Communications System Agreement

Motorola Solutions, Inc. ("Motorola") and the City of Riverside, California ("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 D will be resolved in their listed order.

Exhibit A		Motorola "Software License Agreement"
Exhibit B		"Payment Schedule"
Exhibit C		The Motorola Proposal dated August 21, 2015, including the "Technical and Implementation Documents" but excluding the Communications System Agreement which is replaced with this revised Agreement
	C-1	"System Description"
	C-2	"Equipment List"
	C-3	"Statement of Work"
	C-4	"Acceptance Test Plan" or "ATP"
	C-5	"Performance Schedule"
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. The change order shall be on the City's standard form, unless the City determines in its sole discretion that another change order form is acceptable or that a written contract amendment is needed for the increase/decrease.

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. Motorola will hold its Equipment pricing valid through the date of System Acceptance. 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 $3,825,884, excluding estimated sales tax. 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.

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.

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 or damage to tangible property, 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 Contract Price. 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 including the California Public Records Act (California Government Code sections 6252 et seq.), 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.
Attn: _____
_____
fax: _____

Customer
City of Riverside Police Department
Attn: Lt. Bruce Loftus
Special Projects
4102 Orange Street Riverside, CA 92501
Office 951-826-5872
bloftus@riversideca.gov
Cell: 951-756-5860

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.

By: _____
Name: Howard Chercoe
Title: MSSSI Vice President
Date: 11-13-2015

By: _____
Name: David Little
Title: Assistant Secretary

Customer, City of Riverside

By: _____
Name: _____
Title: _____
Date: _____

MARK W. ANTHONY
Approved MWA

Motorola Solutions, Inc. CORPORATE Seal DELAWARE

APPROVED AS TO FORM:

BY: _____

ASSISTANT CITY ATTORNEY

Exhibit A

SOFTWARE LICENSE AGREEMENT

This Exhibit A Software License Agreement ("Agreement") is between Motorola Solutions, Inc., ("Motorola"), and the City of Riverside, California ("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. Except for Motorola Software that is provided as part of the original System transaction, 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.

Motorola Solutions, Inc.
10680 Treena St. Suite 200
San Diego, CA 92131

August 21, 2015

City of Riverside Police Department
Lt. Bruce Loftus
4102 Orange St
Riverside, CA 92501

Subject: Offer for Sale; MCC7500 Dispatch Solution, APX Radios and WAVE 5000

Dear Lt. Loftus

Motorola Solutions, Inc. ("Motorola") is pleased to present the City of Riverside ("City") with this firm offer for sale. The development of this proposal provided us an opportunity to evaluate our current mutual business and further explore the means by which we can fulfill the City's communication needs.

This proposal is provided to assist you with integrating onto theASTRO25 Riverside County PSEC network. To best meet the functional and operation specifications of this solicitation, Motorola's solution includes a combination of hardware, software and services. Motorola's offering is valid for 90 days from the date of this proposal and is subject to the terms and conditions of the attached and incorporated Communications System Agreement, or a negotiated version thereof. Specifically, this solution includes Motorola's MCC7500 dispatch consoles, APX 6000 and 6500 portable and mobile subscribers and the WAVE 5000 smartphone interface application.

- MCC7500 Dispatch Consoles (18)
- APX6000 Portable Radios (425)
- APX6500 Mobile Radios (150)
- WAVE 5000 Solution (30 user Licenses)

As the industry's premier supplier of mission critical radio and integrated solutions, Motorola possesses many unique capabilities. These capabilities allow us to offer our customers effective solutions to their complex and response sensitive business needs. Our primary goal is to provide Riverside PD with a solution that improves the safety level of your employees and citizens. Simultaneously, we are committed to contributing to the City's increased productivity and organizational profitability, while always ensuring customer satisfaction.

Questions or inquiries about this proposal may be addressed to your Account Manager, Ryan Delaney (909-781-1579). We look forward to continuing the strong working relationship Motorola shares with the City of Riverside and to helping you achieve your goal of complete public safety interoperability.

Sincerely,
MOTOROLA SOLUTIONS, INC.

Mark Schmidl
Vice President

CITY OF RIVERSIDE POLICE DEPARTMENT SEPTEMBER 10, 2015

MCC 7500 P25 DISPATCH MIGRATION

MOTOROLA

TABLE OF CONTENTS

Section 5

SECTION 1

SYSTEM DESCRIPTION

1.1 PROJECT OVERVIEW

Motorola is pleased to provide the City of Riverside Police Department 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 Riverside County ASTRO® 25 master site. The proposed solution has been tailored to the unique needs of the City of Riverside, including utilizing the City's existing analog audio logger, dual instant recall recorder (IRR), and AES encryption. 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 the City of Riverside Police Department features our MCC 7500 Dispatch Console, offering IP-based seamless connectivity between the City's dispatch operators and field personnel.

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

MCC 7500 Console Configuration for City of Riverside Police Department

The proposed solution includes eighteen (18) MCC 7500 Dispatch Consoles designed to interface with the existing Riverside County ASTRO® 25 system. All of the dispatch positions will be located at City of Riverside's dispatch. This proposal details the functionality of the following included components:

Operator Positions

- MCC 7500 Dispatch Console (x18)
  - 19" LCD Touchscreen Displays
  - Four (4) Desktop Speakers
  - Two (2) Headset Jacks
  - Two (2) Noise Canceling Single Muff Headsets
  - Single Pedal Footswitch
  - Gooseneck Microphone
- MCC 7500 VPM (x18)
  - AES Encryption

Backroom Electronics

- GGM 8000 Site Gateway (x2)
- HP 2620-24 Switches (x2)
- GCP 8000 Conventional Site Controller (CSC)
- High-Density Enhanced Conventional Channel Gateway (CCGW) (x3)
- Archiving Interface Server (x2)
- Keyboard/Video/Mouse (KVM)
- MKM 7000 Console Alias Manager
- KVL 4000

  - Programming cables
- Genesis Client (GenWatch 3)
- Customer Network Interface
  - Juniper Firewall
  - DMZ Switch
  - Border Router
- 7/800 MHz Duplexer (x2)
- 7/800 MHz Combiner (x2)
- 7/800 MHz Antenna system (x2)
- Spares

1.3 THE MCC 7500 DISPATCH EXPERIENCE

MCC 7500 Dispatch Consoles offers City of Riverside Police Department state-of-the-art communications, console management and configuration functionality, dispatch operation, and communications security.

The proposed system also offers the City of Riverside the capability to maintain both audio and data recording of the calls made on the communications system.

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 customer-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.

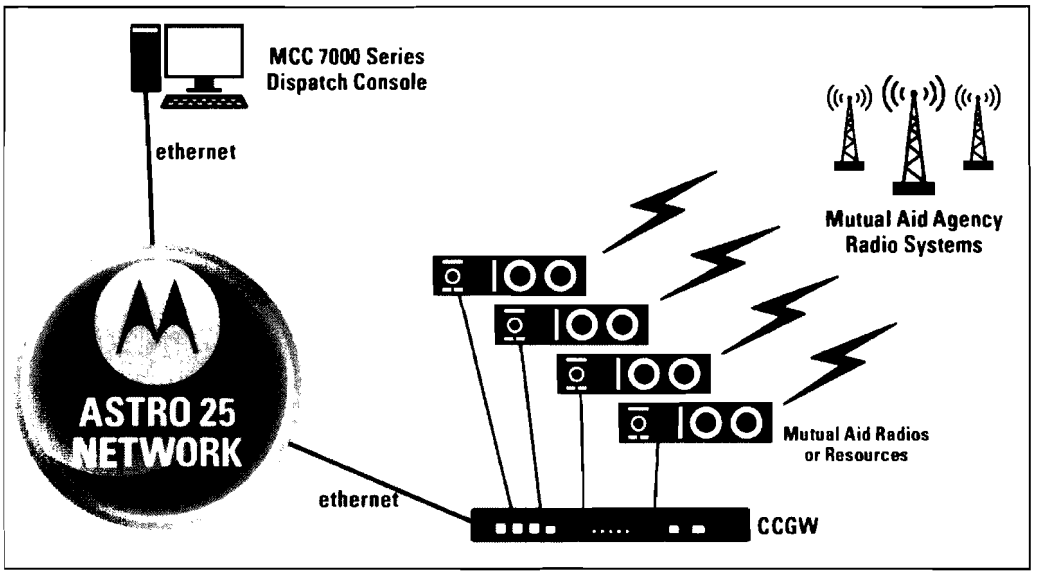


Figure 1-1: Mutual Aid Components

1.3.1.1 Integration with the ASTRO 25 Network

The MCC 7500 IP Dispatch Console is designed to integrate seamlessly with the Riverside County ASTRO® 25 7.13 system. This tight union between radio infrastructure and dispatch console equipment has several operational benefits to the City of Riverside Police Department.

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 City of Riverside ASTRO 25 Network

Feature	Benefit to City of Riverside Police Department
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 City of Riverside.

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 is remote from the core site and is provided with redundant site links to provide path diversity. Each console site gateway provides an interface that handles all of the IP Network Management traffic between the MCC 7500 dispatch console center and City of Riverside Police Department ASTRO 25 system's core site. The console site has two logical connections to the Riverside County master sites – one to the Primary Master Site (Alessandro) and one to the Backup Master Site (Blythe). In the event that the connection to the Primary Master is severed, the traffic would be forwarded through the Backup to the Primary, making the connection fully redundant. This configuration is designed to support 18 consoles, 15 talkgroups, and 16 collocated conventional resources. Should the site load exceed these numbers, the site link configuration should be re-evaluated to ensure uninterrupted performance.

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 Voice Encryption

The MCC7500 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. The AES encryption algorithm has been included in the proposal.

1.3.1.4 Conventional Base Station Interfaces

The MCC 7500 dispatch consoles are capable of accessing and controlling analog and digital conventional base stations through the use of conventional channel gateways (CCGW).

Included in the proposal are three (3) high density version of the Enhanced GGM 8000-based CCGW. Up to 16 additional conventional channels can be connected to the analog and V.24 ports. These 16 channels can be a mixture of analog, MDC 1200, ACIM link, digital, or mixed mode operation.

Additionally, the Enhanced GGM 8000-based CCGWs allow for recovery of MDC1200 and digital signaling, such as unit ID, and emergency alarm, which is passed to the MCC 7500 dispatch operator position(s).

1.3.2 Console Operations

RELIABLE AUDIO IN REAL TIME

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

EASY TO USE, FLEXIBLE, AND CUSTOMIZABLE USER 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. The City of Riverside Police Department can customize the MCC 7500 dispatch GUI by agency or by individual user to meet their dynamic needs and requirements.

Elite Dispatch Graphical User Interface

The MCC 7500 dispatch GUI is an enhanced version of Motorola's Gold Elite Dispatch GUI. 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.

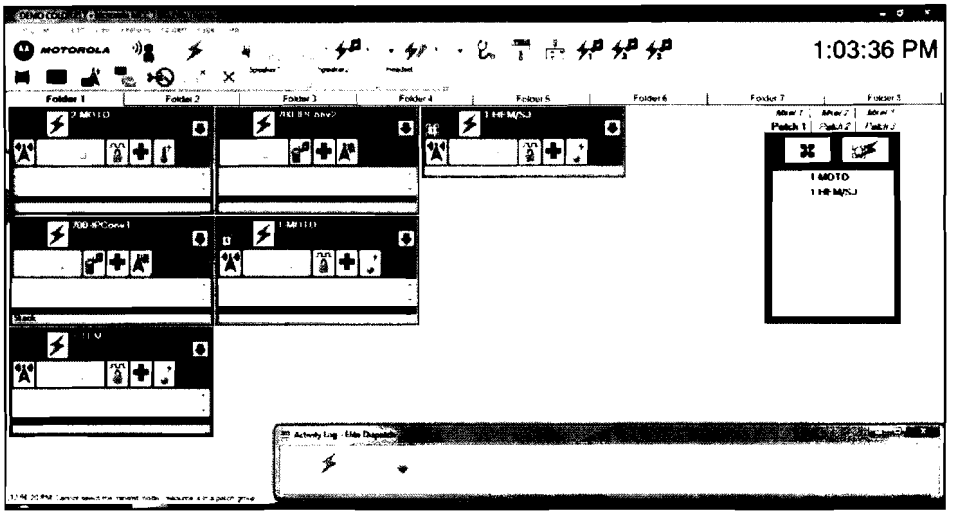


Figure 1-2: The MCC 7500 dispatch GUI delivers critical real-time information is delivered to the console operator when and where they need it

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. Two (2) additional speakers (for a total of four per dispatch position) are also included in this proposal, 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.

The MCC 7500 console enables dispatch operators to make private calls to individual field radio users or dispatch operators. Once this private call is established, it can be patched in with another resource at the dispatch operator's discretion.

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. Monitor speakers – can tie specific talkgroups to a certain speaker, such as all fire resources to speaker 3.

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.

Telephone/Headset Port

The telephone/headset port allows an external telephone set to be connected to the dispatch console. The dispatch console's headset can then be used to communicate on both the radio system and a telephone system (i.e. a 911 system).

When a telephone call occurs at a dispatch position, radio audio is directed from the headset to the appropriate console speaker. The headset microphone audio is routed to the telephone, allowing the dispatch console user to communicate hands-free on the telephone set. When the dispatch operator ends their call, the headset reverts back to full radio operation.

When the dispatch operator transmits on a radio resource during a telephone call, the headset microphone is re-routed to the radio system for the duration of the transmission. Once the transmission is completed, the headset microphone is routed back to the telephone. During the transmission, the dispatch operator continues to hear the telephone audio through the headset.

