

Meeting Date: 3/17/2015

Report Type: Staff/Discussion

Report ID: 2015-00262

Title: Authorizing the Establishment and Transfer of Funds to the Citywide Radio Replacement Project (A07000900) and Approving Agreement to Purchase Radio Equipment from Motorola (Two-Thirds Vote Required)

Location: Citywide

Recommendation: Pass a Resolution: 1) waiving the 10-day posting requirement for contracts prior to Council action pursuant to the Council Rules of Procedure; 2) suspending competitive bidding for radio equipment purchase, in the best interests of the City; 3) authorizing the City Manager or his designee to execute a communications system agreement with Motorola Solutions, Inc. for the procurement of radio hardware equipment and services for an amount not to exceed \$5.5 million; 4) authorizing the City Manager, or the City Manager's designee, to execute the purchases specified above; 5) establishing the Emergency Radio Replacement Capital Improvement Project (A07000900); and 6) authorizing the City Manager to appropriate funds from the available fund balances of the General Fund (\$4.2 million), Measure U Fund (\$730,734), Fleet Fund (\$3,412), Solid Waste (\$72,905), Water (\$157,926), Storm Drainage (\$157,926), and Wastewater (\$157,926) to establish a \$5.5 million expenditure budget in A07000900.

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Presenter: Maria MacGunigal, CIO, (916) 808-7998; Ignacio Estevez, IT Manager, (916) 808-7349, Information Technology

Department: Information Technology

Division: IT Business Management

Dept ID: 07001011

Attachments:

1-Description/Analysis

2-Background

3-Resolution

4-Agreement

City Attorney Review

Approved as to Form
Audreyell A. Anderson
3/12/2015 1:38:05 PM

Approvals/Acknowledgements

Department Director or Designee: Maria MacGunigal - 3/12/2015 11:11:54 AM

Description/Analysis

Issue Detail: The City of Sacramento along with a number of public safety and local government partner agencies (through a Joint Powers Authority (JPA)) utilize the Sacramento Regional Radio Communication System (SRRCS) for emergency and critical radio communication needs. The SRRCS is currently in the process of migrating to a digital standard that is fully compliant with federal regulatory Project 25 (P25) digital standards and necessary regional interoperability functions from the existing analog system. As part of the system transition from analog to digital, each radio that utilizes the SRRCS must be replaced or upgraded with the necessary software to enable radio operations on the new SRRCS infrastructure.

After exhaustive analysis, the SRRCS has recommended the Motorola brand radio as the preferred device since it will maximize interoperable communications and functionality. The standard discount rate is 25% using competitive bid/cooperative purchasing agreements. However, City staff has successfully negotiated a 45% discount for this purchase. Purchasing before March 27th, 2015 will result in a in approximately \$2.4 million in savings, the difference between the standard discount and the negotiated 45% discount. Other negotiated incentives include a free software upgrade for every new radio purchased and discounted labor rates for radio upgrades. Without the upgrade/replacement the City will no longer be able to utilize the SRRCS for emergency radio communications.

In an ongoing effort to maximize cost savings and staff resources, this purchase presents significant savings. The City of Sacramento utilizes two-way radios to provide immediate, mission critical first responder and municipal services communications on a day-to-day basis as well as in emergency situations.

Policy Considerations: The recommendations in this report are in accordance with City Code Section 3.56.230 and Administrative Policy AP-4001 Section 2.2 for the Procurement of Supplies.

Economic Impacts: None.

Environmental Considerations: This report does not constitute a “project” and is therefore exempt from the California Environmental Quality Act (CEQA) [CEQA Guidelines Sections 15061(b)(3);15378(b)(2)].

Sustainability: Under Phase 1 of the City of Sacramento’s Climate Action Plan, all applicable “green” technology initiatives will be considered prior to the purchase of IT equipment hardware and software.

Commission/Committee Action: Not applicable.

Rationale for Recommendation: The City has a need to replace its portable radio equipment, which is essential safety equipment utilized by police officers, firefighters, and other City staff. The radio hardware equipment and brand that will be purchased is approved and recommended by SRRCS and City Information Technology (IT) staff.

Financial Considerations: The purchase of the radio hardware and software equipment will be accomplished with a combination of FY 2013/14 General Fund budgetary results, Measure U, and enterprise funds as summarized below.

Description	Fund	Amount
General	1001	\$4,190,592
Measure U	2401	\$730,734
Fleet	6501	\$3,412
Solid Waste	6007	\$72,905
Water	6005	\$157,926
Storm Drainage	6011	\$157,926
Wastewater	6006	\$157,926
Total		\$5,471,421

Staff is requesting the suspension of competitive bidding because this negotiated price is better than the existing cooperatively bid agreement. Based on the 45% favorable pricing offered by Motorola Solutions, Inc., combined with positive hardware performance, staff believes it to be in the best interest of the City to approve the primary radio hardware purchase with Motorola Solutions, Inc., for an amount not to exceed \$5.1 million. The remaining \$400,000 will be used for additional radio equipment purchases that will be coordinated under a separate procurement process.

Local Business Enterprise (LBE): Motorola Solutions, Inc. is not an emerging or small business.

Background

City Council approved the amendment/establishment of revenue and expenditure budgets and fund commitments from the FY2013/14 General Fund budgetary results for the purchase of the City’s emergency radio equipment for a total general fund amount of \$4.23 million. The total funding amount for the citywide radio equipment replacement will not exceed \$5.5 million from the general fund, Measure U, and other enterprise funding sources. The following is a summary of the proposed radio equipment by funding source and amount:

Description	Fund	Amount
General	1001	\$4,190,592
Measure U	2401	\$730,734
Fleet	6501	\$3,412
Solid Waste	6007	\$72,905
Water	6005	\$157,926
Storm Drainage	6011	\$157,926
Wastewater	6006	\$157,926
Total		\$5,471,421

Staff is requesting authorization to procure the primary radio hardware equipment replacement with Motorola Solutions, Inc., for an amount not to exceed \$5.1 million. The remaining \$400 thousand will be used for additional radio hardware equipment purchases that will be coordinated under a separate procurement process.

The upgrading/replacing of radios for federal regulatory Project 25 (P25) digital standards has been in process for several years; however, there are approximately 1,078 radios that still require full replacement, and another 1,078 radios that require software system upgrades. City staff has negotiated a 45% discount for this purchase. Purchasing before March 27th, 2015 will result in approximately \$2.4 million in savings, the difference between the standard discount and the negotiated 45% discount. Other negotiated incentives include a free software upgrade for every new radio purchased and discounted labor rates for radio upgrades. Once the radios have been replaced, the estimated service life of the new radio equipment is approximately 12-15 years. If the City’s radio hardware equipment is not upgraded or replaced, the City will no longer be able to utilize the Sacramento Regional Radio Communication System (SRRCS) for emergency radio communications.

The following is a summary of the proposed radio equipment by department:

Department	Amount
Information Technology	\$85,308
Police	\$3,832,621
Fire	\$473,513
General Service	\$200,442
Public Works	\$259,166
Parks and Recreation	\$16,924
Utilities	\$473,778
Community Development	\$129,669
Total	\$5,471,421

RESOLUTION NO. 2015 –

Adopted by the Sacramento City Council

March 17, 2015

ESTABLISHING CITYWIDE RADIO REPLACEMENT CAPITAL IMPROVEMENT PROJECT AND AWARDED CONTRACT TO MOTOROLA SOLUTIONS, INC.

BACKGROUND

- A. The City of Sacramento, along with a number of public safety and local government partner agencies, utilizes the Sacramento Regional Radio Communication System (SRRCS) for emergency and critical radio communication needs.
- B. The County of Sacramento is currently in the process of migrating the SRRCS to a digital standard that is fully compliant with federal regulatory requirements under contract with Motorola Solutions, Inc. (Motorola).
- C. As part of the system transition from analog to digital, each radio that utilizes the SRRCS must be replaced or upgraded with the necessary software to enable radio operations on the new SRRCS infrastructure.
- D. City staff has negotiated a 45% discount on radio purchases with Motorola resulting in approximately \$3.5 million in savings.
- E. A Capital Improvement Project needs to be established for the Citywide Radio Replacement Project in the amount of \$5.5 million of which \$400,000 will be set aside for future related procurements.

BASED ON THE FACTS SET FORTH IN THE BACKGROUND, THE CITY COUNCIL RESOLVES AS FOLLOWS:

- Section 1. The City Council hereby suspends competitive bidding for the purchase of new digital radios and related equipment.
- Section 2. The Citywide Radio Replacement Capital Improvement Project (A07000900) is hereby established in the amount of \$5.5 million.
- Section 3. The City Manager or his designee is authorized to appropriate funds from the available fund balances of the General Fund (Fund 1001 for \$4.2 million), Measure U Fund (Fund 2401 for \$730,734), Fleet Fund (Fund 6501 for \$3,412), Solid Waste (Fund 6007 for \$72,905), Water (Fund 6005 for \$157,926), Storm Drainage (Fund 6011 for \$157,926), and Wastewater (Fund 6006 for \$157,926) to the Citywide Radio Replacement Project

(A07000900).

Section 4. The City Manager or his designee is authorized to execute a Communications System Agreement with Motorola Solutions, Inc. for the procurement of radio, hardware equipment, and installation services for an amount not-to-exceed \$5.1 million.

Communications System Agreement

Motorola Solutions, Inc. ("Motorola") and the City of Sacramento, 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

Motorola submitted to Customer a revised proposal dated March 6, 2015, for City Police Department Consoles and Subscribers (the "Proposal"), which is incorporated into and made a part of this Agreement except for Section 10 which is replaced in its entirety by this Agreement. As noted below, sections of the Proposal are the exhibits. 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" (See Section 9.1 of the Proposal.)
Exhibit C	"Technical and Implementation Documents"
C-1	"System Description" (See Sections 1 and 2 of the Proposal.)
C-2	"Equipment List" (See Section 3 of the Proposal.)
C-3	"Statement of Work" (See Section 5 of the Proposal and Section 7 of the Proposal for the Training Plan.)
C-4	"Acceptance Test Plan" or "ATP" See Section 4 of the Proposal.)
C-5	"Performance Schedule" (See Section 6 of the Proposal.)
Exhibit D	Service Statement(s) of Work (See Section 8 of the Proposal) 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 described in the Proposal.
- 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 in Exhibit C.
- 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. Further detail provided in Exhibit D.
- 3.2. **CONTRACT SUPPLEMENTS.** 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 contract supplement as provided in Sacramento City Code section 3.56.290. Neither Party is obligated to perform requested changes unless both Parties execute a written contract supplement.
- 3.3. **TERM.** Unless terminated in accordance with other provisions of this Agreement or extended by mutual written agreement of the Parties, the term of this Agreement begins on the Effective Date and

continues until

the date of expiration of (i) the Warranty Period or (ii) the rights under Section 3.4 below, whichever occurs last.

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

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

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

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

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

Section 4 PERFORMANCE SCHEDULE

The Parties will perform their respective responsibilities in accordance with the Performance Schedule, Exhibit C-5. 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 for the System described in the Proposal is \$5,058,533 (including freight charges and estimated sales tax of \$357,899). 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 a reasonable time 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. 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. However, all freight charges are included in the Contract Price. Title to the Equipment will pass to Customer upon delivery. Title to Software will not pass to Customer at any time. Risk of loss will pass to Customer upon delivery of the Equipment to the Customer. Motorola will pack and ship all Equipment in accordance with good commercial practices.

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

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

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

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

Section 6 SITES AND SITE CONDITIONS

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

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

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

Section 7 TRAINING

Any training to be provided by Motorola to Customer will be described in the Statement of Work. Customer will notify Motorola immediately if a date change for a scheduled training program is required. If Motorola incurs additional costs because Customer reschedules a training program less than thirty (30) days before its scheduled start date, Motorola may recover these additional costs.

Section 8 SYSTEM ACCEPTANCE

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

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

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

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

Section 9 REPRESENTATIONS AND WARRANTIES

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

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

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

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

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

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

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

Section 10 DELAYS

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

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

Section 11 DISPUTES

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

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

11.2. **NEGOTIATION.** Either Party may initiate the Dispute resolution procedures by sending a notice of Dispute ("Notice of Dispute"). The Parties will attempt to resolve the Dispute promptly through good faith negotiations, including timely escalation of the Dispute to executives who have authority to settle the Dispute and who are at a higher level of management than the persons with direct responsibility for the matter and direct communication between the executives. If the Dispute has not been resolved within ten (10) days from the Notice of Dispute, the Parties will proceed to mediation.

11.3 **MEDIATION.** The Parties will choose an independent mediator within thirty (30) days of a notice to mediate from either Party ("Notice of Mediation"). A Party may not unreasonably withhold consent to the mediator selection. If the Parties are unable to agree upon a mediator, either Party may request that JAMS Foundation 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 Sacramento County in the State of California. 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 and will be subject to applicable public records laws. 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 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 that were unapproved by Motorola, 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 after Motorola has provided written notice to Customer that such enhancement release is intended to correct the claimed infringement. In no event will Motorola's liability resulting from its indemnity obligation to Customer extend in any way to royalties payable on a per use basis or the Customer's revenues, or any royalty basis other than a reasonable royalty based upon revenue derived by Motorola from Customer from sales or license of the infringing Motorola Product.

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

Section 14 LIMITATION OF LIABILITY

Except for personal injury or death, Motorola's total liability, whether for breach of contract, warranty, negligence, strict liability in tort, indemnification, or otherwise, will be limited to the direct damages recoverable under law, but not to exceed the 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.

Section 15 CONFIDENTIALITY AND PROPRIETARY RIGHTS

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

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

Section 16 GENERAL

16.1. TAXES. The Contract Price includes any and all excise, sales, lease, use, property, or other taxes, assessments or duties, all of which will be paid by Customer except as exempt by law. Any payment of taxes under this Agreement will not exceed the Contract Price.

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 consent of Customer. In the event Motorola separates one or more of its businesses (each a "Separated Business"), whether by way of a sale, establishment of a joint venture, spin-off or otherwise (each a "Separation Event"), Motorola may, without the prior written consent of the other Party and at no additional cost to

Motorola, assign this Agreement such that it will continue to benefit the Separated Business and its affiliates (and Motorola and its affiliates, to the extent applicable) following the Separation Event. Motorola may subcontract any of the work, but subcontracting will not relieve Motorola of its duties under this Agreement.

