreement are inserted only for convenience and are not to be construed as part of this Agreement or as a limitation of the scope of the particular section to which the heading refers. This Agreement will be fairly interpreted in accordance with its terms and conditions and not for or against either Party.

16.7. ENTIRE AGREEMENT. This Agreement, including all Exhibits, constitutes the entire agreement of the Parties regarding the subject matter of the Agreement and supersedes all previous agreements, proposals, and understandings, whether written or oral, relating to this subject matter. This Agreement may be executed in multiple counterparts, each of which shall be an original and all of which shall constitute one and the same instrument. A facsimile copy or computer image, such as a PDF or tiff image, or a signature shall be treated as and shall have the same effect as an original signature. In addition, a true and correct facsimile copy or computer image of this Agreement shall be treated as and shall have the same effect as an original signed copy of this document. This Agreement may be amended or modified only by a written instrument signed by authorized representatives of both Parties. The preprinted terms and conditions found on any Customer purchase order, acknowledgment or other form will not be considered an amendment or modification of this Agreement, even if a representative of each Party signs that document.

16.8. NOTICES. Notices required under this Agreement to be given by one Party to the other must be in writing and either personally delivered or sent to the address shown below by certified mail, return receipt requested and postage prepaid (or by a recognized courier service, such as Federal Express or UPS), or by facsimile with correct answerback received, and will be effective upon receipt:

Motorola Solutions, Inc.	Customer
Attn: _____	Attn: _____
_____	_____
fax: _____	fax: _____

16.9. COMPLIANCE WITH APPLICABLE LAWS. Each Party will comply with all applicable federal, state, and local laws, regulations and rules concerning the performance of this Agreement or use of the System. Customer will obtain and comply with all Federal Communications Commission ("FCC") licenses and authorizations required for the installation, operation and use of the System before the scheduled installation of the Equipment. Although Motorola might assist Customer in the preparation of its FCC license applications, neither Motorola nor any of its employees is an agent or representative of Customer in FCC or other matters.

16.10. AUTHORITY TO EXECUTE AGREEMENT. Each Party represents that it has obtained all necessary approvals, consents and authorizations to enter into this Agreement and to perform its duties under this Agreement; the person executing this Agreement on its behalf has the authority to do so; upon execution and delivery of this Agreement by the Parties, it is a valid and binding contract, enforceable in

accordance with its terms; and the execution, delivery, and performance of this Agreement does not violate any bylaw, charter, regulation, law or any other governing authority of the Party.

16.11. ADMINISTRATOR LEVEL ACCOUNT ACCESS. Motorola will provide Customer with Administrative User Credentials. Customer agrees to only grant Administrative User Credentials to those personnel with the training or experience to correctly use the access. Customer is responsible for protecting Administrative User Credentials from disclosure and maintaining Credential validity by, among other things, updating passwords when required. Customer may be asked to provide valid Administrative User Credentials when in contact with Motorola System support. Customer understands that changes made as the Administrative User can significantly impact the performance of the System. Customer agrees that it will be solely responsible for any negative impact on the System or its users by any such changes. System issues occurring as a result of changes made by an Administrative User may impact Motorola's ability to perform its obligations under the Agreement or its Maintenance and Support Agreement. In such cases, a revision to the appropriate provisions of the Agreement, including the Statement of Work, may be necessary. To the extent Motorola provides assistance to correct any issues caused by or arising out of the use of or failure to maintain Administrative User Credentials, Motorola will be entitled to bill Customer and Customer will pay Motorola on a time and materials basis for resolving the issue.

16.12. SURVIVAL OF TERMS. The following provisions will survive the expiration or termination of this Agreement for any reason: Section 3.6 (Motorola Software); Section 3.7 (Non-Motorola Software); if any payment obligations exist, Sections 5.1 and 5.2 (Contract Price and Invoicing and Payment); Subsection 9.7 (Disclaimer of Implied Warranties); Section 11 (Disputes); Section 14 (Limitation of Liability); and Section 15 (Confidentiality and Proprietary Rights); and all of the General provisions in Section 16.