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

Motorola has included in the proposal a MKM 7000 Console Alias Manager (CAM). The MKM 7000 manages the radio unit ID aliases that are displayed on MCC 7500 dispatch 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, 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 (not included with this offering)
- Secure keys used for voice encryption
- 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.

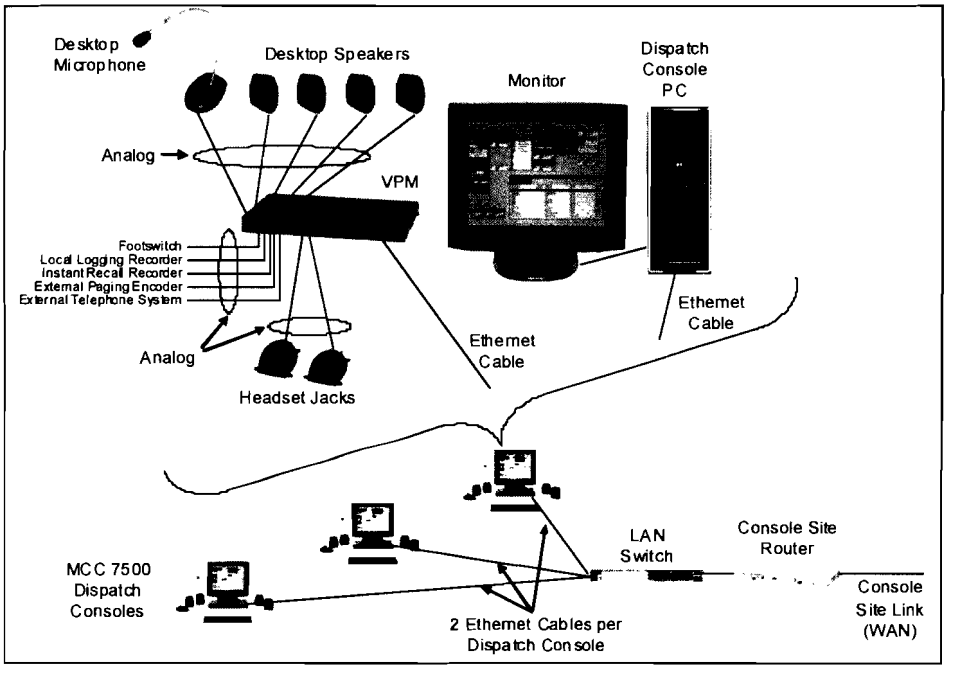
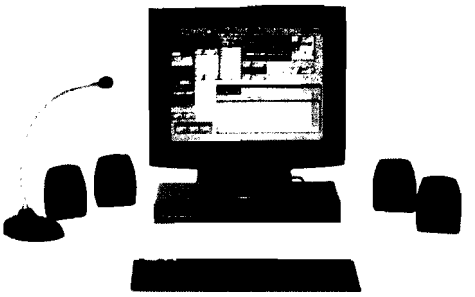


Figure 1-3: Motorola MCC 7500 Dispatch Console Hardware Architecture

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 and/or headset jack box with in-line PTT amplifier and headset, and optional footswitch.



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 Z420 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 Schaumburg so that the application software, voice cards, and secure cards can be installed and tested to ensure they are operating properly.

1.4.2 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.

Analog Configuration

The enhanced GGM 8000-based CCGW provides two sets of ports that are used with analog channels. One set (called the Analog Ports) contains the analog inputs and outputs for the channels along with a COR/Coded/Clear input and a PTT Relay output. The other set (called the Supplemental I/O Ports) contain analog logging recorder outputs and various inputs that can be used with the analog channel.

Each analog port contains the following inputs and outputs:

- **2-Wire Input/Output** – When the channel is configured for 2-wire operation, this input/output is used to send console transmit audio to the channel and to accept radio audio from the channel
- **4-Wire Input** – When the channel is configured for 4-wire operation, this input is used to accept radio audio from the channel.
- **COR or CIU Coded/Clear Input** – If the channel is configured for clear (non-secure) operation with COR (Carrier Operated Relay), then this input is used to accept the COR output from the channel. When used as a COR input, the input uses contact closure detection.
- **PTT Relay Output** – The PTT relay output provides a relay contact closure capable of supporting up to 1 Amp at 24 volts DC.
- **VOX and COR Operation** – A clear (non-secure) analog port must be configured to support either VOX or COR operation. The CCGW will not pass audio to the dispatch consoles or logging recorders unless there is an active VOX or COR condition.
- **LOBL (Line Operated Busy Light) Detectors** – The LOBL detector on the 2 or 4 wire inputs can be used to detect when a parallel non-MCC 7500 dispatch console is transmitting on the channel via tone remote control.
- **AGC, DLM and Fixed Gain Operation** – When configured for AGC operation, the gain of the audio input is constantly adjusted to provide a constant output level to the dispatch consoles and logging recorders. When configured for DLM operation, the gain of the audio input is constantly adjusted to provide a constant output level to the dispatch consoles and logging recorders. When configured for fixed gain operation, the gain of the audio input is fixed and does not change.

The enhanced GGM 8000-based CCGW provides eight ports containing supplemental I/Os which can be used to provide additional functionality on analog channels:

- **LOBL (Line Operated Busy Light) Input** – The LOBL input provides an alternative method to the software LOBL detector for detecting when a parallel non-MCC 7500 dispatch console is transmitting on an analog channel. This input can be configured for either voltage operation or contact closure operation.
- **High Speed Mute Input** – When the mute input is active, all audio at the configured audio input(s) will be muted.
- **Analog Logging Output** – The analog logging output provides 600 Ohm balanced analog audio consisting of the summed transmit and received audio from the channel connected to the paired analog port.
- **Coded/Clear Call Input** – The coded/clear call input provides certain legacy analog secure conventional channels a means of informing the MCC 7500 dispatch consoles about the mode (coded or clear) of a call.

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.

1.5 MCC 7500 DISPATCH CONSOLE DIFFERENTIATORS

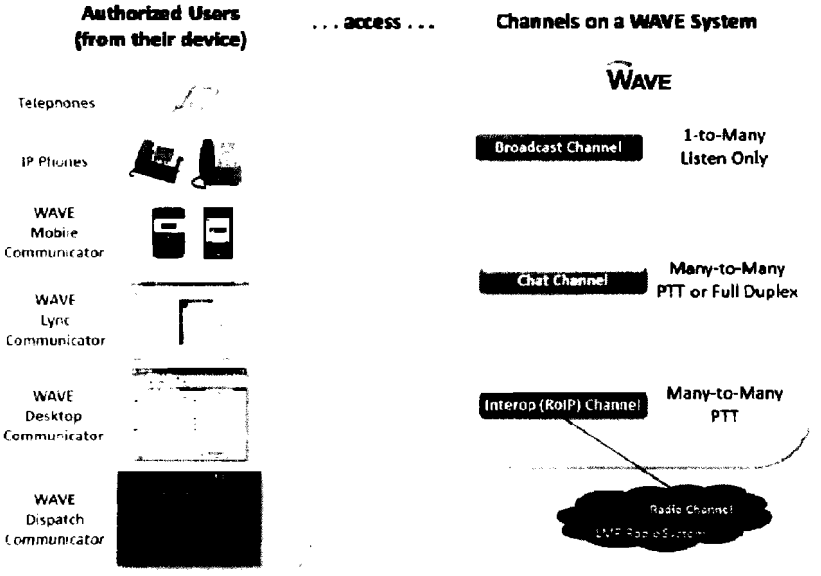
While providing Riverside PD with the choice to select the console sub-system they wish to use, the implementation of a 3rd party console subsystem with CSSI is not without compromise. The Project 25 standard does support basic dispatch functionality, however, the MCC 7500 dispatch console offers a number of value added dispatch features above the Project 25 CSSI standard that a console connected via the CSSI interface can't provide. The following key features are supported on the MCC7500 console, but are not supported on the CSSI 8000 gateway.

- Radio Inhibit – Allows a dispatcher or administrator to remotely inhibit a radio from operating on the ASTRO Network. Renders the radio inoperable.
- Radio Uninhibit – Allows a dispatcher or administrator to reset the inhibit command to allow the radio to again operate on the ASTRO Network.
- Radio Check – Allows a dispatcher or administrator to send a signal to a radio requesting a radio's status on the system. If the radio is registered and affiliated to the ASTRO system, it will respond to the request informing the dispatcher that the radio is on the system and operational.
- Short Message – Short text messages sent to/from the console to/from the subscriber.
- Unified Aliasing - Unified Aliasing ensures that the MCC 7500 console and the rest of the RF system sees the same aliases and simplifies alias management by providing a single point to manage them.

- System Access Priority Select (Tactical / Normal) - On a busy trunking system, this feature enables MCC 7500 dispatchers to ensure that the most important communications get a higher priority on the system than less important communications. The dynamic, real-time nature of this feature gives dispatchers the ability to immediately react to changing situations on any talkgroup without having to contact system administrators and wait for configuration changes to be made.
- Talkgroup Repeat on/off - This feature enables MCC 7500 dispatchers to effectively render a talkgroup unusable for radio to radio communications. This can be important for talkgroups that are reserved for special situations and must be kept clear of users when they are not supposed to be used. This feature can also be used for situations where dispatchers don't want other radio users (or scanners) to hear a particular radio's transmission on a talkgroup (for example, when performing a Remote Monitor of a radio).
- Emergency Call Setup (w infinite hang time) - This feature enables a MCC 7500 dispatcher to guarantee a path for voice communications for the duration of an emergency situation.
- Group Regrouping during patch - This feature enables the trunking system to use its RF talkpaths in the most efficient manner possible during patches between talkgroups. The patch generated from the MCC 7500 console will occur on a single talkpath. This helps improve the trunking system's quality of service by reducing the number of busies and reducing wait times.
- Group Regrouping during multiselect - This feature enables the trunking system to use its RF talkpaths in the most efficient manner possible during multi-select transmissions on multiple talkgroups from an MCC 7500 console. This helps improve the trunking system's quality of service by reducing the number of busies and reducing wait times.
- End to End Encryption - This feature protects voice communications from unauthorized listeners while providing an efficient and effective way to manage encryption keys in real time. Network-based common key management provides reduced costs for managing secure keys by eliminating the need to physically touch the MCC 7500 dispatch positions and radios and enhances the effectiveness of secure calls by enabling customers to quickly change keys throughout their radio system including the MCC 7500 console when a key has been compromised.
- Agency Partitioning - This feature enables multiple agencies to share a radio system while protecting their resources against unauthorized access and changes. It protects an agency's communications from interruption due to inadvertent or intentional changes in configuration information. It also protects an agency's radio resources from unauthorized use by other agencies sharing the radio system.
- Unified Information Assurance - This feature enhances the performance of the radio system (including the MCC 7500 dispatch consoles) by protecting against malicious attempts to infiltrate or attack the system.
- Seamlessly integrated conventional channels - This feature provides the following benefits.
  - A dispatcher can have full wireline control of both trunked and conventional resources from his/her MCC 7500 dispatch console.
  - The logging recorder can record both trunked and conventional calls (voice and associated call information) on the same logging recorder.
  - Service personnel can use the various ASTRO 25 system fault and performance management tools for troubleshooting or optimization activities on trunked and/or conventional resources.
- Full participation in Dynamic System Resilience - This feature provides a high degree of availability for the MCC 7500 console's dispatch services. The dispatch consoles and logging recorder interfaces will automatically switch to the backup ASTRO 25 core in the event that the primary ASTRO 25 core becomes unusable or unreachable.

1.6 WAVE INTEROPERABILITY

WAVE provides a secure, high-performance voice push-to-talk (PTT) service that operates over corporate Local / Wide Area Networks, commercial 4G/3G networks and Android/iOS devices, as well as desktop PCs. This service supports interactive connection capabilities from those commercial devices running on a data network to Land Mobile Radio (LMR) and Project 25 (P25) devices.



Seamless communications and interoperability are mission-critical requirements for LMR users and non-LMR users to maintain daily operations. Motorola's WAVE solution also provides enhanced communications and interoperability between commercial 4G/3G device users and P25 device users.

Motorola's WAVE solution consists of four major applications: the Mobile Communicator, the Desktop Communicator, the WAVE Lync Communicator, and the WAVE Dispatch Communicator.

- ***WAVE Mobile Communicator***—This PTT Smartphone application allows mobile users to access any authorized talkgroup using a data connection from their device. With this PTT software client, users can listen/talk on broadband talkgroups and talkgroups interconnected to LMR systems from anywhere (in the world) with cellular data service. This capability is currently supported via the 3G/4G carrier of choice over iOSs and Android mobile devices.
- ***WAVE Desktop Communicator***—This PTT software client allows users to monitor/talk on talkgroups and has features such as instant playback, status/presence information, and location/maps.
- ***WAVE Lync Communicator*** – this WAVE software client extends access to WAVE channels from Microsoft Lync systems. This client can be used by Local/Regional/State agencies who have implemented this Microsoft Unified Communications solution.
- ***WAVE Dispatch Communicator*** – this WAVE software client provides dispatch functionality to users, allowing them to monitor/talk on WAVE talkgroups, perform patching, make/take phone calls, respond to man-down alarms, etc., all through a unified software interface that can run on virtually any computer.

For the City of Riverside Motorola has included the WAVE Mobile Communicator to meet your communication needs for up to thirty customer provided devices for use on up to ten talkgroups.