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

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

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

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

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

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

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

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

16.10 AUTHORITY TO EXECUTE AGREEMENT. Each Party represents that it has obtained all necessary approvals, consents and authorizations to enter into this Agreement and to perform its duties

under this Agreement; the person executing this Agreement on its behalf has the authority to do so; upon execution and delivery of this Agreement by the Parties, it is a valid and binding contract, enforceable in accordance with its terms; and the execution, delivery, and performance of this Agreement does not violate any bylaw, charter, regulation, law or any other governing authority of the Party.

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

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

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

Motorola Solutions, Inc.

Customer
City of Sacramento

By: H. G. Cheroe
Name: H. G. Cheroe
Title: MSSS V.P.
Date: March 11, 2015

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

MARK W. ANTHONY

*Approved
MWA*

Exhibit A

SOFTWARE LICENSE AGREEMENT

This Exhibit A Software License Agreement ("Agreement") is between Motorola Solutions, Inc., ("Motorola"), and the City of Sacramento ("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) that Motorola will provide Customer upon delivery of the product(s).

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, backup, 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. [Intentionally omitted.]

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

Section 5 OWNERSHIP AND TITLE

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

Section 6 LIMITED WARRANTY; DISCLAIMER OF WARRANTY

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

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

6.3. Warranty claims are described in the Primary Agreement.

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

Section 7 TRANSFERS

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

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

Section 8 TERM AND TERMINATION

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

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

8.3 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. Customer shall give Motorola notice of any request pursuant to the California Public Records Act for the disclosure of any information set apart and clearly marked as Motorola's trade secrets. Motorola shall have five (5) days from the date it receives such notice to enter into an agreement with Customer, satisfactory to Customer's Attorney, providing for the defense of, and complete indemnification and reimbursement for all costs (including plaintiff's attorney fees) incurred by Customer in any legal action to compel the disclosure of such information under the California Public Records Act. Motorola shall have sole responsibility for defense of the actual "trade secret" designation of such information.

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

Motorola.CSA.FINAL.3.7.11.mwa.10.22.2012.revision.doc/mwa.3.6.2015.customized
Motorola Contract No. _____

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 as to federal issues and the State of California as to state issues. 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.
6450 Sequence Drive
San Diego, CA 92121
U.S.A.

March 6, 2015

Ignacio Estevez
IT Manager
City of Sacramento
915 I Street, 3rd floor
Sacramento, CA 95814

Subject: City of Sacramento PD Consoles and Subscribers Extension

Motorola Solutions, Inc. is pleased to present our solution to help the City of Sacramento Police Department migrate from their Gold Elite dispatch consoles to the next generation MCC7500/7100 IP-based dispatch consoles. The Motorola project team has taken great care to propose a solution that will meet your needs and provide unsurpassed value. Motorola is proposing a solution that is aligned with the SRRCS' vision to leverage existing network equipment, minimize impact to users, and deliver the latest in P25 console and system technology. Specifically, this solution provides:

- (18) MCC 7500 and (3) MCC7100 consoles
- Motorola professional services to provide a complete deployment
- (1,078) APX Subscribers

This proposal with special incentive pricing has been extended and shall remain valid to March 27, 2015. The Motorola proposal is based upon the existing County of Sacramento contract, Number MA00032165, and the terms and conditions of that master agreement apply to this transaction. The City Sacramento may accept this proposal by simply issuing a purchase order that refers to and incorporates by reference the Motorola proposal and specifically refers to the County of Sacramento contract, Number MA00032165.

Thank you for your interest in Motorola Solutions. We are excited to help make this project a success. Should you need anything, or have any questions, please do not hesitate to contact Mike Marraccini, Motorola Senior Account Manager, at 916-201-5670.

Sincerely,
MOTOROLA SOLUTIONS, INC.



Travis Boettcher
MSSSI Vice President

CONSOLE IMPLEMENTATION PROJECT



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TABLE OF CONTENTS

Section 1

System Description.....	1-1
1.1 Overview	1-1
1.2 Sacramento Police Dispatch Center	1-1
1.3 MCC7500 Dispatch Solution Description	1-3
1.3.1 MCC7500 Solution Overview	1-3
1.3.1.1 The MCC7500 Dispatch Experience	1-4
1.3.1.2 Interoperability Features	1-4
1.3.1.3 Integration with the ASTRO25 Network.....	1-4
1.3.1.4 Conventional Base Station Interfaces.....	1-5
1.3.1.5 Console Operations	1-6
1.3.1.6 Dispatch Interface.....	1-6
1.3.1.7 Standard Radio Transmission and Reception.....	1-7
1.3.1.8 Dispatch Audio Experience	1-8
1.3.1.9 Emergency Radio Transmission and Reception	1-9
1.3.1.10 Radio Patch Control.....	1-11
1.3.1.11 Call Management and Control.....	1-11
1.3.1.12 Console Logging	1-13
1.3.1.13 Console System Security	1-13
1.3.1.14 Console Configuration and Management.....	1-14
1.3.1.15 MCC7500 Dispatch Console Component Description	1-15
1.4 MCC7100 Solution Overview for Sacramento Police Department.....	1-17
1.4.1 MCC7100 Dispatch Console.....	1-17
1.4.1.1 MCC7100 Console Workstations	1-18
1.4.1.2 MCC7100 Network Architecture	1-20
1.4.1.3 MCC7100 Network Requirements.....	1-20
1.4.1.4 MCC7100 Console Proxy Server and Firewall.....	1-21
1.4.1.5 Conventional Channel Interfaces.....	1-21
1.4.1.6 Conventional Site Controller (CSC).....	1-21
1.4.1.7 MCC7100 IP Address Requirements.....	1-21
1.4.2 MCC7100 Console Sites.....	1-22
1.4.3 Proxy Server Equipment.....	1-22
1.5 Backhaul Requirements.....	1-22
1.6 Power Requirements	1-22

Section 2

System Drawings.....	2-1
----------------------	-----

Section 3

Equipment List.....	3-1
3.1 Console Equipment List.....	3-1
3.2 Subscriber Equipment List.....	3-4

Section 4

Acceptance Test Plan.....	4-1
4.1 Infrastructure Acceptance Testing Plan.....	4-2



4.2	Acceptance Testing Documentation and Results	4-3
4.3	Punchlisted Items for Resolution.....	4-3
4.4	Final System Acceptance	4-3
4.5	Acceptance Test procedures	4-3
4.6	MCC 7100/7500 Trunked Resources	4-2
4.6.1	Instant Transmit.....	4-2
4.6.2	Talkgroup Selection and Call	4-3
4.6.3	PTT Unit ID/Alias Display.....	4-4
4.6.4	Emergency Alarm and Call Display Description	4-5
4.6.5	Multi-Select Operation	4-6
4.6.6	Talkgroup Patch	4-7
4.6.7	Console Priority	4-8
4.6.8	Alarm Input / Outputs - Aux I/O Option	4-9
4.6.9	Instant Recall Recorder (IRR) Operation (MCC 7500 only).....	4-10
4.6.10	MCC 7100 Dispatch Console - VPN Via Control Room CEN Firewall.....	4-11
4.7	MKM 7000 Console Alias Manager (CAM).....	4-12
4.7.1	Alias Display When Using the MKM 7000.....	4-12
4.7.2	Create a new Subscriber Unit ID to Subscriber Unit Alias Mapping - Trunking	4-13
4.7.3	Edit an Existing Subscriber Unit ID to Subscriber Unit Alias Mapping.....	4-14
4.7.4	Fault Management of MKM 7000 and MCC 7100/7500 Link	4-15
4.8	Signoff Certificate	4-16

Section 5

Statement of Work.....	5-1
5.1 Overview	5-1
5.2 Assumptions.....	5-1
5.3 Contract.....	5-2
5.3.1 Contract Award (Milestone)	5-2
5.3.2 Contract Administration	5-2
5.3.3 Project Kickoff.....	5-2
5.4 Contract Design Review	5-3
5.4.1 Review Contract Design	5-3
5.4.2 Design Approval (Milestone).....	5-4
5.5 Order Processing	5-4
5.5.1 Process Equipment List	5-4
5.6 Manufacturing and Staging.....	5-5
5.6.1 Manufacture Motorola Equipment	5-5
5.6.2 Manufacture Non-Motorola Equipment	5-5
5.6.3 Manufacture Motorola Subscribers	5-5
5.6.4 Ship to Staging (Milestone)	5-5
5.6.5 Stage Console Equipment	5-5
5.6.6 Staging Acceptance (Milestone)	5-6
5.6.7 Ship Equipment to Field.....	5-6
5.6.8 CCSi Ship Acceptance (Milestone)	5-6
5.7 Site Improvements for Customer-Provided Facilities.....	5-6
5.8 Installation.....	5-7
5.8.1 Install Equipment	5-7

5.8.2	Equipment Installation Complete	5-9
5.8.3	Installation Acceptance (Milestone).....	5-9
5.9	Programming and Optimization	5-9
5.9.1	Develop Templates.....	5-9
5.9.2	System and Console Programming and Optimization.....	5-9
5.9.3	Programming and Optimization Complete.....	5-10
5.10	Training.....	5-10
5.10.1	Perform Training	5-10
5.10.2	Training Complete	5-10
5.11	Audit and Acceptance Testing	5-10
5.11.1	Perform R56 Installation Audit.....	5-10
5.11.2	Perform Acceptance Testing.....	5-11
5.11.3	System Acceptance Test Procedures (Milestone).....	5-11
5.12	Transition to Service.....	5-11
5.12.1	Transition to Service/Project Transition Certificate.....	5-11
5.13	Subscribers	5-11
5.13.1	Motorola Responsibilities:	5-11
5.14	Cutover	5-12
5.15	Finalize.....	5-12
5.15.1	Gold Elite Equipment Removal	5-12
5.15.2	Resolve Punchlist	5-12
5.15.3	Finalize Documentation	5-13
5.15.4	Final Acceptance (Milestone)	5-13
5.16	Project Administration.....	5-13
5.16.1	Project Status Meetings	5-13
5.16.2	Progress Milestone Submittal.....	5-14
5.16.3	Change Order Process	5-14

Section 6

Project Schedule.....	6-1
-----------------------	-----

Section 7

Training Plan	7-1
7.1 Overview	7-1
7.2 Training Approach	7-1
7.3 Proposed Courses.....	7-2
7.3.1 Console Operator and Supervisor Training Plan	7-2
7.3.2 MCC7500 Operator Training Course Description	7-3
7.3.3 MCC7500 Supervisor Training Course Description	7-4

Section 8

Warranty and Maintenance	8-1
8.1 The Motorola Service Delivery Team.....	8-1
8.1.1 Customer Support Manager.....	8-1
8.1.2 Motorola System Technologists	8-1
8.1.3 Motorola System Support Center.....	8-1
8.1.4 Motorola Local Service Provider	8-2

8.2	Warranty Services	8-2
8.2.1	Dispatch Service.....	8-2
8.2.2	On-Site Infrastructure Response.....	8-2
8.2.3	Network Preventative Maintenance	8-3
8.2.4	Infrastructure Repair with Advanced Replacement.....	8-3
8.2.5	Technical Support Service	8-3
8.3	Post Warranty Services	8-4
8.4	Summary.....	8-4

Section 9

Pricing Summary.	9-1
9.1 Payment Terms	9-2

Section 10

Terms and Conditions.....	10-1
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SYSTEM DESCRIPTION

1.1 OVERVIEW

The Sacramento Police Department currently operates a Motorola Centracom Gold Elite console system. This dispatch center interfaces with the Sacramento Regional Radio Communication System (SRRCS) Master site. This proposal outlines the replacement of the Gold Elite consoles with MCC7500 and MCC7100 consoles.

The proposed solution is based on a new Motorola Solutions MCC7500 dispatch console and MCC7100 dispatch console. The dispatch console site will connect to the SRRCS ASTRO25 IP-based Zone Core currently situated at Brighton Heights. The core in general provides control, network management, and voice switching capabilities to the entire system.

Please note: Motorola engineering does not recommend locating MCC7500 and MCC7100 consoles in close proximity of each other. There is an audio delay between the product types, which could distract dispatch users.

Logging Recorder replacements have not been included in this proposal. There are a variety of logging recorder solutions that require discussion between the SRRCS, Sacramento PD, and Motorola in order to achieve an optimal solution for Sacramento PD. Please note there is no Archiving Interface Server (AIS) included in this design, which would be required if Sacramento PD determines they want to interface to an IP trunked logging solution.

1.2 SACRAMENTO POLICE DISPATCH CENTER

The Sacramento Police dispatch center is currently equipped with a twenty operator position Gold Elite system with fourteen positions located in the dispatch room, and six positions located in the training room. The new dispatch system will be comprised of eighteen (18) MCC7500 positions and three (3) MCC7100 positions. Fourteen (14) MCC7500 positions will be on the main dispatch floor, four (4) MCC7500 positions will be in the training room, two (2) MCC7100 positions will be in the training room, and one (1) MCC7100 position will be configured as a remote operator user. All standard dispatch accessories have been included as detailed below. The MKM 7000 Console Alias Manager has also been included with the proposal. This will enable local aliases to be programmed and pushed out to the consoles, instead of requiring access to the main database at the zone controller side for aliases. The MKM 7000 console alias manager will reside on its own PC. An SDM3000 Aux I/O unit has also been included. This will provide up to 16 outputs and 48 input buffers.

Flashport upgrades for the twenty (20) existing XTL5000 consolettes have been provided to upgrade them to P25 operation. These consolettes will connect to the existing desksets. It is assumed that existing transmission line, antenna network and control station combiners will be re-used.

The rack provided in this proposal will match the existing Chatsworth racks currently located in the equipment room. Motorola proposes that Sacramento Police remove an existing empty rack and Motorola will install the new rack in the vacated space.

Motorola has included a Conventional Channel Gateway to be installed at Brighton Heights, and connected in parallel to existing analog 4-wire conventional channels that dispatchers require access to on the new dispatch consoles.

Motorola will connect the output of the new dispatch VPMs to the existing analog logging recorder in the event that no other logging solution is acquired by Sacramento PD. This logging output will log all of the audio that goes into and out of the MCC7500 dispatch position headsets.