The Parties hereby enter into this Agreement as of the Effective Date.

Motorola Solutions, Inc.	**Customer**
By: _____	By: _____
Name: _____	Name: _____
Title: _____	Title: _____
Date: _____	Date: _____

Exhibit A

SOFTWARE LICENSE AGREEMENT

This Exhibit A Software License Agreement ("Agreement") is between Motorola Solutions, Inc., ("Motorola"), and _____ ("Licensee").

For good and valuable consideration, the parties agree as follows:

Section 1 DEFINITIONS

1.1 "Designated Products" means products provided by Motorola to Licensee with which or for which the Software and Documentation is licensed for use.

1.2 "Documentation" means product and software documentation that specifies technical and performance features and capabilities, and the user, operation and training manuals for the Software (including all physical or electronic media upon which such information is provided).

1.3 "Open Source Software" means software with either freely obtainable source code, license for modification, or permission for free distribution.

1.4 "Open Source Software License" means the terms or conditions under which the Open Source Software is licensed.

1.5 "Primary Agreement" means the agreement to which this exhibit is attached.

1.6 "Security Vulnerability" means a flaw or weakness in system security procedures, design, implementation, or internal controls that could be exercised (accidentally triggered or intentionally exploited) and result in a security breach such that data is compromised, manipulated or stolen or the system damaged.

1.7 "Software" (i) means proprietary software in object code format, and adaptations, translations, de-compilations, disassemblies, emulations, or derivative works of such software; (ii) means any modifications, enhancements, new versions and new releases of the software provided by Motorola; and (iii) may contain one or more items of software owned by a third party supplier. The term "Software" does not include any third party software provided under separate license or third party software not licensable under the terms of this Agreement.

Section 2 SCOPE

Motorola and Licensee enter into this Agreement in connection with Motorola's delivery of certain proprietary Software or products containing embedded or pre-loaded proprietary Software, or both. This Agreement contains the terms and conditions of the license Motorola is providing to Licensee, and Licensee's use of the Software and Documentation.

Section 3 GRANT OF LICENSE

3.1. Subject to the provisions of this Agreement and the payment of applicable license fees, Motorola grants to Licensee a personal, limited, non-transferable (except as permitted in Section 7) and non-exclusive license under Motorola's copyrights and Confidential Information (as defined in the Primary Agreement) embodied in the Software to use the Software, in object code form, and the Documentation solely in connection with Licensee's use of the Designated Products. This Agreement does not grant any rights to source code.

3.2. If the Software licensed under this Agreement contains or is derived from Open Source Software, the terms and conditions governing the use of such Open Source Software are in the Open Source Software Licenses of the copyright owner and not this Agreement. If there is a conflict between the terms

and conditions of this Agreement and the terms and conditions of the Open Source Software Licenses governing Licensee's use of the Open Source Software, the terms and conditions of the license grant of the applicable Open Source Software Licenses will take precedence over the license grants in this Agreement. If requested by Licensee, Motorola will use commercially reasonable efforts to: (i) determine whether any Open Source Software is provided under this Agreement; (ii) identify the Open Source Software and provide Licensee a copy of the applicable Open Source Software License (or specify where that license may be found); and, (iii) provide Licensee a copy of the Open Source Software source code, without charge, if it is publicly available (although distribution fees may be applicable).

Section 4 LIMITATIONS ON USE

4.1. Licensee may use the Software only for Licensee's internal business purposes and only in accordance with the Documentation. Any other use of the Software is strictly prohibited. Without limiting the general nature of these restrictions, Licensee will not make the Software available for use by third parties on a "time sharing," "application service provider," or "service bureau" basis or for any other similar commercial rental or sharing arrangement.