1.6.1 Land Mobile Radio (LMR) Interface

WAVE supports wireline interface with the Motorola ASTRO® 25 network via the WAVE radio gateway. This interface leverages the protocols of Project 25 ISSI and the unique value added features of Motorola's ISSI 8000 platform.

1.6.2 WAVE Server Features

The WAVE solution is comprised of an integrated PTT server (Proxy/Media/Management applications) to support PTT communication over commercially available iOS, Android Smartphone devices over the customer-preferred choice of 3G/4G public carrier networks. Broadband users can make use of following features:

- ***Individual Private Call (One-to-One):*** An individual private call can be made between two 4G/3G commercial device users. The initiating PTT user selects an individual from the PTT contact list and presses the PTT button. All communication between broadband and LMR users are group calls and one-to-one communication between broadband and LMR users is not currently supported.
- ***Talkgroup Call:*** This represents a call to a group of PTT users associated and defined as part of the talkgroup established in the Enterprise Management System. A WAVE talkgroup call can include 4G/3G commercial device users and P25 radio users.
- ***Late Call Entry:*** The 4G/3G commercial device user will join in-progress talkgroup calls if they happen to miss the start of the call.
- ***PTT User Presence & Location:*** 4G/3G commercial device users will see the current presence & location of WAVE contacts. User can also choose to map/locate WAVE talkgroup members.
- ***Enterprise Management Capabilities:*** to manage individual and group contact lists.

1.6.3 PTT Use Cases and Benefits

- ***Extending Reach*** to radio users outside the coverage of the ASTRO 25 system, enabling Global Broadband Connectivity.
- ***Enhancing Choice*** for users who cannot or do not carry a radio, but still need occasional interoperability with radio users.
- ***Increasing Productivity*** by enabling non-radio users to collaborate efficiently via secure PTT communication.

1.6.4 System Components

The following hardware and software components are included in this proposal:

WAVE Hardware Components

- (1) WAVE Server
- (1) Firewall
- (1) ISGW Gateway Server with WAVE Radio Gateway software license

WAVE Software Components

- (1) WAVE Server License
- (10) WAVE LMR Communication Channels
- (30) WAVE Mobile Communicator Licenses for Android & iOS

1.7 SUBSCRIBERS

In response to the County's need for mission critical mobile and portable radios, Motorola is proposing its next generation of APCO Project 25 (P25) subscribers, the APX series. Motorola's APX™ series of subscribers delivers exceptional performance by combining advanced voice and data technology with legendary Motorola quality. Motorola developed our APX subscribers with revolutionary ergonomics, rich features, and robust design to provide users with flexibility, functionality, and safety.

Motorola has included the following subscribers for the City of Riverside:

- APX6000 Portable Radios (425)
- APX6500 Mobile Radios (150)

1.8 APX SUBSCRIBER DIFFERENTIATORS

There are only 11 features tested to a Mission Critical Interoperability Standard in the P25 Compliance Labs which every P25 vendor uses: P25 CAI, Registration, Group Call, Affiliation, Broadcast Voice Call, Emergency Alarm, Emergency Group Call, Private Call, Announcement Group, Intra-Location Registration Area Roaming, and Encryption. Many other features are in the P25 Standard (such as OTAR and GPS) and should work across vendor platforms, however there are no interoperability tests defined for these features. Motorola tests every feature offered between its Subscribers and Infrastructure to a Mission Critical level of stability.

The following features are only available using Motorola subscribers on a Motorola system.

- Encrypted IV&D – This feature allows for the encrypted transmission of data across an ASTRO 25 system. Much like an encrypted voice channel, encrypted IV&D keeps individuals not associated with your agency, from accessing sensitive material sent over the radio network.
- Dynamic GPS Polling – This feature allows the system manager to change the rate or interval that the GPS coordinates are being pulled from the subscriber.
- Text Messaging – Send and receive text messages directly from the portable subscriber unit.
- Seamless OTAP – Over the Air Programming is a feature that allows subscriber units to be programmed remotely, over the radio system. In a Motorola ASTRO 25 system, the UNS keeps track of dynamically changing Motorola subscriber IP addresses. The IP addresses of 3rd party subscribers must be set to static, so that they do not change. The system manager would have to keep a list of each subscriber IP address. IP addresses for 3rd party subscribers would need to be entered manually when programming the radios over the air (OTAP).
- Fast Site Roaming with Adjacent Site Broadcast – Motorola Subscribers use a number of different algorithms to determine the adjacent site with the best signal strength for broadcasting. A Motorola subscriber will continuously monitor the RSSI (Received Signal Strength Indicator) of adjacent sites to determine the best site to roam to, as soon as the RSSI of its current site drops below the acceptable threshold. Third party radios will only affiliate with the first site that has acceptable RSSI, even though there may be another site with stronger signal.

1.8.1 APX 6500 Mobile Radios

The APX 6500 mobile radio is a single-band radio offering that can operate on Project 25 Phase 1 FDMA and Phase 2 TDMA systems and SMARTNET/SmartZone analog/digital systems, as well as analog and Project 25 conventional systems. Like the APX 75000 radio, the APX 6500 can interoperate between 3600 analog systems and P25 9600 digital systems. The APX 6500 mobile radios are capable of the most advanced security/encryption features available in the industry such as Project 25 compliant AES.

The mobiles support the following system and operation modes and capabilities:

- Clear or encrypted APCO Project 16 SMARTNET/SmartZone systems.
- Project 25 Phase 1 FDMA and Phase 2 TDMA trunked systems.
- 3600/9600 systems interoperability.
- 12.5/20/25 kHz bandwidth receiver – analog capable.
- 12.5 kHz bandwidth receiver – digital capable.
- 6.25e TDMA.

The APX 6500 supports up to 870 talkgroups/modes, as well as the following features and functionality:

- Conventional channels.
- Talk-around channels.
- Can support up to 50 trunking systems, and 100 personalities.
- Scan and Priority Scan available.
- Dynamic Regrouping capable.Call-Alert Paging and Individual Call.
  - Transmit or Receive by Unit ID or Alias.
  - Features share the Unified Call List.
- Maximum of 1500 aliases.

The APX 6500 supports multiple encryption algorithm, including software based and FIPS approved UCM based solutions.

- ADP/AES/DES/DES-XL/DES-OFB/DVP-XL.
- Multi-Algorithm / Multi-Key Support.
- Over the Air Encryption Key Management OTAR.
- Tactical OTAR and P25 OTAR capability
- 96 Encryption Keys/Radio.
- Hardware and Software Encryption.
  - 40kbit RSA Software Encryption (ADP).
  - Type III/IV Hardware UCM Encryption.
  - FIPS140 Certification with UCM Module.

With the integrated voice & data (IV&D) option the APX 6500 can support the following data applications:

- Over-the-Air Programming (POP25).
- Integrated GPS for personnel location.
- Text Messaging.

APX 6500 O5 control head

O5 Control Head

The O5 control head can be used in dash, remote, and motorcycle mount configurations (Figure 17). The O5 control head offers the following user interface features:

- Two-line, 14-character, with one row for icons, customizable tri-color LCD display.
- Can be ordered with a 3 x 6 keypad microphone accessory with three programmable soft keys.
- Five programmable soft key buttons and, five scroll-through menus with up to 24 programmable soft keys.
- Multiple control head configuration to fully control a single radio with up to 4 different wired locations (APX 7500), and 2 wired locations (APX 6500).
- Recessed Orange Emergency Button.
- Meets Military Specs 810 (C, D, E, and F).

1.8.2 APX 6000 Portable Radios

The APX 6000 portables are Motorola's single-band portable offering for the City of Riverside. The APX 6000 can operate on Project 25 Phase 1 FDMA and Phase 2 TDMA trunking systems, and also interoperate between 3600 SmartNet/SmartZone analog trunking systems and P25 trunking systems.

The ability to interoperate between 3600 SMARTNET/SmartZone trunked systems with P25 trunked systems provides PSERN the easiest and smoothest method of transitioning between their existing system and new P25 trunked radio system, which is detailed in Volume 5, Tab B, "Detailed Transition Plan." When PSERN radio users are transitioned over to the new P25 systems, PSERN users can continue operating on neighboring 3600 analog trunked systems which enhances regional mutual-aid interoperability.

The radios support analog and Project 25 conventional systems as well. The APX 6000 portables are capable of the most advanced security/encryption features available in the industry such as Project 25 compliant AES.

The APX 6000 is Motorola's fourth-generation P25 portable and was designed with direct input from first responders. Engineered with high performance technology and utilizing innovative designs, the APX 6000 provides users with an ergonomic and rugged device that delivers superior audio performance with real-time information in a smaller package. The APX 6000 is easy to use allowing personnel to focus on their job at hand rather than the technology. In addition, the APX 6000 equips first responders with the loudest, clearest audio of any Motorola portable on the market.

The APX 6000 comes standard with IP67 submersibility (1m/30mins) and is upgradable to Delta T submersibility (2m/2hrs). The APX 6000 offers yellow or green color housing options.

The APX 6000 offers voice and data capabilities with a color display, top display, keypad, and best-in-class audio in a compact rugged design. Its unique T-Grip form factor provides secure and easy

handling. The APX 6000 portable can be ordered in three different models: Model 1.5 (top display), Model 2.5 (Dual-Display and limited Keypad) and Model 3.5 (dual-display with full keypad) (Figure 1-4). The portable can support a variety of software capabilities and feature sets to best meet your radio user's needs.

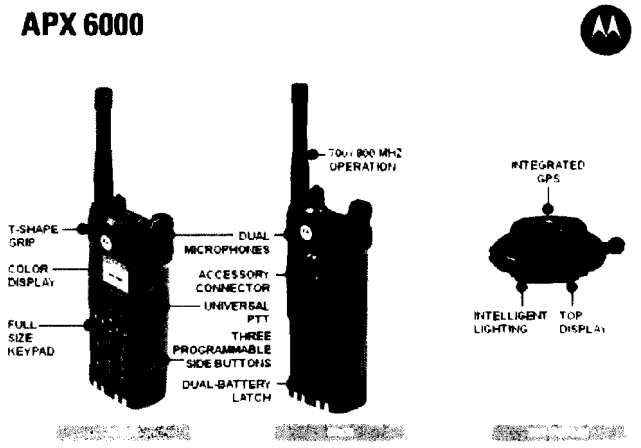


Figure 1-4: APX 6000 operational controls

APX 6000 Model 3.5

The model 3.5 has all the features that the model 2.5 has with the addition of the following features:

- Four-line, 14-character, with two rows for icons, alphanumeric display.
- 3 x 6 keypad with up to 24 programmable soft keys.
- Meets Military Specs 810 (C, D, E, & F).

APX 6000 offers various benefits, feature sets and capabilities. Outlined below is a list of the various features, and benefits specific to all APX 6000 portable radios.

System Compatibility and Supported Operation Modes: The mobiles support the following system and operation modes and capabilities:

- Clear or encrypted APCO Project 16 SmartNet/SmartZone systems.
- Project 25 Phase 1 FDMA and Phase 2 TDMA trunking systems.
- 3600/9600 baud trunking interoperability.
- 12.5/30/25 kHz bandwidth receiver – analog systems.
- 12.5 kHz bandwidth receiver – digital systems.
- 6.25e TDMA.

Operating Modes and Features: The APX 6000 portables supports up to 870 talkgroups/modes. In addition, the following features and functionality are offered:

- Conventional channels.
- Talk-around channels.
- Can support up to 50 trunking systems, and 100 personalities.
- Scan and Priority Scan available.
- Dynamic Regrouping capable.

- Call-Alert Paging and Individual Call.
  - Transmit or Receive by Unit ID or Alias.
  - Features share the Unified Call List.
- Maximum of 1500 aliases.

Unsurpassed Encryption Capabilities: The APX 6000 supports single encryption algorithm, including both software-based and FIPS approved UCM based solutions:

- Multi-Algorithm / Multi-Key Support.
- Tactical OTAR and P25 OTAR capability
- Minimum of 64 Encryption Keys/Radio.
- Hardware and Software Encryption.
  - 40kbit RSA Software Encryption (ADP).
  - Type III/IV Hardware UCM Encryption.
  - FIPS140 Certification with Encryption Module.

Optional Data Capabilities: With the integrated voice & data (IV&D) option the APX 6000 can support the following data applications:

- Over-the-Air Programming (POP25).
- Integrated GPS for personnel location.
- Text Messaging.

Motorola has included the following subscribers for the City of Riverside:

- APX6000 Portable Radios (425)
- APX6500 Mobile Radios (150)

1.9 DESIGN ASSUMPTIONS

Motorola has made several assumptions in preparing this proposal for the City of Riverside Police Department.