Each of the eighteen (18) MCC7500 dispatch positions will be equipped with the following:

- (1) Dispatch PC
 - Elite dispatching Software
 - Dual Instant-Recall-Recorder soundcard and software
- (1) Voice Processing Module (VPM)
 - P25 Trunking license
- (1) 19" Monitor
- (2) Desktop speakers
- (2) Headset jacks
- (1) Dual-pedal Footswitch
- (1) Gooseneck microphone
- (1) Headset with Base
- (1) AC Power Strip

Each of the three (3) MCC7100 dispatch positions will be equipped with the following:

- (1) Laptop PC
 - Elite dispatching Software
 - Instant-Recall-Recorder software
 - P25 Trunking operation license
 - 10-channel license
- (1) Audio Interface Module
- (2) Desktop speakers
- (2) Headset jacks
- (1) Dual-pedal Footswitch
- (1) Gooseneck microphone
- (1) Headset with Base
- (1) AC Power Strip

The Back Room equipment will comprise of the following:

- (1) 7' Black Chatsworth Rack
- (2) Site Gateways
- (4) Site LAN Switches
- (1) SDM3000 AUX I/O Interface
- (1) MKM 7000 Console Alias Manager PC and software
- (1) Power Distribution Unit
- (20) XTL5000 Flashport Upgrades
- (1) Keyboard/Video/Monitor Arbitrator
- (1) Monitor
- (1) Proxy Server with software (MCC7100)
- (1) Firewall
- (1) Conventional Channel Gateway – Low Density (Brighton Heights)

Spare Equipment:

- (4) Desktop Speakers
- (4) Headset Jacks
- (1) Dual-pedal Footswitch
- (2) Dispatch Workstation
- (1) VPM
- (1) Site LAN Switch
- (1) Site Gateway
- (1) Audio Interface Module
- (1) IRR Sound card
- (1) 19" monitor
- (2) Gooseneck microphones

1.3 MCC7500 DISPATCH SOLUTION DESCRIPTION

1.3.1 MCC7500 Solution Overview

Motorola has proposed a new MCC7500 Dispatch Console, offering IP-based seamless connectivity between the Dispatch site and the ASTRO25 Zone Core equipment at Brighton Heights.

The MCC7500 Dispatch Console will provides dispatchers with a scalable, flexible system architecture, sophisticated network management and security, on the latest IP architecture and an easy migration to future capabilities.

Cost Savings and Ease of Use

The MCC7500 is designed to help reduce the total cost of owning an IP-based, feature-rich dispatch system without compromising quality and reliability. Specific benefits of the MCC7500 include the following:

- The intuitive, easy to use Graphical User Interface (GUI) *enhances dispatchers' efficiency and accuracy.*
- Robust API *allows CAD systems to have complete access to console status and features* for further improvements in efficiency and accuracy.
- *Software-based upgrades* facilitate system and feature expansion.
- Installation is simplified and site costs are reduced because *console positions function without backroom electronics.*
- Console configuration is performed at centralized Network Management clients, and changes are automatically distributed, which saves valuable technician and administrator time.
- Offers robust service logs that contain real-time information to facilitate maintenance activities.
- Consoles are integrated into the ASTRO25 fault management system, which uses industry-standard event monitoring protocols, resulting in fewer dispatch site visits.
- Flexible bandwidth requirements minimize operating costs for remote console sites.
- Conventional audio can be transported over the IP network, which eliminates the need for channel banks or a separate circuit-switched network.



1.3.1.1 The MCC7500 Dispatch Experience

As the most advanced dispatch console in Motorola's portfolio of mission-critical communications technologies, the MCC7500's standard features offer state-of-the-art communications, console management and configuration functionality, dispatch operation, and communications security.

1.3.1.2 Interoperability Features

ASTRO25 is specifically designed around the APCO P25 standards. All voice messages are digitized, all LMR system features are compliant with P25 standards, and the system uses the P25-defined, 9600-bps control channel format for all control channel commands. 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. ASTRO25 is also fully Common Air Interface (CAI) compliant.

Motorola can use multiple customer-furnished (CF) interoperability radios to install, configure, and make operational the necessary hardware and software to provide two-way communications between the MCC7500 consoles and mutual aid channels.

Interoperable communications can be provided through a dispatcher-initiated interface (patch) to the CF mutual aid radios. The Motorola Conventional Channel Gateway (CCGW) forms the bridge between the MCC7500 dispatch console on the ASTRO25 trunked radio network and the CF mutual aid radios. This allows the dispatcher to patch together mutual aid radios and required subscribers on the ASTRO25 system as situations dictate. Each CCGW can connect with up to eight (8) conventional or trunked mutual aid channels. Multiple CCGWs can be installed per dispatch site to support Mutual Aid radios to communicate with various agencies. One CCGW can be placed at any RF or console site allowing flexibility of connecting to the MCC7500 consoles. CCGW interfaces can be installed at any location as long as there is network connectivity back to the Zone Core. Additional CCGWs can easily be added anywhere on the LMR network as mutual aid requirements change.

As an incident occurs, local mutual aid agencies can initiate radio conversation to a MCC7500 dispatch location via a programmed channel. By selecting an icon on the console monitor, the dispatcher will initiate a patch to a talkgroup for First Responders as necessary. Incident conversations will be seamless from the moment of the patch 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.

1.3.1.3 Integration with the ASTRO25 Network

The MCC7500 IP Dispatch Console would be seamlessly integrated into Sacramento County's ASTRO25 system for an integrated mission critical network. This tight union between radio infrastructure and dispatch console equipment has several operational benefits to dispatch agencies.

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 MCC7500 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 MCC7500 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 MCC7500's seamless integration to the ASTRO25 network.

Table 1-1: Benefits of Seamless Integration of the MCC7500 IP Console with Sacramento County's ASTRO25 Network

Feature	Benefit to Dispatch Agencies
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.
IP network redundancy ensures call traffic delivery.	No lost communications.
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 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

Connection to ASTRO25 Systems

To connect to the Sacramento County ASTRO25 system, two remote site routers and three site LAN switches are provided.

The site router provides an interface that handles all of the IP Network Management traffic between the MCC7500 Dispatch Console center and the ASTRO25 system's master site. The site gateway fragments large IP packets according to industry standards, prioritize packets, and converts Ethernet data to the desired transport medium.

The site LAN switch provides a LAN interface for dispatch site equipment and a LAN port for the site router. Through the switch, service technicians can access the system's configuration manager and service the equipment.

1.3.1.4 Conventional Base Station Interfaces

The MCC7500 is capable of accessing and controlling analog conventional base stations through the use of conventional channel gateways (CCGW). The CCGW is a GGM8000 Gateway. This capability lowers the cost of ownership in two ways:

- It uses the same transport network, reducing the requirements for dedicated backhaul.
- It reduces the hardware requirements for interoperability, lowering fixed network equipment costs.

The dispatch console processes audio received from the station, and controls various features on the stations, such as frequency selection, private line selection, and repeater on/off.

Each low density GGM8000 router can support up to 8 IP interfaced base stations, four (4) 4-wire analog stations, and four (4) v.24 interfaces. Higher density models are also available. Through the

use of one of the analog ports, and one of the v.24 ports, a digital and analog mixed mode channel may be interfaced to the system, utilizing one of the available channel slots of the CCGW. Additionally, the GGM8000 CCGWs allow for recovery of MDC1200 and digital signaling, such as unit ID, and emergency alarm, which is in turn, passed to the MCC7500 dispatch operator position(s).

1.3.1.5 Console Operations

The MCC7500 IP 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 MCC7500 IP Console reduces communication errors that may force dispatch console operators to repeat their transmissions.

1.3.1.6 Dispatch Interface

The MCC7500'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. Users can customize the MCC7500's GUI by agency or by individual user to meet their dynamic needs and requirements.

Elite Dispatch Graphical User Interface

The MCC7500 Elite Dispatch GUI is an enhanced version of Motorola's Gold Elite Dispatch GUI. For existing Gold Elite users, the GUI allows a smooth transition and minimal training for radio dispatch operators. For new users, the graphical icons and customization options make the MCC7500 IP console GUI easy to learn and operate.

An example of the MCC7500's GUI is shown in Figure 1-1.

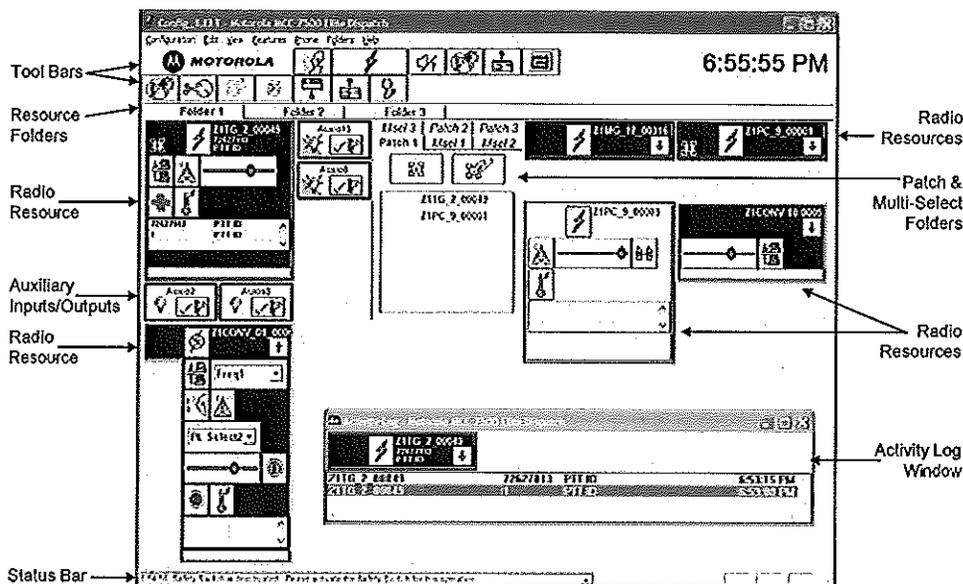


Figure 1-1: The MCC7500's GUI delivers critical real-time information is delivered to the console operator when and where they need it

Based on operator preference, the MCC7500 GUI can be customized to show details of trunked and conventional 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.

1.3.1.7 Standard Radio Transmission and Reception

A typical MCC7500 console has two speakers, one for selected audio and the second for all remaining unselected audio. Additional speakers can be added to the console, allowing dispatch operators to configure a specific speaker for a set of designated audio sources. This simplifies multitasking between multiple audio sources, allowing flexibility in the way the audio is presented to the dispatch operator.

Receiving Calls from the Field and Other Dispatch Operators

Dispatch operators have great flexibility as to how to hear calls from field radio users and other dispatch operators. Each console dispatch operator can define his or her own audio reception profile. They can select a single audio source, whether conventional or talkgroup, to be heard on a selected speaker (“Single Select”). They 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, 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 talkgroup (“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 MCC7500 system 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. .

Controlling Console Audio

The MCC7500 IP Dispatch Console offers the operator several different ways of controlling or muting the audio on their console. The operator can change the audio volume of any specific resource routed to a selected speaker and, if they desire, can mute and un-mute all non-selected resources on the console (“All Mute”) for 30 seconds.

The console enables the dispatcher to transmit on a resource while receiving audio from other resources. It also can prevent acoustic feedback when a co-located operator position transmits by muting the transmitting operator position's audio on a shared resource.

Controlling Network Audio

Dispatch operators can control the audio on the ASTRO25 network. Using the console, the operator can enable or disable radio users in a talkgroup from hearing transmissions of other radio users in that talkgroup, in order to compartmentalize traffic, reduce interruptions, and maintain communications between dispatch and the field. When this function is enabled or disabled, all dispatch consoles with this resource assigned are updated with the current status of the feature. This feature can be controlled from any dispatch console.

1.3.1.8 Dispatch Audio Experience

Emergency Alarms

The MCC7500 IP 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 MCC7500 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.

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 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).

Desktop Speakers

Each dispatch console is capable of supporting up to 8 audio speakers. These speakers supply audio for select/unselect, as well as pre-determined audio sources to specific monitor speakers, each of which transmits unique audio—that is, an audio source cannot appear in multiple speakers at a single



dispatch console. Each position supports up to eight audio speakers. 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. A mounting bracket is included with each speaker.

Footswitch

Each dispatch console is capable of a dual pedal footswitch. The footswitch can be configured to control general transmit and monitor functions.

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.

Instant Recall Recorder Port (for Radio)

Short-term, console-specific audio recording is a mechanism used to record a portion of the inbound audio present on a specific dispatch console and make it readily available to the dispatch console user. This recorded audio is retained by the recording system for a short period (typically about 60 minutes) and is easily played back by the dispatch console user. This allows the dispatch console user to replay received audio that the user may have missed.

The instant recall recorder port (for radio) allows an instant recall recorder to be connected to a dispatch console. The port provides an output containing the receive radio audio on the selected channels. Transmit audio of any type (from either this dispatch console or a parallel dispatch console) as well as tones generated by the dispatch console (emergency tones, callback tones, busy tones) are not included in the audio output.

Dispatch console generated tones (e.g., emergency alarm tones, trunking busy tones, error tones, etc.) are not included in the audio appearing at the analog audio output. This is done so that they do not interfere with the dispatch console user's ability to understand the voice audio that was recorded.

1.3.1.9 Emergency Radio Transmission and Reception

As part of a mission-critical communications network, the MCC7500 facilitates immediate prioritization and resolution of emergency communications between the dispatch center and first responders in the field. This enables dispatch operators and first responders to focus on their mission, not their equipment—especially during critical situations.

When a field user or another dispatch operator makes a trunking emergency call, the console emits both visual and audible indications (“Emergency Alarm”). The operator can then “recognize” the

emergency call, which ends the audible emergency indication and notifies all console operators that the emergency is being addressed (“Emergency Recognize”). The audible emergency indication may also be muted by a console operator without recognizing the emergency alarm (“Mute Tones at a Single Op”). When an emergency is over, the dispatch console user can end the Emergency Alarm. The emergency mode remains active on the initiating radio unit until it is ended (reset) by the radio user.

Receiving an Emergency Call

When a field user or another dispatch operator makes a trunking emergency call, the console emits both visual and audible indications (“Emergency Alarm”). The audible indication works to alert the dispatch operator that an emergency is underway; the visual indication directs the dispatch operator’s attention to the specific resource on which the emergency call is being made. The dispatch operator can immediately reserve a voice channel for the duration of the emergency.