4.2. Licensee will not, and will not allow or enable any third party to: (i) reverse engineer, disassemble, peel components, decompile, reprogram or otherwise reduce the Software or any portion to a human perceptible form or otherwise attempt to recreate the source code; (ii) modify, adapt, create derivative works of, or merge the Software; (iii) copy, reproduce, distribute, lend, or lease the Software or Documentation to any third party, grant any sublicense or other rights in the Software or Documentation to any third party, or take any action that would cause the Software or Documentation to be placed in the public domain; (iv) remove, or in any way alter or obscure, any copyright notice or other notice of Motorola's proprietary rights; (v) provide, copy, transmit, disclose, divulge or make the Software or Documentation available to, or permit the use of the Software by any third party or on any machine except as expressly authorized by this Agreement; or (vi) use, or permit the use of, the Software in a manner that would result in the production of a copy of the Software solely by activating a machine containing the Software. Licensee may make one copy of Software to be used solely for archival, back-up, or disaster recovery purposes; *provided* that Licensee may not operate that copy of the Software at the same time as the original Software is being operated. Licensee may make as many copies of the Documentation as it may reasonably require for the internal use of the Software.

4.3. Unless otherwise authorized by Motorola in writing, Licensee will not, and will not enable or allow any third party to: (i) install a licensed copy of the Software on more than one unit of a Designated Product; or (ii) copy onto or transfer Software installed in one unit of a Designated Product onto one other device. Licensee may temporarily transfer Software installed on a Designated Product to another device if the Designated Product is inoperable or malfunctioning, if Licensee provides written notice to Motorola of the temporary transfer and identifies the device on which the Software is transferred. Temporary transfer of the Software to another device must be discontinued when the original Designated Product is returned to operation and the Software must be removed from the other device. Licensee must provide prompt written notice to Motorola at the time temporary transfer is discontinued.

4.4. When using Motorola's Radio Service Software ("RSS"), Licensee must purchase a separate license for each location at which Licensee uses RSS. Licensee's use of RSS at a licensed location does not entitle Licensee to use or access RSS remotely. Licensee may make one copy of RSS for each licensed location. Licensee shall provide Motorola with a list of all locations at which Licensee uses or intends to use RSS upon Motorola's request.

4.5. Licensee will maintain, during the term of this Agreement and for a period of two years thereafter, accurate records relating to this license grant to verify compliance with this Agreement. Motorola or an independent third party ("Auditor") may inspect Licensee's premises, books and records, upon reasonable prior notice to Licensee, during Licensee's normal business hours and subject to Licensee's facility and security regulations. Motorola is responsible for the payment of all expenses and costs of the Auditor. Any information obtained by Motorola and the Auditor will be kept in strict confidence by Motorola and the Auditor and used solely for the purpose of verifying Licensee's compliance with the terms of this Agreement.

Section 5 OWNERSHIP AND TITLE

Motorola, its licensors, and its suppliers retain all of their proprietary rights in any form in and to the Software and Documentation, including, but not limited to, all rights in patents, patent applications, inventions, copyrights, trademarks, trade secrets, trade names, and other proprietary rights in or relating to the Software and Documentation (including any corrections, bug fixes, enhancements, updates, modifications, adaptations, translations, de-compilations, disassemblies, emulations to or derivative works from the Software or Documentation, whether made by Motorola or another party, or any improvements that result from Motorola's processes or, provision of information services). No rights are granted to Licensee under this Agreement by implication, estoppel or otherwise, except for those rights which are expressly granted to Licensee in this Agreement. All intellectual property developed, originated, or prepared by Motorola in connection with providing the Software, Designated Products, Documentation or related services, remains vested exclusively in Motorola, and Licensee will not have any shared development or other intellectual property rights.