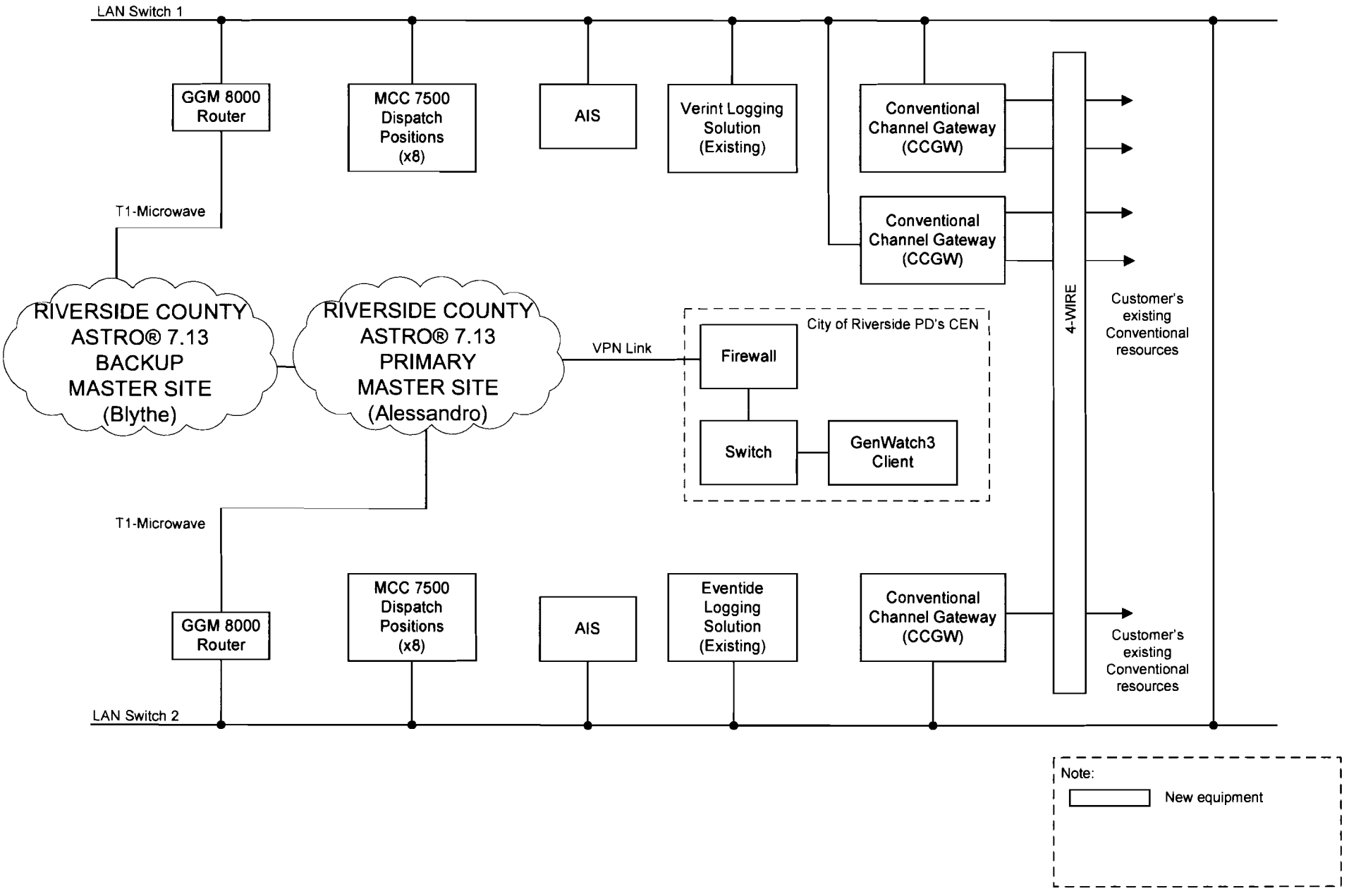
- All existing sites or equipment locations will have sufficient space available for the system described.
  - This includes available spaces for proposed cabinets, cables, and cable entry ports.
- All existing sites or equipment locations will have adequate electrical power and site grounding suitable to support the requirements of the system described.
  - It is assumed that the Customer will provide AC and/or DC power distribution units.
  - It is assumed that Customer will provide AC power backup for the MCC 7500 rack/equipment.
  - The Customer 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 the Customer.
- Approved FCC licensing will be provided by the Customer.
- Approved local, State, or Federal permits as may be required for the installation and operation of the proposed equipment, are the responsibility of the Customer.

- No microwave solution is provided in this proposal. Motorola's MCC 7500 subsystem design requires the Customer to provide two (2) lease line T1 circuits (built and Red Tagged as Public Safety grade circuits) and/or Riverside County to provide microwave T1 circuits from dispatch to the Master Sites – one (1) T1 to each Master Site. The Customer is responsible to provide, configure, test and demark these circuits within 10' of the proposed MCC 7500 rack/equipment.
- Motorola has not included any Fleetmapping, Template creation or Programming services for the subscribers.
- 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.
- The Customer is responsible for transporting and disposal of existing third party console racks and equipment.
- Where necessary, the Customer will provide a dedicated delivery point, such as a warehouse, for receipt, inventory, and storage of equipment prior to delivery to the sites.
- No new logging solution has been included in this proposal.
- Motorola has included analog recording audio outputs but actual audio recording is the responsibility of the Customer.

SECTION 2

SYSTEM DRAWING

CITY OF RIVERSIDE POLICE DEPARTMENT
DISPATCH CENTER SYSTEM BLOCK DIAGRAM



SECTION 3

EQUIPMENT LIST

SUB SYS	BLOCK	QTY	NOMENCLATURE	DESCRIPTION
				[illegible]
Rvrsd Co	LICENSE	1	SQM01SUM0239	MASTER SITE CONFIG UPGRADE
Rvrsd Co	LICENSE	1	CA00996AK	NM/ZC LICENSE KEY 7.13
Rvrsd Co	LICENSE	1	CA00997AK	UCS LICENSE KEY 7.13
Rvrsd Co	LICENSE	4	CA02105AA	MCC7500/MCC7100 CONSOLE LIC
				[illegible]
CoR PD	OP_POSIT	1	B1905	MCC 7500 ASTRO 25 SOFTWARE
CoR PD	OP_POSIT	18	B1933	MOTOROLA VOICE PROCESSOR MODULE
CoR PD	OP_POSIT	18	CA01642AA	ADD: MCC 7500 BASIC CONSOLE FUNCTIONALITY SOFTWARE LICENSE
CoR PD	OP_POSIT	18	CA01644AA	ADD: MCC 7500 /MCC 7100 ADV CONVL OPERATION
CoR PD	OP_POSIT	18	CA01643AA	ADD: MCC 7500 / MCC 7100 TRUNKING OPERATION
CoR PD	OP_POSIT	18	CA00147AF	ADD: MCC 7500 SECURE OPERATION
CoR PD	OP_POSIT	18	CA00182AB	ADD: AES ALGORITHM
CoR PD	OP_POSIT	18	CA00140AA	ADD: AC LINE CORD, NORTH AMERICAN
CoR PD	OP_POSIT	18	DSE686772	ELO 1928L 19IN LCD TOUCH MONITOR, DUAL SERIAL USB CONTROLLER, GRAY
CoR PD	OP_POSIT	18	TT2833	COMPUTER, Z440 WORKSTATION WINDOWS 7 (NON RETURNABLE)
CoR PD	OP_POSIT	18	T7449	WINDOWS SUPPLEMENTAL TRANS CONFIG
CoR PD	SURGE	18	DSRMP615A	SPD, TYPE 3, 120V RACK MOUNT, 15A PLUG-IN W/ (6) 15A NEMA 5-15 OUTLETS
CoR PD	OP_POSIT	36	B1912	MCC SERIES DESKTOP SPEAKER
CoR PD	OP_POSIT	36	B1912	MCC SERIES DESKTOP SPEAKER
CoR PD	OP_POSIT	18	B1914	MCC SERIES DESKTOP GOOSENECK MICROPHONE
CoR PD	OP_POSIT	18	B1913	MCC SERIES HEADSET JACK
CoR PD	OP_POSIT	18	RLN6099A	HDST MODULE BASE W/PTT, 25' CBL
CoR PD	OP_POSIT	18	RMN5078B	SUPRAPLUS NC SINGLE MUFF HEADSET
CoR PD	OP_POSIT	18	B1913	MCC SERIES HEADSET JACK
CoR PD	OP_POSIT	18	RLN6099A	HDST MODULE BASE W/PTT, 25' CBL
CoR PD	OP_POSIT	18	RMN5078B	SUPRAPLUS NC SINGLE MUFF HEADSET
CoR PD	OP_POSIT	18	DQACM3151	TRANSMIT FOOT SWITCH
CoR PD	OP_POSIT	18	T7885	MCAFEE WINDOWS AV CLIENT
CoR PD	OP_POSIT	18	DDN1245	DUAL IRR SW USB HASP WITH LICENSE (VERSION 45)

SUB SYS	BLOCK	QTY	NOMENCLATURE	DESCRIPTION
CoR PD	OP_POSIT	18	DDN1895	SOUND BLASTER AUDIGY RX SOUND CARD
CoR PD	OP_POSIT	36	CDN6673	CREATIVE LABS INSPIRE A60
CoR PD	SWITCH	3	CLN1856	2620-24 ETHERNET SWITCH
CoR PD	SWITCH	6	CLN8490A	FRU: MINI GBIC (J4858B)
CoR PD	ROUTER	1	SQM01SUM0205	GGM 8000 GATEWAY
CoR PD	ROUTER	1	CA01616AA	ADD: AC POWER
CoR PD	ROUTER	1	SQM01SUM0205	GGM 8000 GATEWAY
CoR PD	ROUTER	1	CA01616AA	ADD: AC POWER
CoR PD	CCGW	1	SQM01SUM0205	GGM 8000 GATEWAY
CoR PD	CCGW	1	CA01616AA	ADD: AC POWER
CoR PD	CCGW	1	CA02086AA	ADD: HIGH DENSITY ENH CONV GATEWAY
CoR PD	CCGW	1	SQM01SUM0205	GGM 8000 GATEWAY
CoR PD	CCGW	1	CA01616AA	ADD: AC POWER
CoR PD	CCGW	1	CA02086AA	ADD: HIGH DENSITY ENH CONV GATEWAY
CoR PD	CCGW	1	SQM01SUM0205	GGM 8000 GATEWAY
CoR PD	CCGW	1	CA01616AA	ADD: AC POWER
CoR PD	CCGW	1	CA02086AA	ADD: HIGH DENSITY ENH CONV GATEWAY
CoR PD	RACK	1	DSFF1P112CC22	CHATSWORTH F-SERIES TERAFRAME CABINET. TWO-POINT, CAM LATCH, KEYED
CoR PD	RACK	2	DSTSJ48CLT	SPD, RJ-45 OR HARDWIRE CONNECTED FOR T1/E1, PROTECTS 4 WIRES
CoR PD	RACK	1	DSTSJADP	RACK MOUNT GROUND BAR, 19 IN FOR TSJ AND WPH SERIES DATA SPDS
CoR PD	SURGE	1	DS110110711	PDU, AC EDGE RACK MOUNT DISTRIBUTION PANEL, 120VAC 60A, 12-15A CIRCUIT
CoR PD	SURGE	8	DS37502831	BREAKER KIT AIRPAX 5AMP SNAPAC, FOR AC EDGE OR DC EDGE III QTY 1
CoR PD	SURGE	2	DSCPX1101985	SPD, RJ-45 CONNECTED (16) LINE GIGE ETHERNET, 11VPL ON ALL PINS
CoR PD	SPARES	1	SQM01SUM0205	GGM 8000 GATEWAY
CoR PD	SPARES	1	CA01616AA	ADD: AC POWER
CoR PD	SPARES	1	CA02086AA	ADD: HIGH DENSITY ENH CONV GATEWAY
CoR PD	SPARES	2	B1912	MCC SERIES DESKTOP SPEAKER
CoR PD	SPARES	2	B1914	MCC SERIES DESKTOP GOOSENECK MICROPHONE
CoR PD	SPARES	2	B1913	MCC SERIES HEADSET JACK
CoR PD	SPARES	1	DQACM3151	TRANSMIT FOOT SWITCH
CoR PD	SPARES	1	TT2833	COMPUTER, Z440 WORKSTATION WINDOWS 7 (NON RETURNABLE)
CoR PD	SPARES	1	B1934	MCC 7500 VOICE PROCESSOR MODULE FRU
CoR PD	SPARES	1	CA00147AF	ADD: MCC 7500 SECURE OPERATION
CoR PD	SPARES	1	CA00182AB	ADD: AES ALGORITHM