The audible indication for an emergency is generated at the maximum level of the received audio, regardless of what volume the console has set that resource to. This is to ensure that the console operator does not miss the call. When the emergency call has been acknowledged, the volume for that resource is returned to its previous level.

Responding to an Emergency Call

When a console operator wishes to respond to the trunking emergency call, they can bypass the standard console interface to auto-open a quick list, which contains specific controls for recognizing an emergency call, initiating an emergency call, and ending an emergency call (“Auto-Open of Quick List”). The operator can then “recognize” the emergency call, which ends the audible emergency indication and notifies all console operators that the emergency is being addressed (“Emergency Recognize”).

The audible emergency indication may also be muted by a console operator without recognizing the emergency alarm (“Mute Tones at a Single Op”). This would be used in a situation where one agency is monitoring a channel that belongs to another agency. If an emergency alarm comes in on the second agency’s channel, the first agency could mute the tones at their dispatch consoles without having to wait for the second agency to recognize it.

Ending an Emergency Call

When an emergency is over, the dispatch console user can end the Emergency Alarm. The visual indication on the console GUI is removed, and the console informs the trunking controller and other consoles that the emergency is over (“Emergency End/Knockdown”).

The emergency mode remains active on the initiating radio unit until it is ended (reset) by the radio user.



1.3.1.10 Radio Patch Control

MCC7500 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 MCC7500 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 MCC7500 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.

Please note: This operation is different than that of the patch folders. A dispatch console can only have one multi-select group active at a time, but it can have multiple patch groups simultaneously active.

1.3.1.11 Call Management and Control

Automatic Prioritization of Calls

Calls on the MCC7500 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.

Standard Call Indications

The MCC7500 Console indicates the availability of any given trunking resource, whether or not it is being transmitted on at the moment. It will also give an inbound call indication that provides the console operator with a visual cue of audio activity on a radio resource. This functionality makes it easy for an operator to see at a glance what the status of a resource is at any moment.

Resource Identification

To identify a resource, the console reads its unit ID, a string of digits that uniquely represent that resource. The console makes it easy for operators to read unit IDs by replacing them with user-friendly 16-character aliases. These aliases, which are defined during the configuration of the console system, can replace the unit IDs of the following resources:

- Trunking Talkgroup Resource
- Trunking Announcement Group Resource
- Trunking Individual Call Resource
- Conventional Channel Resource
- Conventional Channel Frequency Selection Control
- Conventional Channel PL Selection Control
- Unit ID
- Aux I/O Resource

On large systems, unit IDs can be conserved by grouping all individual call resources on a specific trunking talkgroup together under a certain ID. This flexibility simplifies the daily work of dispatch operators.

Call Alerting

When an operator needs to reach a radio user or dispatch operator and they are not near their radio or console, the dispatch operator can “page” the unattended radio or console through a series of beeps and an indication of the sender’s ID. When the radio user or dispatch operator becomes available, they will see the unit ID of the calling dispatch operator’s console, and be able to return the call. Additionally, a Call Alert can be used to trigger an activity. For instance, a Call Alert may cause a vehicle’s horn to sound and its lights to flash.

The console operator can even send a call alert to a user who is involved in voice and data communications over the network.



1.3.1.12 Console Logging

The MCC7500 Dispatch Console provides a Long Term Logging Port at each dispatch position that would allow for logging of audio from each position. Several additional options are available to log audio off of the new system and dispatch console. Motorola can provide those options upon request.

Long Term Logging Port

Each MCC7500 dispatch position is equipped with a Long-term Logging port. Long term audio recording is used to record a portion of the inbound and outbound audio present on a specific dispatch console. These recordings are typically archived for long-term storage, and provide a historical record of the radio communications made at a given dispatch console.

The long term logging port allows an external logging recorder to be connected to a dispatch console. The audio that appears on this output is configurable, but is typically the audio that was transmitted and/or received at that dispatch console.

The configuration of audio to be presented at this port is tied to the physical dispatch console, so that no matter what user is logged into the console, the same type of audio is logged. The long term logging port can be configured to log any combination of the audio sources listed below:

- Audio received from the currently selected radio resources (note that the level of this audio is not affected by either the individual volume setting of the radio resource or the master volume control on the speaker or headset jack)
- Microphone audio being transmitted to the currently selected radio resources by this dispatch console user
- Microphone audio being transmitted to unselected radio resources by this dispatch console user
- Any tones generated by the dispatch console that appear in its speakers (trunking tones, emergency tones, etc.)

Note that this output may be used with an instant recall recorder as well as a long term logging recorder.

Logging Recorder replacements have not been included in this proposal. There are a variety of logging recorder solutions that require discussion between the SRRCS, Sacramento PD, and Motorola in order to achieve an optimal solution for Sacramento PD. Please note there is no Archiving Interface Server (AIS) included in this design, which would be required if Sacramento PD determines they want to interface to an IP trunked logging solution.

1.3.1.13 Console System Security

The MCC7500 Console supports many different secure access features. A few of the security features are outlined below.

Secure Access to the Console

To use the dispatch console, an operator must enter a valid radio system user account name and password. The dispatch console validates that information with the radio system's network manager and allows the user to access only the resources for which the user has access rights. This also applies to third party applications that use the dispatch console's API.

Secure Communications at the Console

The console itself encrypts and decrypts radio voice messages if the secure keys option is purchased for the console. If purchased, radio voice messages are encrypted end-to-end, from the field radio user to the dispatch console. The console operator can choose whether or not to encrypt their transmissions on a particular trunked resource. Console operators can interface with agencies that have different encryption configurations without any manual intervention or delay. The MCC7500 Console can support up to 60 calls simultaneously, using up to four different algorithms and multiple encryption keys.

To help reduce potential errors when managing encrypted communications, the MCC7500 interface provides alerts when the console mode does not match that of a received call, and when a patch or multi-select group is being set up between a mix of clear and secure channels. The set of alerts available on the console are in Table 1-2 below.

Table 1-2: Security Indications

Receive Cross-Mode Indication	Indicates when an inbound call's secure mode does not match the console's outbound mode, so that the console operator can respond in the correct mode.
Clear Audio Alert	Provides visual and audible indication that a trunked radio transmission or reception is unencrypted.
Multi-Select Cross-Mode Alert	Indicates that different trunked resources in a multi-select group have different secure modes, preventing console operators from transmitting audio in both secure and non-secure modes.
Patch Cross-Mode Alert	Indicates that different trunked resources in a patch group have different secure modes, preventing console operators from transmitting audio that is intended to be secure in an unencrypted state.
Key Fail Indication	Indicates that a console cannot decrypt or encrypt a call due to a problem with an encryption key.
Panic Key Zeroizing	Erases all encryption keys at a specific console or AIS at the push of a button. The button is recessed in a panel to reduce the chance of accidentally pressing it.
Keypad/Indexset Selection via GUI	Enables the dispatch operator to manually select the keypad/indexset the dispatch console uses.
Key Management via KVL	Enables the operator to use the KVL to manage all keys for a dispatch console or archiving interface server.
Key Management via Store and Forward	Enables the operator to use a KVL and KMF to manage all keys for a console or archiving interface server.

1.3.1.14 Console Configuration and Management

The MCC7500 console system is configured and managed by the same configuration manager, fault manager, and performance reporting applications as the radio system. The user can define exactly which resources are available and how they are presented to the dispatch console user. This provides agencies with a single point for configuring and managing the entire ASTRO25 system. Changes are automatically distributed throughout the system. This centralized approach saves valuable time and effort for system administrators and technicians, and reduces the errors that can occur when radio IDs and other data are entered at multiple locations.

In addition, call traffic and performance reports for each console can be generated from the system's network manager. This enables administrators to quickly and easily ensure optimal effectiveness and efficiency.

1.3.1.15 MCC7500 Dispatch Console Component Description

An MCC7500 Dispatch IP Console consists of the following elements:

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

This section discusses the various components that make up the proposed MCC7500 Dispatch Console system. These components are connected together and to the rest of the ASTRO25 system on an IP network via console site routers and switches. The MCC7500 Dispatch Console functions as an integrated component of the total radio system, fully participating in system level features such as end-to-end encryption and agency partitioning.

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

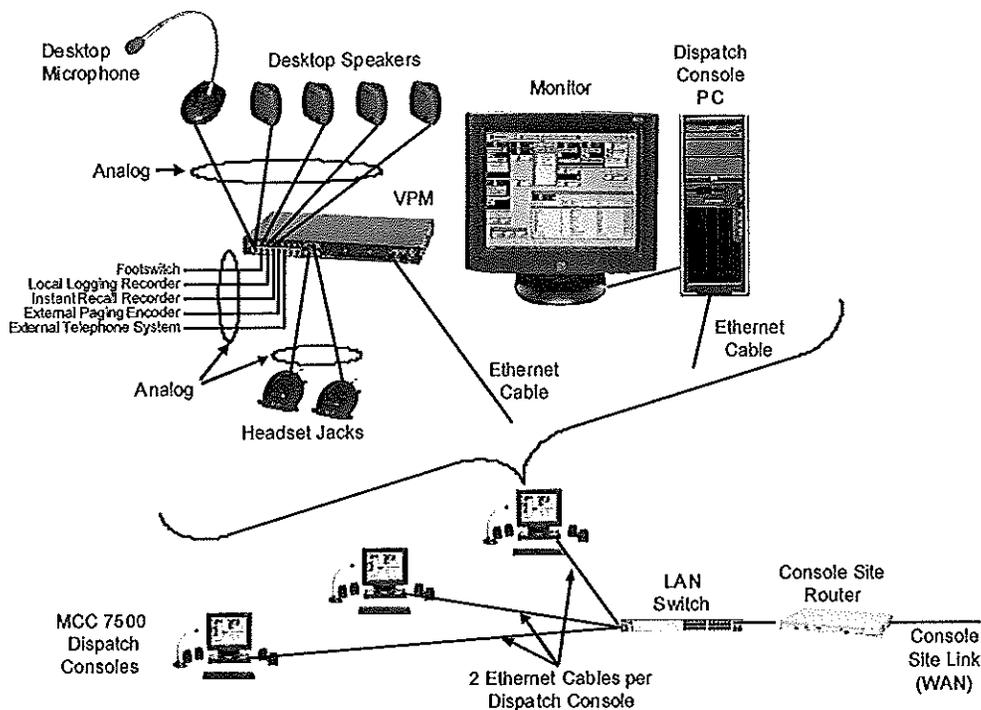


Figure 1-2: Motorola MCC7500 Dispatch Console Hardware Architecture

Operator Position Components

MCC7500 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 MCC7500 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 footswitch.



MCC7500 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
- Eight desktop speakers
- Logging recorder
- Radio instant recall recorder
- Telephone instant recall recorder (not supported in initial releases)
- 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 MCC7500 Dispatch APIs.

An optional 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 PC running the Microsoft Windows operating system and containing a Motorola-designed voice card and a Motorola-designed secure card. The PCs used in ASTRO25 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.

Auxiliary Inputs and Outputs

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

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

Supported Aux I/O Configurations

The following Aux I/O configurations are supported.

Aux I/O Configuration	Description
Momentary Input	This is an input where the user interface always shows the true state of the input.
Latched Input	This is an input where the user interface does not necessarily show the true state of the input. When the input goes active, the user interface shows the state as active. The display will continue to show the state as active even if the input changes to the inactive state. A dispatch console user must manually reset the display to return it to the inactive state.
Momentary Output	This output relay is activated when the dispatch console user presses the button on the user interface and deactivated when the dispatch console user releases the button.
Latched Output	This output relay changes state only when the dispatch console user presses the button.
Interlocked Latched Output	This latched output relay is part of a group of latched output relays. Only one of the relays in the group may be active at a time. Interlocked relays work in a "break before make" fashion; that is, the previously active relay is deactivated before the new relay is activated.

1.4 MCC7100 SOLUTION OVERVIEW FOR SACRAMENTO POLICE DEPARTMENT

1.4.1 MCC7100 Dispatch Console

The MCC7100 Dispatch console is a software based dispatch console that can reside on the radio dispatch network or the Sacramento PD corporate network through a proxy server, and can support up to 10 simultaneous calls per console. Up to 30 resources can be programmed into each dispatch position. It requires no externally attached hardware to perform dispatch operations. Audio Vocoding is performed under the Windows OS. The MCC7100 will work with the built in speaker and microphone in PC if equipped, and will support external speakers, microphone, and headset jacks.

The MCC7100 Console uses an off-the-shelf personal computer running at least Windows® 7 Professional 64 bit. Windows® XP and Vista are not supported. Each PC used with a console also requires a copy of anti-virus software.

1.4.1.1 MCC7100 Console Workstations

Motorola will provide Sacramento PD with three (3) laptop computers to support MCC7100 console operations. Below are the minimum computer hardware and software specification requirements for MCC7100 dispatch positions:

MCC7100 Dispatch Console Minimum Recommended Computer Specs	
Updated 11/14/2013	
Minimum Workstation Specifications	The minimum specifications are based off of the HP Low Tier Z420 Workstation.
Operating System	Windows 7 Professional (64 bit) Service Pack 1 (Note: Required OS version. Windows 8 is not supported.)
Processor	Intel Xeon E5-1603, 2.8GHz, 1066Mhz memory, Quad Core
Chipset	Intel C602
System Memory:	4 GB total memory (2x2GB DDR3 1600MHz ECC)
Hard Drive:	250 GB 7200 rpm SATA 3.0 Gb/s NCQ
Optical Storage Devices	Minimum of 1 DVD drive to install software
Network controller	Integrated Intel 82579LM PCIe GbE Controller
Expansion features	1 USB 2.0 port per peripheral (expansion hub may also be used).
Minimum Laptop Specifications	
Operating System	Windows 7 Professional (64 bit) Service Pack 1 Note: Windows 7 64 bit is the certified OS. Beginning with the A7.14 release Windows 8 & 8.1 (64 bit) OS are supported for outside the RNI installations but not when Hardware Encryption is used. The CRYPTR micro requires Windows 7 (64 bit).
Processor	Intel® Core™ i5-3230M (2.6 GHz, 3 MB cache, 2 cores)
Chipset	Mobile Intel® QM77 Express
System Memory	4 GB 1600 MHz DDR3 SDRAM (1 x 4 GB)
Hard Drive	250 GB 7200 rpm SATA 3.0 Gb/s NCQ
Audio in/out (optional if peripherals are used)	Integrated stereo speakers; Integrated microphone
Optical Storage Devices	Minimum of 1 DVD drive to install software
Network Interface	10/100/1000
Wireless (optional)	802.11a/b/g/n
Expansion features	1 USB 2.0 port per peripheral (expansion hub may also be used).