Section 6 LIMITED WARRANTY; DISCLAIMER OF WARRANTY

6.1. The commencement date and the term of the Software warranty will be a period of ninety (90) days from Motorola's shipment of the Software (the "Warranty Period"). If Licensee is not in breach of any of its obligations under this Agreement, Motorola warrants that the unmodified Software, when used properly and in accordance with the Documentation and this Agreement, will be free from a reproducible defect that eliminates the functionality or successful operation of a feature critical to the primary functionality or successful operation of the Software. Whether a defect occurs will be determined by Motorola solely with reference to the Documentation. Motorola does not warrant that Licensee's use of the Software or the Designated Products will be uninterrupted, error-free, completely free of Security Vulnerabilities, or that the Software or the Designated Products will meet Licensee's particular requirements. Motorola makes no representations or warranties with respect to any third party software included in the Software.

6.2 Motorola's sole obligation to Licensee and Licensee's exclusive remedy under this warranty is to use reasonable efforts to remedy any material Software defect covered by this warranty. These efforts will involve either replacing the media or attempting to correct significant, demonstrable program or documentation errors or Security Vulnerabilities. If Motorola cannot correct the defect within a reasonable time, then at Motorola's option, Motorola will replace the defective Software with functionally-equivalent Software, license to Licensee substitute Software which will accomplish the same objective, or terminate the license and refund the Licensee's paid license fee.

6.3. Warranty claims are described in the Primary Agreement.

6.4. The express warranties set forth in this Section 6 are in lieu of, and Motorola disclaims, any and all other warranties (express or implied, oral or written) with respect to the Software or Documentation, including, without limitation, any and all implied warranties of condition, title, non-infringement, merchantability, or fitness for a particular purpose or use by Licensee (whether or not Motorola knows, has reason to know, has been advised, or is otherwise aware of any such purpose or use), whether arising by law, by reason of custom or usage of trade, or by course of dealing. In addition, Motorola disclaims any warranty to any person other than Licensee with respect to the Software or Documentation.

Section 7 TRANSFERS

Licensee will not transfer the Software or Documentation to any third party without Motorola's prior written consent. Motorola's consent may be withheld at its discretion and may be conditioned upon transferee paying all applicable license fees and agreeing to be bound by this Agreement. If the Designated Products are Motorola's radio products and Licensee transfers ownership of the Motorola radio products to a third party, Licensee may assign its right to use the Software (other than RSS and Motorola's FLASHport® software) which is embedded in or furnished for use with the radio products and the related Documentation; *provided* that Licensee transfers all copies of the Software and Documentation to the

transferee, and Licensee and the transferee sign a transfer form to be provided by Motorola upon request, obligating the transferee to be bound by this Agreement.

Section 8 TERM AND TERMINATION

8.1 Licensee's right to use the Software and Documentation will begin when the Primary Agreement is signed by both parties and will continue for the life of the Designated Products with which or for which the Software and Documentation have been provided by Motorola, unless Licensee breaches this Agreement, in which case this Agreement and Licensee's right to use the Software and Documentation may be terminated immediately upon notice by Motorola.

8.2 Within thirty (30) days after termination of this Agreement, Licensee must certify in writing to Motorola that all copies of the Software have been removed or deleted from the Designated Products and that all copies of the Software and Documentation have been returned to Motorola or destroyed by Licensee and are no longer in use by Licensee.

8.3 Licensee acknowledges that Motorola made a considerable investment of resources in the development, marketing, and distribution of the Software and Documentation and that Licensee's breach of this Agreement will result in irreparable harm to Motorola for which monetary damages would be inadequate. If Licensee breaches this Agreement, Motorola may terminate this Agreement and be entitled to all available remedies at law or in equity (including immediate injunctive relief and repossession of all non-embedded Software and associated Documentation unless Licensee is a Federal agency of the United States Government).