SUB SYS	BLOCK	QTY	NOMENCLATURE	DESCRIPTION
CoR PD	SPARES	1	CA00143AC	ADD: DES-OFB ALGORITHM
CoR PD	SPARES	1	CLN1856	2620-24 ETHERNET SWITCH
CoR PD	SPARES	1	CLN8490A	FRU: MINI GBIC (J4858B)
				[illegible]
CoR PD	AIS Ver	1	B1905	MCC 7500 ASTRO 25 SOFTWARE
CoR PD	AIS Ver	1	B1933	MOTOROLA VOICE PROCESSOR MODULE
CoR PD	AIS Ver	1	CA00288AB	ADD: MCC 7500 ARCHIVING INTERFACE SERVER SOFTWARE LICENSE
CoR PD	AIS Ver	1	CA00147AF	ADD: MCC 7500 SECURE OPERATION
CoR PD	AIS Ver	1	CA00182AB	ADD: AES ALGORITHM
CoR PD	AIS Ver	1	CA00140AA	ADD: AC LINE CORD, NORTH AMERICAN
CoR PD	AIS Ver	1	T7885	MCAFEE WINDOWS AV CLIENT
CoR PD	AIS Ver	1	TT2833	COMPUTER, Z440 WORKSTATION WINDOWS 7 (NON RETURNABLE)
CoR PD	AIS Evtide	1	B1905	MCC 7500 ASTRO 25 SOFTWARE
CoR PD	AIS Evtide	1	B1933	MOTOROLA VOICE PROCESSOR MODULE
CoR PD	AIS Evtide	1	CA00288AB	ADD: MCC 7500 ARCHIVING INTERFACE SERVER SOFTWARE LICENSE
CoR PD	AIS Evtide	1	CA00147AF	ADD: MCC 7500 SECURE OPERATION
CoR PD	AIS Evtide	1	CA00182AB	ADD: AES ALGORITHM
CoR PD	AIS Evtide	1	CA00140AA	ADD: AC LINE CORD, NORTH AMERICAN
CoR PD	AIS Evtide	1	T7885	MCAFEE WINDOWS AV CLIENT
CoR PD	AIS Evtide	1	TT2833	COMPUTER, Z440 WORKSTATION WINDOWS 7 (NON RETURNABLE)
CoR PD	KVM	1	DSADDN8325	17" LCD DRAWER W/ KEYBOARD & MOUSE, KVM 16 PORTS, CABLES
CoR PD	SURGE	2	DSRMP615A	SPD, TYPE 3, 120V RACK MOUNT, 15A PLUG-IN W/ (6) 15A NEMA 5-15 OUTLETS
				[illegible]
CoR PD	KVL4000	1	T7537	KVL 4000 KEYLOADER
CoR PD	KVL4000	1	U239AD	ADD: ASTRO 25 MODE
CoR PD	KVL4000	1	CA01598AA	ADD: AC LINE CORD US
CoR PD	KVL4000	1	CA00182AP	ADD: AES ENCRYPTION SOFTWARE
CoR PD	KVL4000	1	C543	ADD: CABLE FOR RNC, DIU, MGEG
CoR PD	KVL4000	1	CA01603AA	ADD: USB COMM/CHARGE CABLE W/ CUP
CoR PD	KVL4000	1	HKN6182	KEYLOADING CABLE ADAPTER (GCAI)
				[illegible]
CoR PD	GCP8000	1	T7038	GCP 8000 SITE CONTROLLER
CoR PD	GCP8000	1	CA00303AA	ADD: QTY (1) SITE CONTROLLER
CoR PD	GCP8000	1	X153AW	ADD: RACK MOUNT HARDWARE

SUB SYS	BLOCK	QTY	NOMENCLATURE	DESCRIPTION
CoR PD	GCP8000	1	CA01136AA	ADD: MCC 7500 CONVEN SITE OPER
CoR PD	CCGW	1	SQM01SUM0205	GGM 8000 GATEWAY
CoR PD	CCGW	1	CA01616AA	ADD: AC POWER
CoR PD	CCGW	1	CA02141AA	ADD: LOW DENSITY ENH CONV GATEWAY
CoR PD	CCGW	1	SQM01SUM0205	GGM 8000 GATEWAY
CoR PD	CCGW	1	CA01616AA	ADD: AC POWER
CoR PD	CCGW	1	CA02141AA	ADD: LOW DENSITY ENH CONV GATEWAY
CoR PD	RACK	1	DLN6828A	FRU: 43RU SCHROFF GTR ESS CABINET
CoR PD	SURGE	1	DSRMP615A	SPD, TYPE 3, 120V RACK MOUNT, 15A PLUG-IN W/ (6) 15A NEMA 5-15 OUTLETS
				CAM
CoR PD	CAM	1	BVN1013	MKM 7000 Console Alias Manager Software
CoR PD	CAM	1	TT2833	COMPUTER, Z440 WORKSTATION WINDOWS 7 (NON RETURNABLE)
CoR PD	CAM	1	T7885	MCAFEE WINDOWS AV CLIENT
CoR PD	CAM	1	T7449	WINDOWS SUPPLEMENTAL TRANS CONFIG
CoR PD	CAM	1	DSE686772	ELO 1928L 19IN LCD TOUCH MONITOR, DUAL SERIAL USB CONTROLLER, GRAY
				CNI - FOR GENESIS (GENWATCH3)
CoR PD	CNI	1	DDN9590	SSG140 FIREWALL W/ 2 YEARS SUPPORT
CoR PD	CNI	1	CLN1856	2620-24 ETHERNET SWITCH
CoR PD	CNI	1	SQM01SUM0205	GGM 8000 GATEWAY
CoR PD	CNI	1	CA01616AA	ADD: AC POWER
CoR PD	SURGE	1	DSRMP615A	SPD, TYPE 3, 120V RACK MOUNT, 15A PLUG-IN W/ (6) 15A NEMA 5-15 OUTLETS
				GENESIS CLIENT (GENWATCH3)
CoR PD	Genesis	1	TT2266	GENWATCH3 ATIA ADD-ON
CoR PD	Genesis	1	TT05417AA	GW3-ATIA CLIENT LICENSES (SOLD IN GROUPS OF 5)
CoR PD	Genesis	1	L3522	CLIENT WORKSTATION (THIS INCLUDES CPU, 20? MONITOR, SPEAKERS,
CoR PD	SURGE	1	DSRMP615A	SPD, TYPE 3, 120V RACK MOUNT, 15A PLUG-IN W/ (6) 15A NEMA 5-15 OUTLETS

SECTION 4

ACCEPTANCE TEST PLAN

4.1 MCC 7100/7500 TRUNKED RESOURCES

4.1.1 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____

4.1.2 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 - TG1
RADIO-2 - TG2
RADIO-3 - TG1
RADIO-4 - TG2
CONSOLE-1 - TG1
CONSOLE-2 - TG2

VERSION #1.010

2. TEST

Step 1. Initiate a wide area call from CONSOLE-1 on TG1.

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 TG1 can monitor both sides of the conversation.

Step 4. Initiate a wide area call from CONSOLE-2 on TG2.

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 TG2 can monitor both sides of the conversation.

Pass____ Fail____

4.2 MCC 7100/7500 TRUNKED RESOURCES

4.2.1 PTT Unit ID/Alias Display

1. DESCRIPTION

Console operator positions contain various resources such as talkgroup, multigroup, Private Call which enables the dispatcher to communicate with the subscriber units. If activity occurs on one of these operator position resources, the unit ID or associated alias of the initiating radio appears at the console resource.

SETUP

RADIO-1 - TG1
RADIO-2 - TG1
CONSOLE-1 - TG1
CONSOLE-2 - TG1

VERSION #1.010

2. TEST

Step 1. Select the resource for TG1 on CONSOLE-1.

Step 2. Initiate a call on TG1 from RADIO-2 and observe that the alias is seen at CONSOLE-1 in the resource window as well as in the Activity Log window.

Step 3. Initiate a call from RADIO-1 and observe that the alias of RADIO-1 is seen at CONSOLE-1 in the resource window as well as in the Activity Log window.

Step 4. Modify RADIO-2's alias. Make sure to give enough time for the alias change to propagate to the Zone Controller.

Step 5. Initiate a call from RADIO-2 and observe the new alias of RADIO-2 is seen at CONSOLE-1 in the list in the resource window as well as in the Activity Log window.

Step 6. Return RADIO-2's alias to its original state.

Pass____ Fail____

4.2.2 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 - TG1
CONSOLE-1 - TG1
CONSOLE-2 - TG1

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 TG1.

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 TG1.

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

Pass____ Fail____

4.2.3 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 - TG1
RADIO-2 - TG2
RADIO-3 - RANDOM
CONSOLE-1 - ATG1

Note: TG1 and TG2 are members of ATG1.
RANDOM is any talkgroup not a member of ATG1.

VERSION #1.010

2. TEST

Step 1. Using CONSOLE-1, select the ATG1 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 ATG1.

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 ATG1 resource tile, otherwise the console will receive the call on the TG1 tile.

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

Pass____ Fail____

4.2.4 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 - TG1
RADIO-2 - TG2
CONSOLE-1 - TG1, TG2

VERSION #1.010

2. TEST

Step 1. From CONSOLE-1, create an Msel group with TG1 and TG2.

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____

4.2.5 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 - TG1
RADIO-2 - TG2
RADIO-3 - TG1
RADIO-4 - TG2
CONSOLE-1 - TG1 and TG2

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

VERSION #1.010

2. TEST

Step 1. Using CONSOLE-1 create a patch between TG1 and TG2.

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____

4.2.6 Talkgroup Patch - Secure

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.

SETUP

RADIO-1 - TG1 (Secure TX Mode)
RADIO-2 - TG2 (Secure TX Mode)
RADIO-3 - TG1 (No secure keys loaded)
RADIO-4 - TG2 (Clear TX Mode with keys loaded)
CONSOLE-1 - TG1 and TG2 (Secure TX Mode)

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

VERSION #1.010

2. TEST

Step 1. Using CONSOLE-1 create a secure patch between TG1 and TG2.

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

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

Step 4. Initiate a talkgroup call on TG1 from RADIO-1.

Step 5. Observe that all radios are able to hear RADIO-1 except RADIO-3.

Step 6. Dissolve the patch.

Pass____ Fail____

4.2.7 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 - TG1
RADIO-2 - TG1
CONSOLE-1 - TG1

VERSION #1.020

2. TEST

Step 1. Initiate a Talkgroup call from RADIO-1 on TG1. 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 TG1.

Step 4. Observe that RADIO-2 is now receiving audio from CONSOLE-1 on TG1.

Step 5. De-key CONSOLE-1.

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

Step 7. End the TG1 call from RADIO-1.

Pass____ Fail____

4.2.8 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 - TG1
CONSOLE-1 - SITE - CONSITE-1
CONSOLE-2 - TG1
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 TG1

Step 2. Assign instance of AUXIO_1 to CONSOLE-2 to a talk resource tile on TG1.

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____

4.3 MKM 7000 CONSOLE ALIAS MANAGER (CAM)

4.3.1 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____

4.3.2 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 - TG1

CONSOLE-1 - TG1
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 TG1, verify the defined SU Alias shows up on CONSOLE-1's TG1 resource.

Pass____ Fail____

4.3.3 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____

4.3.4 MKM 7000 Fault Management

1. DESCRIPTION

This test will demonstrate that the MKM 7000's operational state is monitored and reported by the Unified Event Manager (UEM).

SETUP

A standalone (not cohabed) MKM 7000 server is connected and communicating normally with an MCC 7100/7500 Console.

VERSION #1.030

2. TEST

Step 1. Verify the MKM 7000 is up and running.

Step 2. Verify on UEM that the state of the MKM 7000 is "enabled".

Step 3. In "Configuration Manager" of the MKM 7000, disable MKM 7000 (under Server Control tab) and verify on UEM that this is reported accordingly.

Step 4. In "Configuration Manager" of MKM 7000, re-enable MKM 7000 (under Server Control tab) and verify on UEM that this is reported accordingly.

Pass____ Fail____

4.4 MCC 7100/7500 CONVENTIONAL RESOURCES

4.4.1 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____

4.5 FAULT MANAGEMENT

4.5.1 Unified Event Manager - Views

1. DESCRIPTION

The Unified Event Manager (UEM) provides three different views. The purpose of this test is to demonstrate the views available from the UEM.

SETUP

NMclient01 - UEM session up and running.

VERSION #1.050

2. TEST

Step 1. The first view is the Active Alarms. In the navigation pane expand Fault Management and select Network Events.

Step 2. Customize the Active Alarms display by selecting the View option from the menu bar, then select Search.

Step 3. Perform a Managed Resource search for channels, site controllers and routers by entering "Contains" and ch, sc, and z00 respectively in the search fields to perform the three separate searches.

Step 4. For each of the three searches a filtered alarm view is displayed that contains alarms for the appropriate device in the search.

Step 5. The second view is the Physical Summary view. In the navigation pane, expand Zone Maps and select Physical Summary. The Physical Summary View provides an aggregated alarm severity status of the devices located at all subnets in the Zone.

Step 6. The third view is the Service Summary. In the navigation pane, under Zone Maps select Service Summary. The Service Summary View provides a quick summary of the service status of sites in a Zone.

Step 7. In the main UEM window is an Alarm Summary View pane. In the Alarm Summary View, select the format for the desired view, pie, tabular or bar.

Pass____ Fail____

4.5.2 Analog Conventional Voice Channel Failure (MCC 7500 Systems only)

1. DESCRIPTION

This test demonstrates that the User Event Manager (UEM) event browser is able to capture information about various failures at the system and zone level. An analog conventional voice channel will be disabled and the alerts will be monitored.

SETUP

RADIO-1 - CONVCH1
Conventional Channel Gateway (CCGW) 1 is in service and all four of its channels are operational.
CONSOLE-1 - CONVCH1

VERSION #1.020

2. TEST

Step 1. Observe that the CCGW1 container is GREEN in the Unified Event Manager (UEM).

Step 2. Disable CONVCH1 on CCGW1.

Step 3. Observe the appropriate alert appears on the UEM Event Browser and that the CCGW1 container changes color.

Step 4. Observe that CONSOLE-1 is no longer able to contact RADIO-1.

Step 5. Disable the rest of the Analog Conventional Channels on CCGW1. Observe the appropriate alerts appear in the UEM.

Step 6. Bring each of the Channels on CCGW1 back into service.

Step 7. Observe the color for the CCGW1 container turns to GREEN (normal) in the UEM.

Step 8. Observe that CONSOLE-1 is now able to contact RADIO-1 on CONVCH1.

Pass____ Fail____

4.5.3 Core Router Failure Reports to the Unified Event Manager

1. DESCRIPTION

This test will demonstrate that the Unified Event Manager (UEM) alarms view is able to capture information about various failures at the system and zone level.

A Core Router/Gateway will be powered off to simulate a failure. The system health will be monitored on UEM.

SETUP

NMclient01 - UEM session up and running.

VERSION #1.040

2. TEST

Step 1. Verify that the Router/Gateway to be tested displays without failures (normal) on UEM. The core router is contained in the specific subnet that it is physically collocated with in the network.

Step 2. Power down the Router/Gateway.

Step 3. Observe that an alarm indicating a Router/Gateway failure appears on the UEM alarms view.