**MCC7100 Dispatch Console
Minimum Recommended Computer Specs**

Updated 11/14/2013

SD Card Slot (optional)	*SD Host Controller Interface needed if using Hardware Encryption. Special consideration must be made for the SD compliant host controller manufacturer. Please see the MCC7100 product planner for details including how to test if a computer has a compliant SD Host Controller.
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The above specs are for the MCC7100 application only. When running other applications on the same computer, a more robust computer may be required. Consult the minimum computer requirements for the other software application.

Motorola Solutions tests and supports the certified computers we offer with our products to make sure they meet the rigorous performance, reliability and availability needs of mission critical radio dispatch operations. We understand that some customers need to use computers other than the certified ones we offer. The recommended computer specs above are made available to assist those customers in selecting their computers. While customers are free to select other computers, some important things must be understood and accepted before doing so. These are listed below.

Guarantee of Performance - Motorola Solutions guarantees that the certified computers will perform properly under the worst case loads the system is designed to handle. Motorola Solutions cannot guarantee that non-certified computers will perform properly because they have not been tested by Motorola Solutions.

Proper Computer Hard Disk Image - Motorola Solutions' certified computers contain the proper configuration of the operating system for use in ASTRO 25 systems. Non-certified computers will have to be manually configured to get the proper configuration.

Removal of Extraneous Applications - Extraneous applications are oftentimes included with commercially purchased computers. These have been removed on the Motorola Solutions certified computers. These applications will have to be manually removed from non-certified computers.

Information Assurance Measures - The Information Assurance measures used in ASTRO 25 systems are optimized for the certified computers. The use of non-certified computers may require the customer to assume responsibility for adapting these measures for the other computers. This can include things such as hardening of the operating system, ongoing compliance with new STIGs, installation of anti-virus software, ongoing updating of anti-virus definition files and on-going vetting and installation of operating system patches.

Recovery from a Hard Disk Failure - Motorola Solutions provides a MOSI disk that will install the proper operating system image on a certified computer. Due to Microsoft licensing terms, MOSI disks are only available with certified computers. Motorola Solutions cannot legally sell the MOSI disk for use on other computers.

Warranty and Technical Support - Motorola Solutions has an extensive set of policies, procedures and processes for providing warranty and technical support for certified computers. These are reviewed and updated as necessary for each system release. Customers and Motorola Solutions project teams must work together on a case-by-case basis to define and arrange warranty and technical support for non-certified computers. Regardless of which type of computer may be involved, Motorola Solutions will provide technical support for identifying the cause of problems and issues with the dispatch consoles. If the cause is determined to be a non-certified computer, the next steps in providing support are determined by the arrangement agreed upon by the customer and the project team.

Complications when Upgrading to New System Releases - Non-certified computers can complicate the system upgrade process. Please contact Upgrade Operations before purchasing non-certified computers to make sure they will support them during system upgrades.

1.4.1.2 MCC7100 Network Architecture

Each remote MCC7100 console can reside on the radio dispatch network or can reside on the Sacramento PD corporate network and connect back into the Motorola Radio Network (RNI) through a firewall and proxy server. The firewall and proxy server equipment/software is included in this proposal. The location of the proposed proxy server and firewall equipment has not yet been determined. Figure 1-3 illustrates the network interfaces for the MCC7100 remote console subsystem.

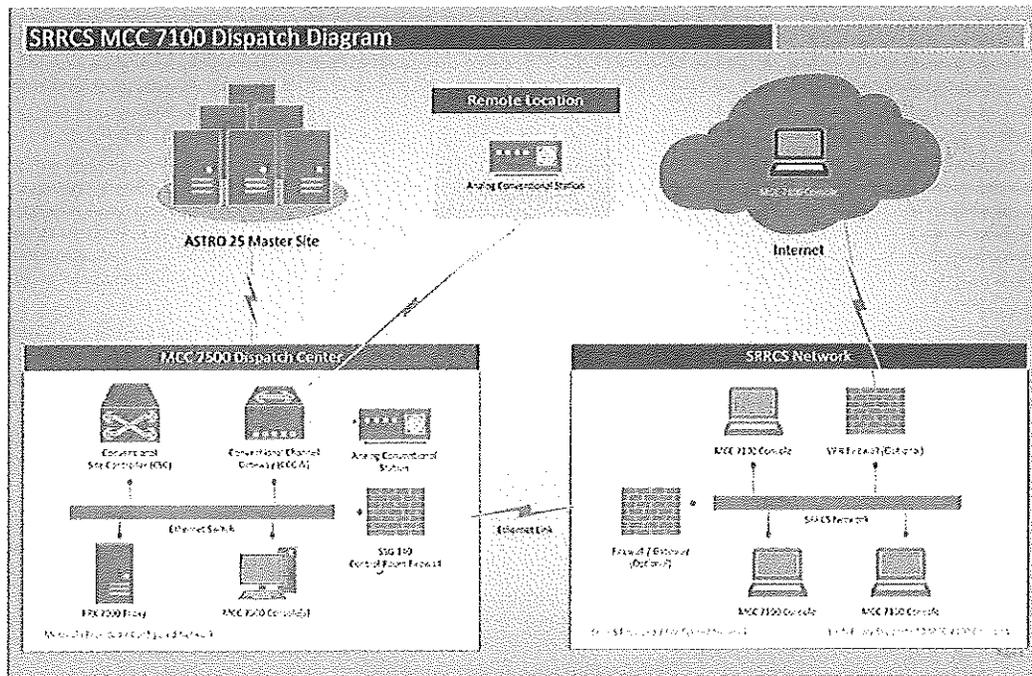


Figure 1-3: MCC7100 Dispatch Diagram

1.4.1.3 MCC7100 Network Requirements

Network requirements for MCC7100 operation outside the RNI are detailed in Table 1-3.

Table 1-3: Network Requirements

Requirement	Specification
Network Connection Requirements	The MCC7100 IP Dispatch Console uses wired (Ethernet) or wireless broadband (e.g. 4G, Wi-Fi) networks to establish voice communications with trunked and conventional radios.
Bandwidth Requirements	Up to 35 kbps per channel, up to 175kbps for a 5 stream dispatch console and up to 350 kbps for a 10 stream dispatch console.
Network Jitter Allowed	131ms. max

Dropped Packets Allowed	1% packet loss max
Maximum Delay	Latency between the console site where proxy is to be installed and the core – lowest latency site link to the core (RF Site or Console Site) < 10 ms.

1.4.1.4 MCC7100 Console Proxy Server and Firewall

Two of the three MCC 7100 dispatch consoles will be located on the Motorola radio network. The third MCC 7100 dispatch console will be configured to be located on the Sacramento PD corporate network. In order to facilitate communications from MCC7100 consoles located on the Sacramento PD corporate network back into the Motorola radio network, a firewall and proxy server must be utilized. Each proxy server has the capacity to handle ten (10) simultaneous MCC7100 remote console connections.

Motorola has included a single firewall and proxy server with this proposed design.

1.4.1.5 Conventional Channel Interfaces

The Conventional Channel Gateways (CCGW) can be connected to an MCC7500 dispatch center located on the Motorola RNI network. This provides an interface for existing analog conventional channels to be connected to the P25 Communications Network and accessed by remote MCC7100 consoles. Audio from analog conventional stations is routed from the CCGW location back to the Master site, via the dispatch dual site links, so that audio is available to all consoles in the system.

A single CCGW has been included for interfacing conventional resources at Brighton Heights. The exact number of resources to be connected will be determined during the design review.

1.4.1.6 Conventional Site Controller (CSC)

The Conventional Site Controller (CSC) provides a level of fallback operation, should site links between a MCC7500/CCGW location and the Master site become unavailable. Since all CCGW audio routes through the Master site, consoles would lose access to analog conventional stations upon loss of site links to a CCGW location. The CSC allows dispatch consoles that are co-located with the CCGW to operate with the CCGW locally upon loss of the site links back to the master site. Motorola has provided a separate proposal to SRRCS to locate CSC's at MCC7500 dispatch sites, which are the potential locations for the MCC7100 connection point to the SRRCS network.

Sacramento PD does not have any conventional resources interface at the Sacramento PD location, and would not benefit by the presence of CSC equipment at their Dispatch Center. Sacramento PD utilizes backup consolettes for each dispatch position. For these reasons, Motorola has not included CSC equipment in this proposal.

1.4.1.7 MCC7100 IP Address Requirements

In this MCC7100 console system design, one (1) of the MCC7100 consoles will be located on the Sacramento PD corporate network. This configuration requires proper network address translation (NAT) configuration. During the design review, Motorola will work with Sacramento PD and SRRCS to identify the IP address requirements for Sacramento PD to access the Motorola Radio Network.

1.4.2 MCC7100 Console Sites

The new Sacramento PD dispatch system will include three (3) MCC7100 dispatch positions. Sacramento PD plans on locating two of these MCC7100 dispatch computers at Sacramento PD dispatch in the training room. The third MCC7100 dispatch computer will reside on the Sacramento PD corporate network and will be interfaced to the Motorola P25 system through a console proxy server and firewall.

1.4.3 Proxy Server Equipment

MCC7100 consoles that reside on the Sacramento PD corporate network require an interface point to the SRRCS P25 network. Each remote MCC7100 console on the Sacramento PD corporate network will connect to a proxy server through a Motorola provided firewall.

1.5 BACKHAUL REQUIREMENTS

The Sacramento PD dispatch console system will connect to the Master Site via dual T1 site links. Since the exact number of talkgroups to be monitored by each dispatch center has not been fully determined, the number of backhaul links required will be determined during the Design Review. However, preliminary numbers indicate that two T1s should be sufficient for the link, one to each of the redundant GGM 8000 gateways.

Sacramento PD is responsible for providing the necessary T1 site links.

1.6 POWER REQUIREMENTS

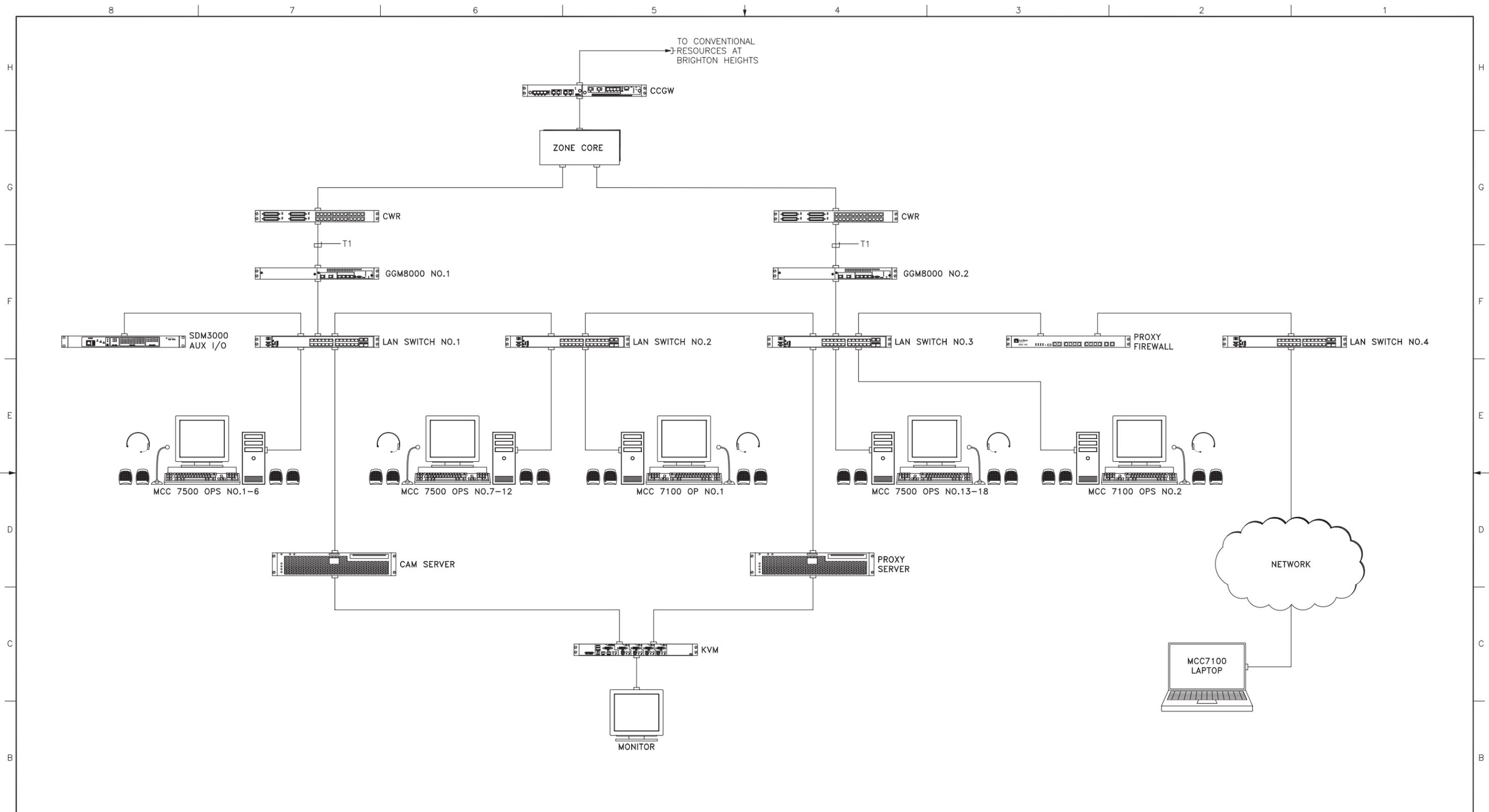
Each piece of backroom equipment requires standard commercial power. Sacramento PD is responsible for providing all necessary power circuits. Motorola will provide the specific power circuit requirements during Design Review.