Section 9 UNITED STATES GOVERNMENT LICENSING PROVISIONS

This Section applies if Licensee is the United States Government or a United States Government agency. Licensee's use, duplication or disclosure of the Software and Documentation under Motorola's copyrights or trade secret rights is subject to the restrictions set forth in subparagraphs (c)(1) and (2) of the Commercial Computer Software-Restricted Rights clause at FAR 52.227-19 (JUNE 1987), if applicable, unless they are being provided to the Department of Defense. If the Software and Documentation are being provided to the Department of Defense, Licensee's use, duplication, or disclosure of the Software and Documentation is subject to the restricted rights set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 (OCT 1988), if applicable. The Software and Documentation may or may not include a Restricted Rights notice, or other notice referring to this Agreement. The provisions of this Agreement will continue to apply, but only to the extent that they are consistent with the rights provided to the Licensee under the provisions of the FAR or DFARS mentioned above, as applicable to the particular procuring agency and procurement transaction.

Section 10 CONFIDENTIALITY

Licensee acknowledges that the Software and Documentation contain Motorola's valuable proprietary and Confidential Information and are Motorola's trade secrets, and that the provisions in the Primary Agreement concerning Confidential Information apply.

Section 11 LIMITATION OF LIABILITY

The Limitation of Liability provision is described in the Primary Agreement.

Section 12 NOTICES

Notices are described in the Primary Agreement.

Section 13 GENERAL

13.1. COPYRIGHT NOTICES. The existence of a copyright notice on the Software will not be construed as an admission or presumption of publication of the Software or public disclosure of any trade secrets associated with the Software.

13.2. COMPLIANCE WITH LAWS. Licensee acknowledges that the Software is subject to the laws and regulations of the United States and Licensee will comply with all applicable laws and regulations, including export laws and regulations of the United States. Licensee will not, without the prior authorization of Motorola and the appropriate governmental authority of the United States, in any form export or re-export, sell or resell, ship or reship, or divert, through direct or indirect means, any item or technical data or direct or indirect products sold or otherwise furnished to any person within any territory for which the United States Government or any of its agencies at the time of the action, requires an export license or other governmental approval. Violation of this provision is a material breach of this Agreement.

13.3. ASSIGNMENTS AND SUBCONTRACTING. Motorola may assign its rights or subcontract its obligations under this Agreement, or encumber or sell its rights in any Software, without prior notice to or consent of Licensee.

13.4. GOVERNING LAW. This Agreement is governed by the laws of the United States to the extent that they apply and otherwise by the internal substantive laws of the State to which the Software is shipped if Licensee is a sovereign government entity, or the internal substantive laws of the State of Illinois if Licensee is not a sovereign government entity. The terms of the U.N. Convention on Contracts for the International Sale of Goods do not apply. In the event that the Uniform Computer Information Transaction Act, any version of this Act, or a substantially similar law (collectively "UCITA") becomes applicable to a party's performance under this Agreement, UCITA does not govern any aspect of this Agreement or any license granted under this Agreement, or any of the parties' rights or obligations under this Agreement. The governing law will be that in effect prior to the applicability of UCITA.

13.5. THIRD PARTY BENEFICIARIES. This Agreement is entered into solely for the benefit of Motorola and Licensee. No third party has the right to make any claim or assert any right under this Agreement, and no third party is deemed a beneficiary of this Agreement. Notwithstanding the foregoing, any licensor or supplier of third party software included in the Software will be a direct and intended third party beneficiary of this Agreement.

13.6. SURVIVAL. Sections 4, 5, 6.3, 7, 8, 9, 10, 11 and 13 survive the termination of this Agreement.

13.7. ORDER OF PRECEDENCE. In the event of inconsistencies between this Exhibit and the Primary Agreement, the parties agree that this Exhibit prevails, only with respect to the specific subject matter of this Exhibit, and not the Primary Agreement or any other exhibit as it applies to any other subject matter.

13.8 SECURITY. Motorola uses reasonable means in the design and writing of its own Software and the acquisition of third party Software to limit Security Vulnerabilities. While no software can be guaranteed to be free from Security Vulnerabilities, if a Security Vulnerability is discovered, Motorola will take the steps set forth in Section 6 of this Agreement.