Step 4. Restore power to the Router/Gateway.

Step 5. Observe the changes to the alarm in UEM, indicating the Router/Gateway is enabling.

Step 6. Observe that alarm view updates in the UEM, indicating the Router/Gateway has recovered and is enabled.

Pass____ Fail____

4.5.4 Site Path Failure (T1) Reports to the Unified Event Manager

1. DESCRIPTION

This test will demonstrate that the Unified Event Manager (UEM) alarms view is able to capture information about various failures at the system and zone level.

This test simulates a microwave failure by removing a customer selected site data link and monitoring the alerts.

Note: If using a Simulcast site, this test refers to the Prime Site links. While failures would be seen at the subsite level if a Subsite link were failed, the site would not drop into Site Trunking.

SETUP

RADIO-1 - TG1
RADIO-1 - SITE - SITE1
NMclient01 - UEM session up and running.

* RADIO-1 should be "Site Locked"

VERSION #1.020

2. TEST

Step 1. Remove the T1 cable(s) to the SITE1 router(s) (If Simulcast, this refers to the Prime Site router(s)) at the site where RADIO-1 is affiliated. Be certain to remove the T1 cable from both routers if redundant site links are being utilized.

Step 2. Observe the UEM reports CommFailure alarms for the devices at the affected site.

Step 3. In addition, observe that the site is now in the Site Trunking mode.

Step 4. Reconnect the T1 cable(s) disconnected in Step 1.

Step 5. Observe the site returns to the Wide Area Trunking mode.

Step 6. Observe the topology and alarms that appear on the UEM indicating the site has recovered.

Pass____ Fail____

4.6 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: _____

WITNESS: _____ Date: _____

Please Print Name: _____ _____

Initials:

Please Print Title: _____

SECTION 5

STATEMENT OF WORK

5.1 OVERVIEW

This Statement of Work (SOW) describes the deliverables to be furnished to the City of Riverside Police Department. The tasks described herein will be performed by Motorola, its subcontractors, and the City of Riverside Police Department (Riverside PD) to implement the solution described in the System Description. It 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. In particular, Motorola has made assumptions of the sites to be used for the new system. Should any of the sites 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.

Motorola is providing a 18-position MCC 7500 Dispatch Console with AES encryption, as well as one conventional site controller, three Enhanced Conventional Channel Gateways, two AIS, one KVL 4000, one MKM 7000 Console Alias Manager, one Customer Network Interface, one GenWatch 3 terminal and spares. Finally, Motorola is including the option to deploy a Twisted Pair Solution (WAVE) system at the City of Riverside and Riverside County Master site. The project involves extending ten radio talk groups to communicate with up to a total of 30 smartphones and/or tablets using the WAVE Mobile Communicator application.

5.2 ASSUMPTIONS

Motorola has based the system design on information provided by the City of Riverside Police Department 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 Riverside 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.
- Motorola is not responsible for interference caused or received by the Motorola provided equipment except for interference that is directly caused by the Motorola-provided transmitter(s) to the Motorola-provided receiver(s). Should the Riverside PD system experience interference, Motorola can be contracted to investigate the source and recommend solutions to mitigate the issue.

- All existing sites or equipment locations will have sufficient space available for the system described.
  - This includes available spaces for proposed cabinets, 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 Riverside PD will provide AC and/or DC power distribution units.
  - It is assumed that Riverside PD will provide AC power backup for the MCC7500 rack/equipment.
  - Riverside 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 Riverside PD.
- Approved FCC licensing will be provided by Riverside PD.
- Approved local, State, or Federal permits as may be required for the installation and operation of the proposed equipment, are the responsibility of Riverside PD.
- Any required system interconnections not specifically outlined here will be provided by the Customer. These may include dedicated phone circuits.
- Where necessary, the Customer will provide a dedicated delivery point, such as a warehouse, for receipt, inventory, and storage of equipment prior to delivery to the sites.
- It is assumed that the Customer will set aside two (2) CAT6 cables per console position for Motorola to interface to the console switch.
- It is assumed that the Customer will set aside two (2) fiber strands between the equipment room and portable switch enclosure in dispatch center for Motorola.
- Motorola will provide the equipment for the GenWatch3 client but the connection from the Customer to the Master Site will be the responsibility of the Customer.
- No new logging solution has been included in this proposal. Motorola has included two AIS but actual audio recording is the responsibility of Riverside PD.
- No new control stations have been included in this proposal.
- Training is not included.
- Motorola's MCC7500 design is built with dedicated workstations for each MCC7500 operator positions. The Motorola provided computers will not be configured to share/support CAD, E911 network or any other third party applications.
- Riverside PD is responsible for transporting and disposal of existing third party console racks and equipment.

5.3 CONTRACT

5.3.1 Contract Award (Milestone)

- The Customer and Motorola execute the contract and both parties receive all the necessary documentation.

5.3.2 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 the Customer.

Customer Responsibilities:

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

Completion Criteria:

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

5.3.3 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 the Customer.
- Review the resource and scheduling requirements with the Customer.
- Review the Project Schedule with the Customer to address upcoming milestones and/or events.
- Review the teams' interactions (Motorola and the Customer), meetings, reports, milestone acceptance, and the Customer's participation in particular phases.

Customer Responsibilities:

- The Customer's key project team participants attend the meeting.
- Review Motorola and Customer responsibilities.

Completion Criteria:

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

5.4 CONTRACT DESIGN REVIEW

5.4.1 Review Contract Design

Motorola Responsibilities:

- Meet with the Customer 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 the Customer 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 the Customer-supplied link(s) and external interfaces.
- Finalize site acquisition and development plan.
  - Conduct (updated) site evaluations to capture site details of the system design and to determine site readiness (when necessary).
  - Determine each site's ability to accommodate proposed equipment based upon physical capacity.
  - If applicable, test existing equipment with which Motorola equipment will interface.
- Prepare Site Evaluation Report that summarizes findings of above-described site evaluations.
  - If, for any reason, any of the proposed sites cannot be utilized due to reasons beyond Motorola's control, the costs associated with site changes or delays including, but not limited to, re-engineering, frequency re-licensing, site zoning, site permitting, schedule delays, site abnormalities, re-mobilization, etc., will be paid for by the Customer and documented through the change order process.

Customer Responsibilities:

- The Customer's key project team participants attend the meeting.
- Make timely decisions, according to the Project Schedule.
- Frequency Licensing and Interference:
  - As mandated by FCC, the Customer, 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.

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.

5.4.2 Design Approval (Milestone)

- The Customer executes a Design Approval milestone document.

5.5 ORDER PROCESSING

5.5.1 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 the Customer 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).

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.

5.6 MANUFACTURING AND STAGING

5.6.1 Manufacture Motorola Fixed Network Equipment

Motorola Responsibilities:

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

Customer Responsibilities:

- None.

Completion Criteria:

- FNE shipped to either the field or the staging facility.

5.6.2 Manufacture Motorola Subscribers

Motorola Responsibilities:

- Manufacture the subscribers necessary for the system, based on equipment order and project schedule.
- Ship a representative sample of subscribers to staging facilities. (when applicable)

Customer Responsibilities:

- None.

Completion Criteria:

- Subscribers (mobile or portable radios) shipped to the field.

5.6.3 Manufacture Non-Motorola Equipment

Motorola Responsibilities:

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

Customer Responsibilities:

- None.

Completion Criteria:

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

5.6.4 Ship to Staging (Milestone)

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

5.6.5 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 at each of the transmitter/receiver sites.
- 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.
- Complete programming of sample Subscriber units.
- 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.
- Provide a Factory Acceptance Test Plan.

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.
- Review and approve proposed Factory Acceptance Test Plan.

Completion Criteria:

- System staging completed and ready for testing.

5.6.6 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.
- Perform Customer-witnessed tests based upon Factory Acceptance Test Plan.

Customer Responsibilities:

- Attend Factory Acceptance Testing.
- Pay for travel, lodging, meals, and all incidental expenses for Customer personnel and representatives to witness the Factory Acceptance Testing.

Completion Criteria:

- Approve Factory Acceptance Testing.

5.6.7 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.

5.6.8 CCSi Ship Acceptance (Milestone)

- All equipment shipped to the field.

5.6.9 Develop Templates

Motorola Responsibilities:

- Motorola assists the Customer in defining each radio/console template. A total of five templates are included in this offering.
- 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 the Customer evaluation.

Customer Responsibilities:

- User groups create templates in a spreadsheet format.
- Forward electronic copies of the spreadsheets to the committee members for their review and comment.
- Evaluate sample radios and provide feedback.
- Approve templates.

Completion Criteria:

- Templates completed and approved by the Customer.

5.7 CIVIL WORK FOR THE CUSTOMER-PROVIDED FACILITIES

Motorola Responsibilities:

- Provide electrical requirements for each equipment rack to be installed in the Customer-provided facilities.
- Provide heat load for each equipment rack to be installed in the Customer-provided facilities.

Customer Responsibilities:

- Provide electrical to Motorola equipment and terminate at the OP8 or Cabinet electric panel.
- If applicable and based on local jurisdictional authority, the Customer will be responsible for any installation or up-grades 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 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.).
- 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 (R56). Ceiling (minimum 9 feet) and cable tray heights (minimum 8 feet) in the equipment rooms in order to accommodate 7-foot, 6-inch equipment racks.
- Provide floor space and desk space for the System equipment at the Customer-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.

- Relocate existing equipment, if needed, to provide required space for the installation of Motorola-supplied equipment.
- Bring grounding system up to Motorola's R56 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).
- 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 R56 standards.

5.8 SYSTEM INSTALLATION

5.8.1 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 with the final 'as-built' documentation of the system.
- Will provide storage location for the Motorola-provided equipment.
- Receive and inventory all equipment.
- Bond the supplied equipment to the site ground system in accordance with Motorola's R56 standards.
- Will interface with the following network connections:
  - Fiber interface.

- Will not remove existing equipment, with the exception of the existing sixteen consoles and/or CEB that will be replaced.
- Will not relocate existing equipment to a location designated by the Customer.
- Will not dispose of existing equipment, with the exception of the existing sixteen consoles and/or CEB that will be replaced.

Customer Responsibilities:

- Provide access to the sites, as necessary.

Completion Criteria:

- Fixed Network Equipment installation completed and ready for optimization.

5.8.2 Fixed Network Equipment Installation Complete

- All fixed network equipment installed and accepted by the Customer.

5.8.3 Console Installation

Motorola Responsibilities:

- Install the console in the space provided by the Customer.
- Connect the Customer-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 the Customer-supplied ground system in accordance with Motorola's R56 Site Installation standards.
- Perform the console programming, based on the console templates designed during the fleetmapping process.
- For consoles not located at the master site, additional network link resources will be required, as identified in the network diagram provided by Motorola.
- Install a MKM 7000 Console Alias Manager.
- Install a GenWatch3 Client.

Customer Responsibilities:

- Provide demarcation point located within 25 feet of the console interface.

Completion Criteria:

- Console installation is complete.

5.8.4 Console Installation Complete

- Console installation completed and accepted by the Customer.

5.8.5 Twisted Pair Solution (WAVE) Installation *(Optional)*

NOTICE:

For further information contact Twisted Pair Solutions, Inc.

Corporate Headquarters
3131 Elliott Avenue, Suite 200
Seattle, WA 98121
USA
Tel:+1 .206.442.2101
Fax: +1 .206.812.0737
Email: support@twistpair.com
Web: http://www.twistpair.com
Twisted Pair Solutions UK, Inc.

Jays Close, Viables Industrial Estate
Basingstoke, Hampshire RG22 4PD
United Kingdom

+44 (0) 1256 484052

Project Overview

The option involves extending ten radio talk groups to communicate with up to a total of 30 smartphones and/or tablets using the WAVE Mobile Communicator application.

Contacts

Twisted Pair Solutions will provide a WAVE Subject Matter Expert (SME) to assist the City of Riverside with the successful installation of the WAVE system. Throughout the duration of the project there will be one main point of contact from each organization. This person will provide the necessary project management to ensure the project stays on schedule and to resolve any issues or concerns.

Name	Email	Telephone	Role(s)
	TWISTED PAIR SOLUTIONS, MSI		
Dave Edgar	Dave.Edgar@twistpair.commailto:Ernie.Bernal@twistpair.com	+1 206-812-3258	Business Contact, CC
Ernie Bernal	Ernie.Bernal@twistpair.com	+1 206-812-0731	Consulting Engineer, CC
Mike Leghorn	Mike.leghorn@twistpair.com	+1 206-812-0746	Project Manager, POC

"POC" is the primary contact for the organization

"CC" denotes a role where the person is included on all major email communications and project updates.

Motorola Responsibilities:

Project Staffing

Twisted Pair Solutions (TPS) will provide a WCIE Certified Engineer and a PMI / WAVE certified project manager who are Subject Matter Experts (SME) with deploying WAVE.

Motorola will provide the following:

Survey / Assessment Review: A TPS engineer will review with the City of Riverside the pre-installation requirements in order to deploy WAVE. This assessment will include server-, network-, security-, radio- and space-readiness, among other items.

Planning: After the survey review, the TPS engineer will finalize the WAVE design and coordinate with the TPS Project Manager to develop the project plan for review by the City of Riverside for approval and/or to bridge any gaps that have been uncovered during the assessment process. As a final step, the City of Riverside and TPS will collaborate on schedule and scope during a project kickoff meeting and communicate the project plan to all project core team members in preparation for the project start.