SECTION 2

SYSTEM DRAWINGS





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REV NO:	DATE:	ENGR:	DESCRIPTION:

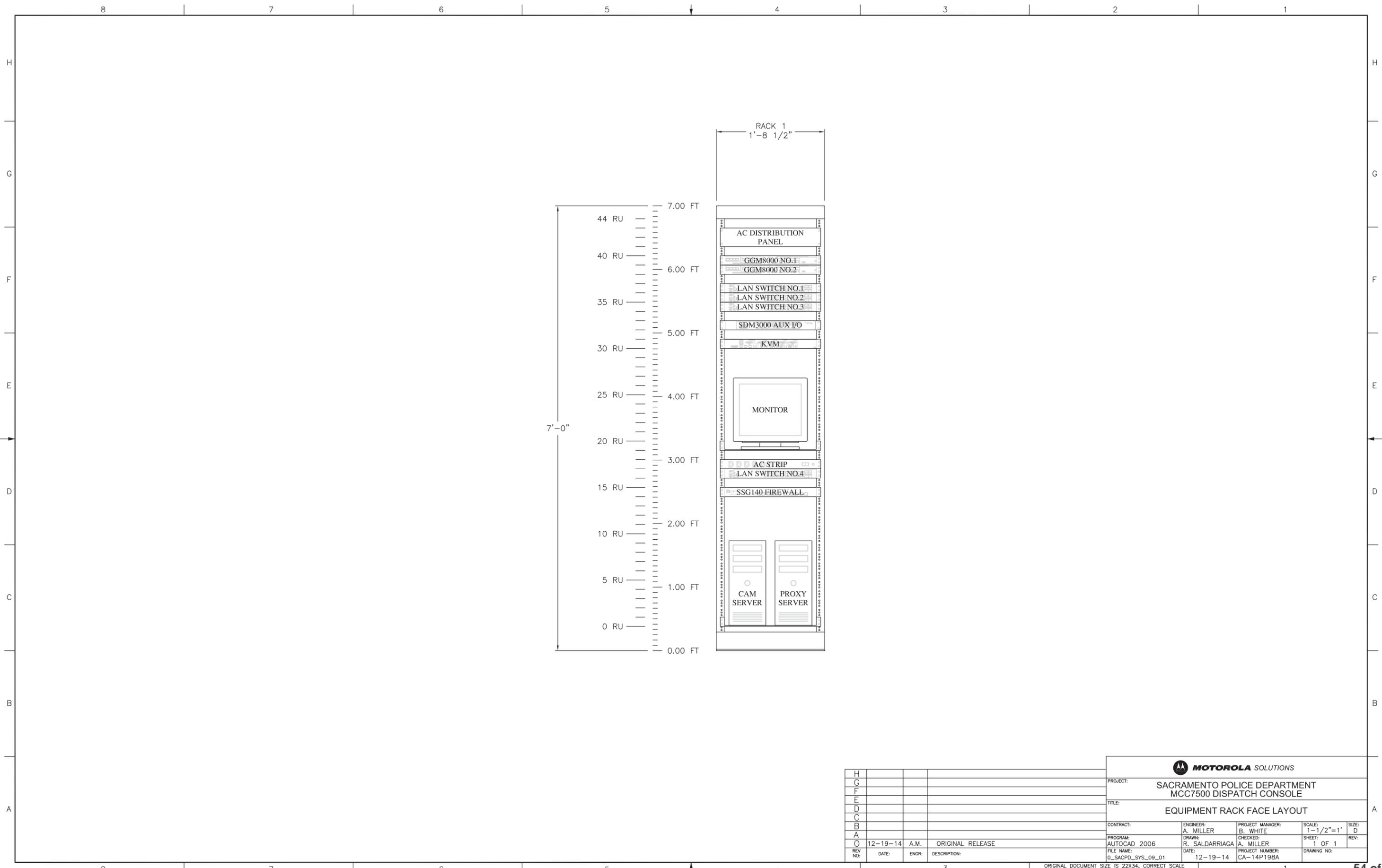
MOTOROLA SOLUTIONS

PROJECT: SACRAMENTO POLICE DEPARTMENT
MCC7500 DISPATCH CONSOLE

TITLE: SYSTEM BLOCK DIAGRAM

CONTRACT:	ENGINEER: A. MILLER	PROJECT MANAGER: B. WHITE	SCALE: NONE	SIZE: D
PROGRAM: AUTOCAD 2006	DRAWN: R. SALDARRIAGA	CHECKED: A. MILLER	SHEET: 1 OF 1	REV: 1
FILE NAME: 1_SACPD_SYS_02_01	DATE: 12-19-14	PROJECT NUMBER: CA-14P198A	DRAWING NO:	

ORIGINAL DOCUMENT SIZE IS 22X34, CORRECT SCALE IS NOT GUARANTEED IF REDUCED OR ENLARGED



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O	12-19-14	A.M.	ORIGINAL RELEASE
REV NO:	DATE:	ENGR:	DESCRIPTION:

PROJECT: SACRAMENTO POLICE DEPARTMENT MCC7500 DISPATCH CONSOLE				
TITLE: EQUIPMENT RACK FACE LAYOUT				
CONTRACT:	ENGINEER: A. MILLER	PROJECT MANAGER: B. WHITE	SCALE: 1-1/2"=1'	SIZE: D
PROGRAM: AUTOCAD 2006	DRAWN: R. SALDARRIAGA	CHECKED: A. MILLER	SHEET: 1 OF 1	REV: D
FILE NAME: 0_SACPD_SYS_09_01	DATE: 12-19-14	PROJECT NUMBER: CA-14P198A	DRAWING NO:	

ORIGINAL DOCUMENT SIZE IS 22X34, CORRECT SCALE IS NOT GUARANTEED IF REDUCED OR ENLARGED

EQUIPMENT LIST

3.1 CONSOLE EQUIPMENT LIST

Qty	Nomenclature	Description
1	SQM01SUM0239	MASTER SITE CONFIG UPGRADE
1	CA00996AK	NM/ZC LICENSE KEY 7.13
1	CA00997AK	UCS LICENSE KEY 7.13
5	CA02105AA	MCC7500/MCC7100 CONSOLE LIC
20	T6999	ANALOG SMARTZONE
20	G808	ENH: ASTRO DIGITAL CAI OPRN
20	G347	ENH: SMARTZONE UPGRADE
20	G114	ENH: DIGITAL ID DISPLAY
20	G361	ENH: ASTRO PROJECT 25 TRUNKING SOFTWARE
1	B1940	MCC7100 DVD
3	B1939	MCC7100 IP Dispatch Position Main Model
3	CA01642AB	ADD: MCC7100 BASIC CONSOLE FUNCTIONALITY SOFTWARE LICENSE
3	CA01643AA	ADD: MCC7500 / MCC7100 TRUNKING OPERATION
2	DS019BLK	19 INCH NON-TOUCH MONITOR, BLACK
3	DSLAPTOP	MANUAL LAPTOP NUMBER
3	DDN1391	MUSIK USB SPEAKERS (SET OF 2) PALO ALTO
3	B1941	USB AUDIO INTERFACE MODULE
3	B1914	MCC SERIES DESKTOP GOOSENECK MICROPHONE
6	B1913	MCC SERIES HEADSET JACK
3	RLN6099A	HDST MODULE BASE W/PTT, 25' CBL
3	RMN5078B	SUPRAPLUS NC SINGLE MUFF HEADSET
3	DSTWIN6328A	PROVIDES ONE DUAL PEDAL FOOTSWITCH FOR USE WITH MOTOROLA MCC DISP
3	T7885	MCAFFEE WINDOWS AV CLIENT
3	HKVN4225A	MCC7100 INSTANT RECALL RECORDER LICENSE
3	HKVN4159A	10 CHANNEL SW LICENSE
1	HKVN4161A	PRX 7000 Proxy SW License (1-10 CONNECTIONS)
1	BVN6079	PRX 7000 Proxy Application SW DVD
1	TT2538	Z420 LOW TIER WORKSTATION WINDOWS 7
1	DDN9590	SSG140 FIREWALL W/ 2 YEARS SUPPORT
1	T7413	JUNIPER FIREWALL RECOVERY MEDIA
1	CLN1856	2620-24 ETHERNET SWITCH ?
1	B1941	USB AUDIO INTERFACE MODULE
1	DDN1391	MUSIK USB SPEAKERS (SET OF 2) PALO ALTO
1	B1905	MCC7500 ASTRO 25 SOFTWARE
18	B1933	MOTOROLA VOICE PROCESSOR MODULE
18	CA01642AA	ADD: MCC7500 BASIC CONSOLE FUNCTIONALITY SOFTWARE LICENSE

Qty	Nomenclature	Description
18	CA01643AA	ADD: MCC7500 / MCC7100 TRUNKING OPERATION
18	CA00140AA	ADD: AC LINE CORD, NORTH AMERICAN
18	DS019BLK	19 INCH NON-TOUCH MONITOR, BLACK
18	TT2538	Z420 LOW TIER WORKSTATION WINDOWS 7
18	T7449	WINDOWS SUPPLEMENTAL TRANS CONFIG
18	DSRMP615A	SPD, TYPE 3, 120V RACK MOUNT, 15A PLUG-IN W/ (6) 15A NEMA 5-15 OUTLETS
36	B1912	MCC SERIES DESKTOP SPEAKER
18	B1914	MCC SERIES DESKTOP GOOSENECK MICROPHONE
36	B1913	MCC SERIES HEADSET JACK
36	RLN6099A	HDST MODULE BASE W/PTT, 25' CBL
36	RMN5078B	SUPRAPLUS NC SINGLE MUFF HEADSET
18	DSTWIN6328A	PROVIDES ONE DUAL PEDAL FOOTSWITCH FOR USE WITH MOTOROLA MCC7500 DISP
18	T7885	MCAFFEE WINDOWS AV CLIENT
18	DDN1244	DUAL IRR SW USB HASP W LICENSE, SOUND CARD, & SPKRS (V45)
3	CLN1856	2620-24 ETHERNET SWITCH
2	SQM01SUM0205	GGM 8000 GATEWAY
2	CA01616AA	ADD: AC POWER
1	F4543	SITE MANAGER BASIC
1	VA00874	ADD: AUX I-O SERV FW CURR ASTRO REL
1	V266	ADD: 90VAC TO 260VAC PS TO SM
3	V592	AAD TERM BLCK & CONN WI
1	BVN1013	MKM 7000 Console Alias Manager Software
1	TT2538	Z420 LOW TIER WORKSTATION WINDOWS 7
1	T7885	MCAFFEE WINDOWS AV CLIENT
1	T7449	WINDOWS SUPPLEMENTAL TRANS CONFIG
1	DQ55053703	CHATSWORTH-7 INCH RACK RELAY (84H X 19W INCH) DOBL SIDE ALUMINUM BLACK
1	DS110110711	PDU, AC EDGE RACK MOUNT DISTRIBUTION PANEL, 120VAC 60A, 12-15A CIRCUIT
12	DS37502831	BREAKER KIT AIRPAX 5AMP SNAPAC, FOR AC EDGE OR DC EDGE III QTY 1
2	DS11054719	SHELF 26 INCH DEEP BY 19 IN WIDE BLACK
1	DS019BLK	19 INCH NON-TOUCH MONITOR, BLACK
1	DSKV9208A	8-PT SERVSCHWITCH EC SERIES PS/2 & USB USER/CPU KVMS
4	DSEHN9000U0006	6 FT SERVSCHWITCH EC-SERIES CPU CABLE
3	DS12086719	CHATSWORTH 19W INCH ADJUSTABLE TIE-DOWN TOWER BRACKET-BLACK
1	DSRMP615A	SPD, TYPE 3, 120V RACK MOUNT, 15A PLUG-IN W/ (6) 15A NEMA 5-15 OUTLETS
1	DQRMK19M	BRACKET KIT FOR 19' RACKMOUNT
1	SQM01SUM0205	GGM 8000 GATEWAY
1	CA01616AA	ADD: AC POWER
1	CA02141AA	ADD: LOW DENSITY ENH CONV GATEWAY



Qty	Nomenclature	Description
3	DS37502831	BREAKER KIT AIRPAX 5AMP SNAPAC, FOR AC EDGE OR DC EDGE III QTY 1
4	B1912	MCC SERIES DESKTOP SPEAKER
2	B1914	MCC SERIES DESKTOP GOOSENECK MICROPHONE
4	B1913	MCC SERIES HEADSET JACK
1	DSTWIN6328A	PROVIDES ONE DUAL PEDAL FOOTSWITCH FOR USE WITH MOTOROLA MCC7500 DISP
2	TT2538	Z420 LOW TIER WORKSTATION WINDOWS 7
1	B1934	MCC7500 VOICE PROCESSOR MODULE FRU
2	CDN6673	CREATIVE LABS INSPIRE A60
2	DDN1895	SOUND BLASTER AUDIGY RX SOUND CARD
1	CLN1856	2620-24 ETHERNET SWITCH
1	DS019BLK	19 INCH NON-TOUCH MONITOR, BLACK
1	SQM01SUM0205	GGM 8000 GATEWAY
1	CA01616AA	ADD: AC POWER



3.2 SUBSCRIBER EQUIPMENT LIST

Qty	Nomenclature	Description
679	H98UCF9PW6 N	APX6000 700/800 MODEL 2.5 PORTABLE
679	Q806	ADD: ASTRO? DIGITAL CAI OPERATION
679	H38	ADD: SMARTZONE OPERATION
679	Q361	ADD: P25 9600 BAUD TRUNKING
679	QA01749	SW KEY SUPPLEMENTAL DATA
679	G996	ADD: PROGRAMMING OVER P25 (OTAP)
679	Q947	ADD: ASTRO 25 INTEGRATED VOICE & DATA
679	QA01837	ALT: LIION IMPRES IP67 2900MAH (NNTN7038)
679	QA00782	ENH: APX GPS ACTIVATION
679	NNTN7038B	BATT IMP STD IP67 LiION 2900M 3100T BLK
679	PMMN4069A	IMPRES RSM, 3.5MM AUDIO JACK
679	WPLN7080	APX 7000 IMPRES CG SU APX7000 US/NA/CA/LA
679	PMLN5657B	APX6000 CC 2.75 SWLBL 2900&2150MAH
16	NNTN7065B	APX 7000 IMPRES MULTI UNIT CHARGER
107	H98UCF9PW6 N	APX6000 700/800 MODEL 2.5 PORTABLE
107	Q806	ADD: ASTRO? DIGITAL CAI OPERATION
107	H38	ADD: SMARTZONE OPERATION
107	Q361	ADD: P25 9600 BAUD TRUNKING
107	QA01749	SW KEY SUPPLEMENTAL DATA
107	G996	ADD: PROGRAMMING OVER P25 (OTAP)
107	Q947	ADD: ASTRO 25 INTEGRATED VOICE & DATA
107	QA01837	ALT: LIION IMPRES IP67 2900MAH (NNTN7038)
107	H499	ENH: SUBMERSIBLE (DELTA T)
107	H64	ALT: PUBLIC SAFETY YELLOW HOUSING
107	QA00782	ENH: APX GPS ACTIVATION
107	NNTN7038B	BATT IMP STD IP67 LIION 2900M 3100T BLK
107	PMMN4062A	APX7000 IMPRES RSM, NOISE CANC. EMERGENCY BUTTON 3.5MM JACK IP54
107	WPLN7080	APX 7000 IMPRES CG SU APX7000 US/NA/CA/LA
107	PMLN5658B	APX6000 CC 3 FIX BL 2900&2150MAH
100	H98UCF9PW6 N	APX6000 700/800 MODEL 2.5 PORTABLE
100	Q806	ADD: ASTRO? DIGITAL CAI OPERATION
100	H38	ADD: SMARTZONE OPERATION
100	Q361	ADD: P25 9600 BAUD TRUNKING
100	QA01749	SW KEY SUPPLEMENTAL DATA
100	G996	ADD: PROGRAMMING OVER P25 (OTAP)
100	Q947	ADD: ASTRO 25 INTEGRATED VOICE & DATA
100	Q393	ALT: NIMH IMPRES 2000MAH FM/CSA IP67 (NNTN7036)
100	H64	ALT: PUBLIC SAFETY YELLOW HOUSING
100	QA00782	ENH: APX GPS ACTIVATION

Qty	Nomenclature	Description
100	WPLN7080	APX 7000 IMPRES CG SU APX7000 US/NA/CA/LA
12	NNTN7065B	IMPRES MULTI UNIT CHARGER US/NA/CA/LA
100	PMMN4065A	APX IMPRES RSM W/VOL, IP57
100	NNTN7036	BATT IMP FM IP67 NIMH 2000M 2200T BLK
66	H98UCF9PW6 N	APX6000 700/800 MODEL 2.5 PORTABLE
66	Q806	ADD: ASTRO DIGITAL CAI OPERATION
66	H38	ADD: SMARTZONE OPERATION
66	Q361	ADD: P25 9600 BAUD TRUNKING
66	QA01749	SW KEY SUPPLEMENTAL DATA
66	G996	ADD: PROGRAMMING OVER P25 (OTAP)
66	Q947	ADD: ASTRO 25 INTEGRATED VOICE & DATA
66	QA01837	ALT: LIION IMPRES IP67 2900MAH (NNTN7038)
66	Q629	ENH: AES ENCRYPTION
66	H869	ENH: MULTIKEY
66	QA00782	ENH: APX GPS ACTIVATION
66	NNTN7038B	BATT IMP STD IP67 LIION 2900M 3100T BLK
66	PMMN4069A	IMPRES RSM, 3.5MM AUDIO JACK
66	WPLN7080	APX 7000 IMPRES CG SU APX7000 US/NA/CA/LA
66	PMLN5657B	APX6000 CC 2.75 SWLBL 2900&2150MAH
6	NNTN7065B	IMPRES MULTI UNIT CHARGER US/NA/CA/LA
94	M25URS9PW1 N	APX6500 7/800 MHZ MID POWER MOBILE
94	G806	ADD: ASTRO? DIGITAL CAI OPERATION
94	G51	ENH: SMARTZONE OPERATION APX6500
94	G361	ADD: P25 TRUNKING SOFTWARE
94	QA01749	SW KEY SUPPLEMENTAL DATA
94	G442	ADD: O5 CONTROL HEAD
94	G444	ADD: APX CONTROL HEAD SOFTWARE
94	G67	ADD: REMOTE MOUNT MID POWER
94	G335	ADD: ANT 1/4 WAVE 762-870 MHZ
94	W22	ADD: PALM MICROPHONE
94	B18	ADD: AUXILARY SPKR 7.5 WATT
94	G996	ENH: OVER THE AIR PROVISIONING
94	GA00235	ADD: NO GPS ANTENNA NEEDED
94	W947	ADD: ASTRO 25 INTEGRATED VOICE & DATA
94	GA00229	ENH: APX GPS ACTIVATION
32	L30URS9PW1 N	APX7500 SINGLE BAND 7/800
32	G806	ADD: ASTRO? DIGITAL CAI OPERATION
32	G51	ENH: SMARTZONE OPERATION APX
32	QA01749	SW KEY SUPPLEMENTAL DATA
32	G361	ADD: P25 TRUNKING SOFTWARE
32	L998	ADD: LIMITED FRONT PANEL W/CLOCK/VU
32	CA01598	ADD: AC LINE CORD US
32	G90	ADD: NO MICROPHONE NEEDED
32	HKN6233C	APX CONSOLETTTE RACK MOUNT KIT
32	F2380	MCD 5000 DESKSET



Qty	Nomenclature	Description
32	FHN7469	MCD 5000 DESKSET / RGU POWER SUPPLY WITH USA POWER CORD
32	FVN5847	MCD 5000 DESKSET SYSTEM CONFIG TOOL - SYSTEM W/OUT OMC
32	FKN8695	ETHERNET CABLE 10' WITH RED & BLACK LABELS



ACCEPTANCE TEST PLAN

Under the direction of the Motorola Program Manager, teams consisting of representatives from Sacramento PD and Motorola will execute agreed-upon test procedures to confirm that the communications system has been designed and installed to meet the features and performance capabilities agreed upon in the contract. This section is a comprehensive Acceptance Test Plan written to meet the particular requirements of Sacramento PD. Changes to this Acceptance Test Plan, including finalization of agreed upon test procedures, will occur during the design review phase of the project.

Successful completion of the Acceptance Test Plan requires the system to be operational and the necessary parties to be available to participate in the testing. In the event of an unplanned system outage, the test may be re-scheduled or restarted at a mutually agreeable time.

Acceptance Testing Overview

Motorola will verify Sacramento PD's dispatch system with the following tests:

- **Infrastructure Acceptance Test** — The purpose of the Infrastructure Test is to demonstrate the features and functionality of the system. Infrastructure testing takes place in two stages: factory acceptance testing and field acceptance testing.
 - The **Factory Acceptance Test** is conducted at Motorola's Customer Center for Solutions Integration (CCSi), and is completed prior to installation at Sacramento PD's dispatch center. As the system as proposed is an add-on to an already fielded master site at Brighton Heights, the Factory Staging Effort will be limited in scope. It is not anticipated that Sacramento PD representatives will attend the staging effort.
 - The **Field Acceptance Test** will take place after the field installation has taken place at the Sacramento PD dispatch facility. It verifies that system features and functionality are working as designed.

Proposed Acceptance Test Procedures (ATPs)

The Acceptance Tests are guided and completed through the execution of test scripts. A sample of the Acceptance Test Procedure scripts is included in this document. These scripts will be finalized with Sacramento PD during the design review phase of the project. Any changes to these procedures after the detailed design review may result in a change to the scope of this proposal and the Motorola Program Manager may issue a change order for the additional testing time required.

Conducting Tests

Each test will begin on the date agreed upon by Sacramento PD and Motorola as stated within the project schedule. The following sections describe the types of testing to be provided as part of this proposal.



4.1 INFRASTRUCTURE ACCEPTANCE TESTING PLAN

Infrastructure testing for the dispatch console is broken into two components: Factory Acceptance Testing, which takes place at Motorola's staging center, CCSi; and Field Acceptance Testing, which will take place on-site. A description of these phases is below:

Factory Acceptance Testing

At Factory Staging, major equipment serial numbers and firmware/software versions, will be recorded to create a baseline for future reference. In the unlikely event that a change needs to be made after the start of testing to correct a deficiency, the baseline will be revised to reflect the current state of the system. After each test, the equipment will be returned to its original operating condition.

During testing, all measurements or outcomes will be recorded within the test script, as indicated in the test. The result of a test procedure will be "Pass", "Fail", or a measured value. A checkmark in the "Pass" field or in the appropriate box will be sufficient to indicate that a step has passed the test. A copy of the test results will be delivered to Sacramento PD upon request.

If a failure occurs, a check will be placed in the "Fail" field within the test procedure and an entry made on a Punchlist Form. Procedures that fail will be remedied and retested. The Punchlist Form includes the date and time the entry was opened, the date closed, and the test number and step, and a description of the failure.

Field Acceptance Testing

Field Acceptance Testing is conducted to ensure that the system meets contractual requirements. The test will begin on the date agreed upon by Sacramento PD and Motorola as documented within the project schedule. After the test has been completed, the test procedure documents will be submitted as part of the system manual.

During testing, all measurements or outcomes will be recorded within the test script, as indicated in the test. The result of a test procedure will be "Pass", "Fail", or a measured value. A checkmark in the "Pass" field or in the appropriate box will be sufficient to indicate that a step has passed the test. When all steps in a specific test pass, a representative from Motorola and Sacramento PD will sign the test procedure form to indicate the system has passed that test.

If a failure occurs, a check will be placed in the "Fail" field within the test procedure and an entry made on a Punchlist Form. Procedures that fail will be remedied and retested. The Punchlist Form includes the date and time the entry was opened, the date closed, the test number and step, and a description of the failure.



4.2 ACCEPTANCE TESTING DOCUMENTATION AND RESULTS

Following completion of the acceptance tests, Motorola will document the results of the acceptance test plan and provide them to Sacramento PD in the final system documentation package. The documentation will include:

- Testing procedures utilized.
- Test dates and locations.
- Testing results.

4.3 PUNCHLISTED ITEMS FOR RESOLUTION

During the installation and testing of the proposed system, a punchlist will be maintained that tracks items or features that need to be corrected prior to final system acceptance. Items included on the punchlist are individual items or features that fail a particular acceptance test, improperly installed equipment, and/or other items that Sacramento PD and Motorola agree to include on the list. All punchlist items will be resolved or waived by Sacramento PD before Final Project Acceptance is granted.

4.4 FINAL SYSTEM ACCEPTANCE

There are two levels of acceptance – System Acceptance and Final Project Acceptance. When all test phases have been completed per the contract and approved by both Sacramento PD and Motorola, a System Acceptance Certificate will be presented to Sacramento PD for approval and signature. Final Project Acceptance will occur after System Acceptance and once all contract deliverables have been completed.

4.5 ACCEPTANCE TEST PROCEDURES

Acceptance Test Procedures are described below.

4.6 MCC 7100/7500 TRUNKED RESOURCES

4.6.1 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_____



MCC 7100/7500 Trunked Resources

4.6.2 Talkgroup Selection and Call

1. DESCRIPTION

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

SETUP

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

VERSION #1.010

2. TEST

- Step 1. Initiate a wide area call from CONSOLE-1 on TALKGROUP 1.
- Step 2. Observe that RADIO-1 and RADIO-3 will be able to monitor the call. Dekey the console and have either radio respond to the call.
- Step 3. Observe that all consoles with TALKGROUP 1 can monitor both sides of the conversation.
- Step 4. Initiate a wide area call from CONSOLE-2 on TALKGROUP 2.
- Step 5. Observe that RADIO-2 and RADIO-4 will be able to monitor the call. Dekey the console and have either radio respond to the call.
- Step 6. Observe that all consoles with TALKGROUP 2 can monitor both sides of the conversation.

Pass____ Fail____



MCC 7100/7500 Trunked Resources

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

VERSION #1.010

2. TEST

- Step 1. Select the resource for TALKGROUP 1 on CONSOLE-1.
- Step 2. Initiate a call on TALKGROUP 1 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____



MCC 7100/7500 Trunked Resources

4.6.4 Emergency Alarm and Call Display Description

1. DESCRIPTION

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

SETUP

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

VERSION #1.010

2. TEST

- Step 1. Initiate an Emergency Alarm from RADIO-1.
- Step 2. Observe the Emergency from RADIO-1 is received at CONSOLE-1 for TALKGROUP 1.
- Step 3. Acknowledge the Emergency at the operator position. Verify CONSOLE-2 receives notification that the call has been acknowledged.
- Step 4. Initiate a call with RADIO-1 to initiate an Emergency call.
- Step 5. Observe CONSOLE-1 and CONSOLE-2 can monitor RADIO-1
- Step 6. Clear the Emergency from CONSOLE-1 on TALKGROUP 1.
- Step 7. End the Emergency Alarm from RADIO-1.

Pass ____ Fail ____



MCC 7100/7500 Trunked Resources

4.6.5 Multi-Select Operation

1. DESCRIPTION

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

SETUP

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

VERSION #1.010

2. TEST

- Step 1. From CONSOLE-1, create an Msel group with TALKGROUP 1 and TALKGROUP 2.
- Step 2. Transmit on the Msel using the Msel instant transmit button.
- Step 3. Verify that RADIO-1 and RADIO-2 hear the call.
- Step 4. Initiate a call with RADIO-1.
- Step 5. Verify the call is heard on CONSOLE-1 but not on RADIO-2.
- Step 6. Initiate a call with RADIO-2.
- Step 7. Verify the call is heard on CONSOLE-1 but not on RADIO-1.
- Step 8. On CONSOLE-1 dissolve the Msel.

Pass _____ Fail _____



MCC 7100/7500 Trunked Resources

4.6.6 Talkgroup Patch

1. DESCRIPTION

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

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

SETUP

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

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

VERSION #1.010

2. TEST

- Step 1. Using CONSOLE-1 create a patch between TALKGROUP 1 and TALKGROUP 2.
- Step 2. Initiate a patch call from CONSOLE-1.
- Step 3. Verify RADIO-1, RADIO-2, RADIO-3, and RADIO-4 can monitor the call.
- Step 4. Initiate several calls between the radios and verify successful communication.
- Step 5. Dissolve the patch created in step 1.