WAVE Installation: The TPS engineer will work with the City of Riverside's and the County of Riverside's primary technical POCs in order to perform the following:

- Provide a subject matter expert to review the existing infrastructure and IT architecture and validate our knowledge and assumptions.
- Install WAVE Management Server application on customer provided hardware.
- Install the WAVE database on the customer provided Management Server.
- Install 2 WAVE Mobile Communicator clients on customer provided smartphones and/or tablets and show the City of Riverside how to install the rest.
- Confirm proper operation of the new WAVE version.
- Update documentation with any changes made to the system.
- Train end-users on the use of the applications.
- Train System Administrator on the management of the WAVE System.
- Perform functional test plan with the City of Riverside.

Customer Responsibilities:

- Act as the point of contact for all the scheduling and coordination among the City and County of Riverside resources that will assist with project.
- Provide the necessary hardware and software required to support the project to include one Motorola APX 6500 radio, one device that will be deployed, Radio/GW cable to connect gateway to radio, Ethernet switches, firewalls, and all required network cabling.
- Provide antenna system for the APX6500 radio.
- Provide rack space to install Motorola provided equipment.
- Connect all project related endpoints, e.g. servers and gateways using the proper cables, mediums, standards, and protocols – before the SMEs arrival.
- Program the APX 6500 control station/radio and radio gateway to connect to WAVE.
- Complete the information survey provided by TPS regarding status of IP addressing, IP port access, cables, etc. to ensure site readiness.
- Install and configure the servers and network.
- Provide physical and credential restricted access to all project related sites and endpoints for TPS SME.
- Provide general radio engineering resources to assist with the audio tuning for interfacing the radios with WAVE.
- Provide Network Engineering, Network Security and System Administration resources to assist with IP network and security related matters during the installation of WAVE
- Provide 1st level support for any questions or issues during the project.
- Provide access to the WAVE Management Server as well as other components that make up the WAVE system, i.e. WAVE Media Servers and LMR gateways.
- Provide on-site technicians to assist with specific tasks as identified during the planning stage.
- Provide contact information for all project stakeholders impacted by the project (network, security, LMR, VoIP, etc.).
- Provide general access to resources that the TPS SME needs while on-site.

Completion Criteria:

The success of the WAVE installation will be determined by the successful completion of the WAVE Test and Acceptance Document as described in Acceptance Test Plan section of this proposal. The project manager will submit this document with the Project Acceptance statement upon conclusion of test for the City of Riverside signature.

5.8.6 System Installation Acceptance (Milestone)

- All equipment installations are completed and accepted by the Customer.

5.9 SYSTEM OPTIMIZATION

5.9.1 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.
- Check audio and data levels to verify 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.
- Define the logging recorder tracks by talkgroup.
- Dispatchers to use the existing conventional system icons for dispatching until cutover.

Completion Criteria:

- System FNE optimization is complete.

5.9.2 Link Verification

Motorola Responsibilities:

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

  It should be noted that 900 MHz, 2.4 GHz, and 5.2/5.4/5.8 GHz bands are unlicensed. Therefore, Motorola has no control over signal emissions in these bands that may interfere with the desired signals. Although link surveys will identify possible existing interference sources, there is no guarantee that interference will not emerge after the survey. Motorola can assist the CUSTOMER in assessing interference issues if they occur, however, the cost for the services and any additional equipment necessary to resolve the interference problem are beyond the scope of the generic link survey and installation.

Customer Responsibilities:

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

5.9.3 Completion Criteria:

- Link verification successfully completed.

5.9.4 Optimization Complete

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

5.10 TRAINING

- Training is not included.

5.11 AUDIT AND ACCEPTANCE TESTING

5.11.1 Perform R56 Installation Audit

Motorola Responsibilities:

- Perform R56 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 (R56).

Customer Responsibilities:

- Provide access/escort to the sites.

Completion Criteria:

- All R56 audits completed successfully.

5.11.2 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 the Customer) 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.

5.11.3 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 the Customer 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.

5.11.4 System Acceptance Test Procedures (Milestone)

- Customer approves the completion of all the required tests.

5.12 SUBSCRIBERS

5.12.1 Deliver Portables and Mobiles

Customer Responsibilities:

- Program the portables and mobiles, as identified in the equipment list and activate them on the system.
- Upon receipt of portables, a Customer-authorized signatory acknowledges receipt of all portables and accessories and print outs of the test results.
- Distribute the portables to end users.

5.12.2 Subscribers Complete

- All Subscribers are delivered successfully.

5.13 FINALIZE

5.13.1 Cutover

Motorola Responsibilities:

- Motorola and the Customer 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.

Completion Criteria:

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

5.13.2 Resolve Punchlist

Motorola Responsibilities:

- Work with the Customer 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 the Customer.

5.13.3 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 the Customer.

5.13.4 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 Block Diagrams
  - Site Floor Plans
  - Site Equipment Rack Configurations
  - 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 converted from native format to Adobe PDF format to be included on the System Manual CD.

- Provide two console operator manuals at the dispatch center.

Customer Responsibilities:

- Receive and approve all documentation provided by Motorola.

Completion Criteria:

- All required documentation is provided and approved by the Customer.

5.13.5 Final Acceptance (Milestone)

- All deliverables completed, as contractually required.
- Final System Acceptance received from the Customer.

5.14 PROJECT ADMINISTRATION

5.14.1 Project Status Meetings

Motorola Responsibilities:

- Once a month or as agreed, Motorola Project Manager, or designee, will attend all project status meetings with the Customer, 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 the Customer or Motorola.

Customer Responsibilities:

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

Completion Criteria:

- Completion of the meetings and submission of meeting minutes.

5.14.2 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:

- The Customer approval of the Milestone Completion document(s).

5.14.3 Change Order Process

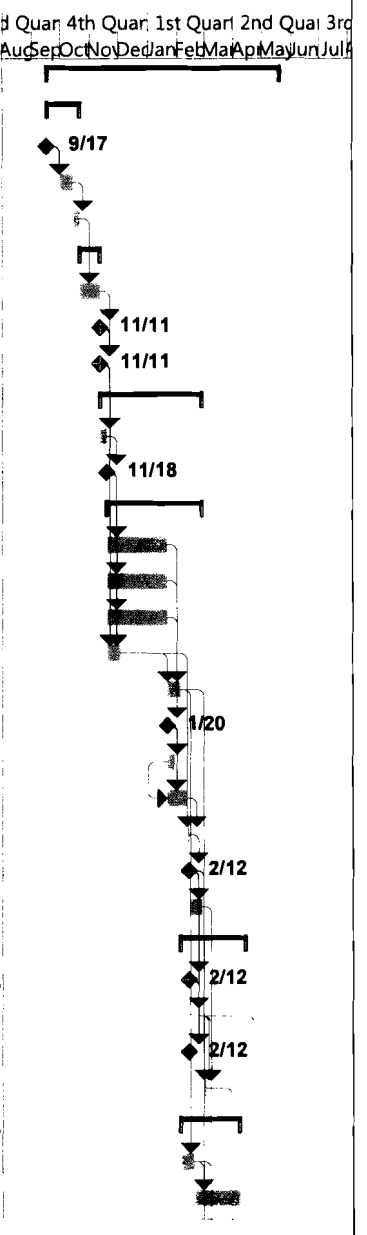
Either Party may request changes within the general scope of this Agreement. If a requested change causes an increase or decrease in the cost, change in system configuration or adds time to the project's timeline required to perform this Agreement, the Parties will agree to an equitable adjustment of 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 6

PROJECT SCHEDULE

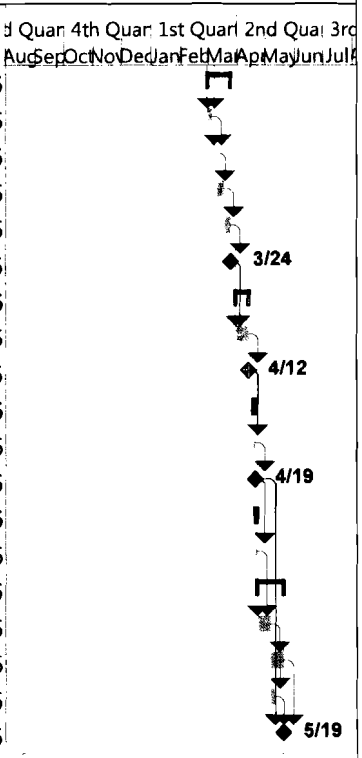
City of Riverside MCC 7500

ID	Task Name	Duration	Start	Finish
1	**Implementation Project**	**176d**	**Thu 9/17/15**	**Thu 5/19/16**
2	**Contract**	**25d**	**Thu 9/17/15**	**Wed 10/21/15**
3	Contract Award	0d	Thu 9/17/15	Thu 9/17/15
4	Contract Administration	10d	Thu 10/1/15	Wed 10/14/15
5	Project Kick-Off	5d	Thu 10/15/15	Wed 10/21/15
6	**Contract Design Review (Gate 9 & 8)**	**15d**	**Thu 10/22/15**	**Wed 11/11/15**
7	Review Contract Design	15d	Thu 10/22/15	Wed 11/11/15
8	Complete Transition Survey	0d	Wed 11/11/15	Wed 11/11/15
9	Design Approval	0d	Wed 11/11/15	Wed 11/11/15
10	**Order Processing - (Gate 7 - Procurement & Build)**	**77d**	**Thu 11/12/15**	**Fri 2/26/16**
11	Process Equipment list	5d	Thu 11/12/15	Wed 11/18/15
12	Order Bridged	0d	Wed 11/18/15	Wed 11/18/15
13	**Manufacturing and Staging**	**72d**	**Thu 11/19/15**	**Fri 2/26/16**
14	Manufacture Motorola FNE	45d	Thu 11/19/15	Wed 1/20/16
15	Manufacture Non-Motorola FNE	45d	Thu 11/19/15	Wed 1/20/16
16	Manufacture Subscribers	45d	Thu 11/19/15	Wed 1/20/16
17	Develop Programming Configurations	10d	Thu 11/19/15	Wed 12/2/15
18	Ship Subscribers to Field	10d	Thu 1/21/16	Wed 2/3/16
19	Ship to Staging	0d	Wed 1/20/16	Wed 1/20/16
20	Upgrade Operations	5d	Thu 1/21/16	Wed 1/27/16
21	Stage System	15d	Thu 1/21/16	Wed 2/10/16
22	Perform Staging ATP	2d	Thu 2/11/16	Fri 2/12/16
23	CCSI Acceptance	0d	Fri 2/12/16	Fri 2/12/16
24	Ship FNE Equipment to Field	10d	Mon 2/15/16	Fri 2/26/16
25	**INSTALLATION (Gate 6 - Installation & Optimization)**	**49d**	**Thu 2/4/16**	**Tue 4/12/16**
26	**Site Readiness Complete <Custpomer Responsibility>**	**0d**	**Fri 2/12/16**	**Fri 2/12/16**
27	Perform R-56 Audit	2d	Mon 2/22/16	Tue 2/23/16
28	**Site Connectivity Complete <Customer Responsibilty>**	**0d**	**Fri 2/12/16**	**Fri 2/12/16**
29	Link Verification	2d	Mon 2/29/16	Tue 3/1/16
30	**Subscriber Delivery**	**45d**	**Thu 2/4/16**	**Wed 4/6/16**
31	Receive and Inventory 500 APX6000 & 200 APX6500	10d	Thu 2/4/16	Wed 2/17/16
32	Align and Print out Test Results for 500 APX6000 & 200 APX6500	35d	Thu 2/18/16	Wed 4/6/16



City of Riverside MCC 7500

ID	Task Name	Duration	Start	Finish
33	**Console Installation**	**19d**	**Mon 2/29/16**	**Thu 3/24/16**
34	Receive and Inventory	5d	Mon 2/29/16	Fri 3/4/16
35	Install Console Backroom Electronics	2d	Mon 3/7/16	Tue 3/8/16
36	Install Console Equipment	7d	Wed 3/9/16	Thu 3/17/16
37	Program Console	5d	Fri 3/18/16	Thu 3/24/16
38	Installation Acceptance	0d	Thu 3/24/16	Thu 3/24/16
39	**System Optimization**	**10d**	**Wed 3/30/16**	**Tue 4/12/16**
40	Optimize System FNE	10d	Wed 3/30/16	Tue 4/12/16
41	Optimization Complete	0d	Tue 4/12/16	Tue 4/12/16
42	**Audit and Acceptance Testing (Gate 5 - System Testing & Cutover)**	**4d**	**Mon 4/18/16**	**Thu 4/21/16**
43	Perform System Testing	2d	Mon 4/18/16	Tue 4/19/16
44	SATP Acceptance	0d	Tue 4/19/16	Tue 4/19/16
45	**Cutover (Gate 5 - System Testing & Cutover)**	**2d**	**Wed 4/20/16**	**Thu 4/21/16**
46	Cut-Over	2d	Wed 4/20/16	Thu 4/21/16
47	**Finalize (Gate 4 - Implementation Close)**	**20d**	**Fri 4/22/16**	**Thu 5/19/16**
48	Resolve Punchlist	10d	Fri 4/22/16	Thu 5/5/16
49	Finalize Documentation	10d	Fri 5/6/16	Thu 5/19/16
50	Transition Service/PTC	2d	Fri 5/6/16	Mon 5/9/16
51	Final Acceptance	0d	Thu 5/19/16	Thu 5/19/16



SECTION 7

PRICING SUMMARY

Equipment and services for the MCC7500 consoles before the Riverside Cities (6%) discount is at LA County contract pricing:

- LA County Contract pricing for Services and Installation ($352,784)
- LA County Contract pricing for Infrastructure and Equipment ($986,696)

7.1 PRICING SUMMARY MCC7500 DISPATCH CONSOLES

Description	Pricing
Services, Staging, Installation, System Optimization (With Discount)	$331,889
Infrastructure and Equipment, MCC7500 Dispatch Solution (With Discount)	$927,222
Total System Discount Applied to Services and Infrastructure ($80,369)	--
Sub Total	$1,259,111
Ca State Sales Tax 8%	$74,178
MCC7500 Total With Discounts	**$1,333,289**

7.2 PRICING SUMMARY SUBSCRIBERS

APX6000 7/800 MHZ MODEL 3.5 PORTABLE RADIO

Description	Pricing
APX6000 MODEL 3.5 PORTABLE RADIO	$1,552.00
ASTRO DIGITAL CAI OPERATION	$257.50
SMARTZONE OPERATION	$600.00
P25 9600 BAUD TRUNKING	$150.00
TDMA OPERATION	$225.00
ADVANCED SYSTEM KEY (HARDWARE)	$2.50.00
PROGRAMMING OVER P25	$50.00
OVER THE AIR REKEYING W/MULTIKEY	$370.00
AES ENCRYPTION	$237.50
GPS OPERATION	-
WIND PORTING REMOTE SPEAKER MIC	$95.00
FOUR YEARS (4) SfS LITE	$162.00
FIVE YEARS (5) SfS EXTENDED	$245.00
IMPRESS SINGLE UNIT CHARGER	$83.50
LEATHER CARRY CASE W/SWIVEL BL	$55.00
TOTAL PRICE PER SUBSCRIBER**	**$4,085.00**
QUANTITY 425 APX6000	**$1,736,125**

**PER SUBSCRIBER RATE LA COUNTY CONTRACT $5,024.35

APX6500 7/800 MHZ MID POWER MOBILE RADIO

Description	Pricing
APX 6500 7/800 MHZ MID POWER MOBILE	$1,500.00
ASTRO DIGITAL CAI OPERATION	$257.50
SMARTZONE OPERATION	$600.00
P25 9600 BAUD TRUNKING	$150.00
TDMA OPERATION	$225.00
ADVANCED SYSTEM KEY (HARDWARE)	$2.50.00
PROGRAMMING OVER P25	$50.00
OVER THE AIR REKEYING W/MULTIKEY	$370.00
AES ENCRYPTION	$237.50
GPS OPERATION	-
GPS ANTENNA	$37.50
REMOTE MOUNT MID POWER	$148.50
KEYPAD MIC GCAI	$90.00
O5 CONTROL HEAD	$216.00
O5 CONTROL HEAD SOFTWARE	-
AUXILARY SPEAKER 7.5WATT	$42.00
ANTENNA ¼ WAVE 762-870 MHZ	$9.80
FOUR YEARS (4) SfS LITE	$270.00
FIVE YEARS (5) SfS EXTENDED	$372.00
TOTAL PRICE PER SUBSCRIBER**	**$4,578.30**
QUANTITY 150 APX6500	**$686,745.00**

**PER SUBSCRIBER RATE LA COUNTY CONTRACT $5,457.60

APX6000 PORTABLES TOTAL	$1,736,125
APX6500 MOBILES TOTAL	$686,745
SUB TOTAL	$2,422,870
CA SALES TAX 8%	$193,830
SUBSCRIBER RADIOS TOTAL WITH TAX	**$2,616,700**

***SUBSCRIBER QUANTITIES MAY CHANGE, PRICING IS VALID EVEN WITH A CHANGE IN QUANTITY**

7.3 PRICING SUMMARY WAVE 5000 SOLUTION (OPTION)

Description	Pricing
WAVE 5000 Infrastructure and Software (Servers, Routers, User Licenes, Talk Group Licenses)	$106,151.00
System Services (Installation, Engineering, System Technologist Time)	$46,937.00
SYSTEM DISCOUNT (6%)	**($9,185)**
SUB TOTAL	$143,903.00
CA SALES TAX 8%	8,492.00
TOTAL PRICE WITH DISCOUNT AND TAX	152,395.00

***The WAVE 5000 solution may be purchased at a later date at the price listed above.**

7.4 PAYMENT TERMS

Except for a payment that is due on the Effective Date, The City will make payments to Motorola within thirty (30) days after the date of each invoice. The City 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.

1. 15% of the Contract Price upon completion of Contract Design Review;
2. 45% of the Contract Price upon receipt of equipment;
3. 20% of the Contract Price upon completion of installation;
4. 10% of the Contract Price upon successful completion of Acceptance Test Plan;
5. 10% of the Contract Price upon Final Acceptance.

Overdue invoices will bear simple interest at the rate of ten percent (10%) per annum, unless such rate exceeds the maximum allowed by law, in which case it will be reduced to the maximum allowable rate. 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

WARRANTY AND MAINTENANCE

Motorola has over 75 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.

8.1 THE MOTOROLA SERVICE DELIVERY TEAM

Customer Support Manager

Your Motorola Customer Support Manager provides coordination of support resources to enhance the quality of service delivery and to ensure your satisfaction. The Customer Support Manager (CSM) 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 CSM will supervise and manage the Motorola Authorized Servicer's functions.

Motorola System Technologists

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

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.
- Infrastructure Repair.
- Technical Support.
- OnSite Infrastructure Response Service.
- Security Update Service (SUS).

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 the City of Riverside 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.

8.2 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 being delivered currently to the Riverside PD and are listed below along with a brief description.

8.2.1 Dispatch Service with Onsite Infrastructure Response

The Central Call Center (CCO) at the Motorola System Support Center (SSC) will receive Customer request for service and dispatch a local Servicer. The Servicer will respond to the Customer location based on pre-defined Severity Levels in order to restore the System.

Motorola will also provide Case management as part of the Dispatch Service. The CCO will maintain contact with the on-site Servicer until System Restoral and Case is closed. The CCO will continuously track and manage Cases from creation to close through an automated Case tracking process. This Case management allows for Motorola to provide Case activity reports.

8.2.2 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.

8.2.3 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.

8.2.4 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 (Table 8-1: Security Update Services 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.

Table 8-1: Security Update Services

	SUS
Anti-virus Definition Update	✓
Minor Release (patch release)	✓
Information Assurance Remediation	
Major Release (system release)	
Hardware Refresh	
Implementation Services	
Regional Partner Invoicing	available

- 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.
- Recommendations for IA remediation may include, but is not limited to the following: provide security software updates; provide operating system security updates or patches; implement configuration changes; upgrade to a later ASTRO 25 System Release (upgrade expense not included), or recommending a compensating control.
- Regional partner invoicing provides ability to separate invoicing across multiple agencies.

8.3 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 the Riverside Police Department 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 services have been included as an option in this offering.

8.4 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 (Table 8-2). Motorola's goal is to provide the Riverside Police Department with the qualified resources, to maintain and improve system operation and availability, and to deliver world class service support.

Table 8-2: Warranty Services Overview

Warranty and Post Warranty Service Overview	Warranty Year
Dispatch Service	✓
On Site Infrastructure Response	✓
Network Preventative Maintenance	
Infrastructure Repair	✓
Technical Support Service	✓
Network Monitoring Service	
Security Monitoring Service	
Security Update Service (SUS)	✓
Performance Management Reports	

SECTION 9

LIFECYCLE SERVICES

9.1 LIFECYCLE PLANNING

The ASTRO 25 system is an integrated end-to-end solution designed for delivery of mission-critical land mobile radio services. The foundation of the ASTRO 25 platform is an information technology (IT) standards-based solution that could not otherwise be developed in-house alone. It's similar to other IT systems with based core which incorporates, both Motorola and commercially developed software and hardware products. The embedded components of the ASTRO 25 system take advantage of the latest technology available through Motorola and its partners to provide optimized leverage products from multiple original equipment manufacturer (OEM) partners, over time, due to normal advancements in technology, individual components within the ASTRO 25 platform will require update and replacement. Lifecycle planning for the ASTRO 25 system is essential to ensure maximum availability and utility to the end users, and to protect the stakeholders' investment in the platform. As with IT computing platforms and other enterprise business systems, the pace of technology obsolescence is primarily driven by commercial OEM products that frequently change and transition into declining levels of support and availability. Consequently, systems without a plan for regular updates can become increasingly difficult and expensive to repair and may also become more vulnerable to security attacks. Additionally, non-current systems may not be able to take advantage of advancements in technology which may provide enhanced features and performance, and may limit the ability to expand. Development of a lifecycle plan provides a roadmap for anticipating and implementing actions to address obsolescence and support limitations. A well developed lifecycle plan provides several benefits to the system owner and users of the system along six critical dimensions:

1. **Operations sustainment** – Ability to maintain highest level of performance and functionality of the system operations.
2. **Network security and information assurance** – Protection against system vulnerabilities that may compromise network security and confidential information. Compliance to mandated security requirements (NIST 800-53, NENA NG911, DHS 4300, DOD 8500.2, etc).
3. **Support for growth and expansion** – Ability to add users, channel and features; expand system coverage and capabilities and/or add-on new agencies.
4. **Fiscal stability** – Planned fiscal approach for system maintenance mitigating risk of unplanned expenses. Inability to fund required maintenance services can result in degradation of operation.
5. **Conformance to grant provisions** – Conformance with DHS Grant funding requirements (e.g. SAFECOM 111890) which dictate compliance to security, interoperability and system maintenance provisions.
6. **CapEx ROI** – Protection against premature deterioration and obsolescence, and extension of the system lifespan thereby reducing the total cost of ownership.

9.2 MOTOROLA COMMITMENT

Motorola is committed to supporting the ASTRO 25 platform for an extended period of time. Support coverage for the platform is aligned with the typical system lifespan customers' experience which often spans across multiple decades. To sustain the platform lifespan, Motorola makes on-going investments to regularly refresh the underlying components to address normal technology obsolescence and apply security safeguards. A primary goal of technology refresh is to maximize backwards compatibility thereby mitigating the need to replace the entire platform.

Motorola works closely with both customers and government to ensure that solutions offered meet stated requirements and regulations. The product development process for the ASTRO 25 platform is designed to coordinate with standards bodies, regulatory agencies, customer needs and technology advancements. As a result the ASTRO 25 platform is designed with Project 25 standards to ensure fully interoperable digital communications.

Motorola also works with its technology partners to incorporate new product versions into the ASTRO 25 platform through a system certification process, thus ensuring compatibility of new third-party products. As products are discontinued due to technology obsolescence, Motorola incorporates replacement versions thereby avoiding the need to replace the entire platform. The certification process also enables Motorola to continue support for discontinued third-party products, in some cases several years beyond the last general availability date from the OEM.

9.3 MOTOROLA STANDARD PARTS STATEMENT

Motorola will use commercially reasonable efforts to provide replacement parts for Motorola manufactured subscriber equipment for five (5) years and for Motorola manufactured fixed infrastructure equipment exclusive of third party IT equipment (e.g. servers, pc's) for seven (7) years, both from the date of last manufacture. Motorola reserves the right to supply either assemblies or piece parts.

9.4 SYSTEM UPGRADE AGREEMENT (SUA)

9.4.1 Overview

Modern LMR systems are specialized Information Technology (IT) networks that are a hybrid composition of commercial off-the-shelf IT components, specialized Radio Frequency (RF) components and software designed to comply with standards-based specifications. To ensure the highest level of operation, allow for system expansion, provide maximum lifespan and protect the initial investment, regular update and replacement of individual software and hardware components is required.

The Motorola System Upgrade Agreement is comprehensive approach to technology refreshment of the ASTRO 25 system aligned with the Motorola lifecycle roadmap. As major system releases become available, the SUA will provide up to one system upgrade per annual contract term. The SUA is a complete package of hardware, software and implementation services required to update the ASTRO 25 system to an eligible system release with an equivalent level of functionality (Table 9-1).

Updates to OEM components ensure availability of repair services support and may also provide increased capacity and processing speed. Regular updates enable system expansion (i.e. expansion of RF sites, dispatch positions, data sub-systems, network management positions, etc.). Professional implementation services guarantee live system upgrades are performed with minimal interruption to system operation with minimal reliance on owner resources. SUA ensures the ASTRO 25 system functions at the highest level of operation, allows for expansion and feature enhancement and maximizes the lifespan of the investment. For owners that are committed to upgrading their system on a regular basis, SUA provides a consistent budgeting solution that provides complete coverage.

9.4.1.1 Included features SUA

Table 9-1: Included features SUAII

Description	SUA II
Anti-virus Definition Update	✓
Minor Release (patch release)	✓
Information Assurance Remediation	
Major Release (system release)	✓
Hardware Refresh	✓
Implementation Services	✓
Regional Partner Invoicing	Available
Major upgrades in 2 yr period	Up to 1

- 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
- Recommendations for IA remediation may include, but is not limited to the following: provide security software updates; provide operating system security updates or patches; implement configuration changes; upgrade to a later ASTRO 25 System Release (upgrade expense not included), or recommending a compensating control
- Major releases may include commercial OS and application software updates as well as Motorola system release software to improve the system functionality and operation from previous releases as well as significant new feature enhancements that are available for purchase.
- Hardware refresh may include version updates and/or replacements for Motorola FRU and third-party networking and computing hardware
- Implementation services includes all in-house and on-site resources to implement and test major release update
- Regional partner invoicing provides ability to separate invoicing across multiple agencies
- As major releases become available, the SUA II configuration covers up to one major release upgrade per every two year contract term, while the SUA configuration covers up to one major release upgrade per annual contract term.