Pass____ Fail____



MCC 7100/7500 Trunked Resources

4.6.7 Console Priority

1. DESCRIPTION

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

SETUP

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

VERSION #1.020

2. TEST

- Step 1. Initiate a Talkgroup call from RADIO-1 on TALKGROUP 1. Keep this call in progress until the test has completed.
- Step 2. Observe that RADIO-2 receives the call.
- Step 3. While the call is in progress, key up CONSOLE-1 on TALKGROUP 1.
- Step 4. Observe that RADIO-2 is now receiving audio from CONSOLE-1 on TALKGROUP 1.
- Step 5. De-key CONSOLE-1.
- Step 6. Verify RADIO-2 now receives RADIO-1 audio.
- Step 7. End the TALKGROUP 1 call from RADIO-1.

Pass_____ Fail_____



MCC 7100/7500 Trunked Resources

4.6.8 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 - TALKGROUP 1
CONSOLE-1 - SITE - CONSITE-1
CONSOLE-2 - TALKGROUP 1
CONSOLE-2 - SITE - CONSITE-1

For this test-

An instance of AUXIO_1 has been created and is assigned as a standalone tile on CONSOLE-1 and CONSOLE-2.

VERSION #1.020

2. TEST

- Step 1. Assign an instance of AUXIO_1 to CONSOLE-1 to a talk resource tile on TALKGROUP 1
- Step 2. Assign instance of AUXIO_1 to CONSOLE-2 to a talk resource tile on TALKGROUP 1.
- Step 3. Change the status of AUXIO_1 on CONSOLE-1.
- Step 4. Verify the standalone tile as well as the talk resource instance on CONSOLE-1 and CONSOLE-2 change and display the same state for AUXIO_1.
- Step 5. Change the status of AUXIO_1 on CONSOLE-2.
- Step 6. Verify the standalone tile as well as the talk resource instance on CONSOLE-1 and CONSOLE-2 change and display the same state for AUXIO_1.

Pass____ Fail____



MCC 7100/7500 Trunked Resources

4.6.9 Instant Recall Recorder (IRR) Operation (MCC 7500 only)

1. DESCRIPTION

The Instant Recall Recorder (IRR) allows for audio from a phone call or a radio call to be played back at the MCC 7500 Console position. Thirty minutes of audio is saved for radio and an additional thirty minutes for telephone. The audio is saved on the positions hard disk in the form of a .wav file.

Note: The MCC 7100 console does not support IRR.

SETUP

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

CONSOLE-1 - TALKGROUP 1 running IRR application.

VERSION #1.030

2. TEST

- Step 1. Select a radio channel on the CONSOLE-1 application window.
- Step 2. Select IRR from the CONSOLE-1 toolbar.
- Step 3. Initiate radio communication between RADIO-1 and RADIO-2.
- Step 4. Verify a new entry appears in the IRR log window.
- Step 5. Select the new entry from the list.
- Step 6. Press play and verify conversation replay.

Pass ____ Fail ____



MCC 7100/7500 Trunked Resources

4.6.10 MCC 7100 Dispatch Console - VPN Via Control Room CEN Firewall

1. DESCRIPTION

The VPN connection into the ASTRO Dispatch Console Sites provide remote access for remote Dispatchers through a VPN Client. Once the VPN client is connected, the Control Room Firewall allows a dispatcher to connect to the ASTRO RNI. The console dispatcher can then dispatch various resources.

SETUP

A configured MCC 7100 dispatch console laptop with the appropriate VPN software is required.

VERSION #1.020

2. TEST

- Step 1. From the laptop attempt to ping the PRX7000 console proxy on the Motorola radio network. Verify no connection can occur.
- Step 2. Select the VPN Client.
- Step 3. Select "Connect".
- Step 4. The login prompt will appear. Enter proper userid and password. A dialogue box will appear showing "Successfully connected".
- Step 5. Launch dispatch console application. Enter the proper userid and password. Validate connection to the ASTRO network and that the dispatch console application successfully starts.

Pass____ Fail____



4.7 MKM 7000 CONSOLE ALIAS MANAGER (CAM)

4.7.1 Alias Display When Using the MKM 7000

1. DESCRIPTION

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

SETUP

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

CONSOLE-1 - TALKGROUP 1

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

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

VERSION #1.030

2. TEST

- Step 1. Log into MKM 7000 GUI and configure an alias for RADIO-1.
- Step 2. Verify that RADIO-2 does not have any alias defined in MKM 7000.
- Step 3. Verify both RADIO-1 and RADIO-2 have their own PM defined aliases. Also verify the PM defined alias for RADIO-1 is different from the one defined by MKM 7000.
- Step 4. Key up RADIO-1 and verify that its locally defined alias shows up on CONSOLE-1, not the PM defined alias.
- Step 5. Key up RADIO-2 and verify that its PM defined alias shows up.

Pass____ Fail____



MKM 7000 Console Alias Manager (CAM)

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

1. DESCRIPTION

This test will demonstrate the capability to create a Subscriber Unit (SU) alias for an SU ID via the MKM 7000 GUI and have it show up on MCC 7100/7500 Console automatically.

The test will work on either a trunked or conventional system. This test will also demonstrate the capability to monitor connection status between MKM 7000 and MCC 7100/7500 Console.

SETUP

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

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

VERSION #1.040

2. TEST

- Step 1. CONSOLE-1 user logs into the MCC 7100/7500 console and verifies that the consoles synchronization status with Localized Aliasing is OK, as indicated by a green check mark on the "status screen".
- Step 2. Local Alias Admin logs into MKM 7000 GUI, verify under Connected Consoles tab that the MCC 7100/7500 console is connected to MKM7000.
- Step 3. Create a new SU ID that matches RADIO-1 to be used for this test.
- Step 4. Create a new SU Alias for the SU ID (new mapping between SU ID and SU Alias).
- Step 5. Submit the change.
- Step 6. Wait (up to) 30 seconds, initiate a call using RADIO-1 ON TALKGROUP 1, verify the defined SU Alias shows up on CONSOLE-1's TALKGROUP 1 resource.

Pass _____ Fail _____



MKM 7000 Console Alias Manager (CAM)

4.7.3 Edit an Existing Subscriber Unit ID to Subscriber Unit Alias Mapping

1. DESCRIPTION

This test will demonstrate the capability to change an existing SU alias for an SU ID via a GUI and have it show up on MCC 7100/7500 Console automatically.

The test will work on either a trunked or conventional system. For this test, it will be demonstrated on a trunked system.

SETUP

RADIO-1 - TALKGROUP 1

CONSOLE-1 - TALKGROUP 1

A cohabitated MKM 7000 server is connected and communicating normally with an MCC 7100/7500 Console.
Console user is configured to use local alias service.

VERSION #1.020

2. TEST

- Step 1. Local Alias Admin logs into MKM 7000 GUI. Verify under the Connected Consoles tab that the MCC 7100/7500 console is connected to the MKM7000.
- Step 2. Change the existing SU Alias that is already mapped to RADIO-1.
- Step 3. Submit the change.
- Step 4. Log the console user into CONSOLE-1 and verify that MCC 7100/7500's synchronization status with MKM 7000 server is OK, as indicated by a green check mark on the "status screen".
- Step 5. Wait (up to) 30 seconds, key up RADIO-1, verify the updated SU Alias shows up on MCC 7100/7500 screen.

Pass_____ Fail_____



MKM 7000 Console Alias Manager (CAM)

4.7.4 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_____



4.8 SIGNOFF CERTIFICATE

By their signatures below, the following witnesses certify they have observed the In-Field System Acceptance Test Procedures.

Signatures

WITNESS:

_____ Date: _____

Please Print Name: _____

Initials: _____

Please Print Title: _____

WITNESS:

_____ Date: _____

Please Print Name: _____

Initials: _____

Please Print Title: _____



STATEMENT OF WORK

5.1 OVERVIEW

This Statement of Work (SOW) describes the deliverables to be furnished to the City of Sacramento Police Department. The tasks described herein will be performed by Motorola, its subcontractors, and the City of Sacramento Police Department 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. 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.

This Statement of Work depicts a continuous implementation to replace the City of Sacramento Police Department's twenty (20) existing Gold Elite consoles with eighteen (18) new MCC7500 consoles, three (3) new MCC7100 consoles, and flash upgrading twenty (20) existing backup consolettes. The success of this project is predicated on collaboration, careful coordination and planning by the City of Sacramento Police Department and Motorola.

5.2 ASSUMPTIONS

Motorola has based the system design on information provided by the City of Sacramento 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 the City of Sacramento Police Department, 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 City of Sacramento Police Department system experience interference, Motorola can be contracted to investigate the source and recommend solutions to mitigate the issue.
- Dispatch locations have the necessary space and power to accommodate the new equipment racks and console equipment. No provisions have been made for temporary equipment rack locations or providing additional power in this proposal.



- There are two (2) existing Cat-5 cable runs for each operator position.
- Console programming is based on the City of Sacramento Police Department's current Gold Elite programming and screen layout. No major changes to talkgroups or screen layouts are expected.
- No subscriber services are included. Motorola has included no labor services to develop subscriber templates, program or install subscribers in this proposal.
- No logging recorder equipment or services are included.
- Connectivity between the City of Sacramento Police Department and the Sacramento County master site is not leased lines from the telephone company. Therefore, no link audits are required for this project.

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.
- Develop a Cutover Plan with collaboration from the Customer and Motorola.
- 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 and installation.
- Provide minimum acceptable performance specifications for connectivity.
- 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 plans.
 - Conduct site evaluations to capture site details of the system design and to determine site readiness.
 - Determine each site's ability to accommodate proposed equipment based upon physical capacity.
 - If applicable, test existing equipment with which Motorola equipment will interface.
- Prepare Site Evaluation Report that summarizes findings of above-described site evaluations.

Restrictions:

- Motorola is not responsible for issues outside of its immediate control. Such issues include, but are not restricted to, improper frequency coordination by others and non-compliant operation of other radios.
- Motorola is not responsible for co-channel interference due to errors in frequency coordination by APCO or any other unlisted frequencies, or the improper design, installation, or operation of systems installed or operated by others.



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/Industry Canada, 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.
- Confirm schedule for Customer provided dependences (i.e. connectivity, power, etc).

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 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.
- Complete and provide Tax Certificate information verifying tax status of shipping location.

Completion Criteria:

- Verify that the Equipment List contains the correct model numbers, version, options, and delivery data.
- Trial validation completed.



- Bridge the equipment order to the manufacturing facility.

5.6 MANUFACTURING AND STAGING

5.6.1 Manufacture Motorola Equipment

Motorola Responsibilities:

- Manufacture the Motorola equipment based on the equipment order.

Customer Responsibilities:

- None.

Completion Criteria:

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

5.6.2 Manufacture Non-Motorola Equipment

Motorola Responsibilities:

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

Customer Responsibilities:

- None.

Completion Criteria:

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

5.6.3 Manufacture Motorola Subscribers

Motorola Responsibilities:

- Manufacture the subscribers based on equipment order and project schedule.

Customer Responsibilities:

- None.

Completion Criteria:

- Subscribers shipped to the field.

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 Console Equipment

Motorola Responsibilities:

- Set up and rack the system equipment on a site-by-site basis, as it will be configured in the field.
- Cut and label cables according to the approved CDR documentation.

- Label the cables with to/from information to specify interconnection for field installation and future servicing needs.
- 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.
- Program MCC7500 consoles with a generic template for factory testing.
- Inventory the equipment with serial numbers and installation references.
- Complete system documentation.
- Provide and conduct 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.
- The Customer is not expected to attend the Factory Acceptance Testing.

Completion Criteria:

- System staging and testing completed.

5.6.6 Staging Acceptance (Milestone)

- The system successfully passes the Factory Acceptance Test Plan.

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 staged equipment shipped to the field.

5.7 SITE IMPROVEMENTS FOR CUSTOMER-PROVIDED FACILITIES

Motorola Responsibilities:

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

Customer Responsibilities:

- Provide connectivity as specified by Motorola to support the new equipment.

- 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.
- 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 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, if required. Supply grounding tie point within 10 feet from the Motorola-supplied equipment.
- 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.
- 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 installation in compliance with Motorola's R56 standards.

5.8 INSTALLATION

5.8.1 Install Equipment

Motorola Responsibilities:

- Receive and inventory all new equipment at the Motorola-provided facility.
- Deliver new equipment to the City of Sacramento Police Department.
- 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, 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.
- Motorola will provide a storage location for the Motorola-provided equipment.
- Bond the supplied equipment to the site ground system in accordance with Motorola's R56 standards.
- Will interface with the following network connections:
 - From the GGM8000 gateways to the T1 site links demarcation point

For this project, Motorola will also perform the following specific tasks:

Master Site (located at Sacramento County's Brighton Heights)

- Cable from the channel bank to the existing cooperative WAN routers.
- Label all fabricated cables.
- Install one CCGW gateway and wire to conventional resource demarcation point

City of Sacramento Police Department Dispatch

- Transport equipment to the City of Sacramento Police Department Dispatch.
- Permanently install the one staged rack of equipment in the equipment room per DR drawings.
- Permanently install 4 new MCC7500 consoles in the Training Room adjacent to Main Dispatch on existing furniture (ground, mount headset jacks, VPMs, and set all other console equipment on desktop).
- Permanently install 2 new MCC7100 consoles on laptops supplied by Motorola in the Training Room adjacent to Main Dispatch on existing furniture.
- Interface phone lines to VPM for integrated headset use for permanently installed Training Room consoles.
- Remove and recycle/dispose of six (6) old Gold Elite operator positions from the Training Room.
- Temporarily set up 14 new MCC7500 consoles for Main Dispatch and 1 MCC7100 console for Tactical in the Training Room in preparation for Cutover. Temporary space and power provided by the City of Sacramento Police Department.
- Run 2 additional Cat-5 cables between the equipment room and the permanent locations for each new MCC7500 operator position (18 total ops – 14 in Main Dispatch and 4 in the Training Room)
- Label all fabricated cables.
- Install and cable Aux I/O interface.

Customer Responsibilities:

- Provide access to the dispatch locations and sites, as necessary.
- Provide required connectivity.
- Provide 2 existing Cat-5 cables between the equipment room and the permanent locations for each new MCC7500 operator position (18 total ops – 14 in Main Dispatch and 4 in the Training Room).
- Provide necessary space, power, etc for installations (permanent installation space for equipment rack and Training Room consoles, and temporary installation space for Main Dispatch consoles).



- Provide demarcation point located within 25 feet of the console interface, or as determined in the Contract Design Review.
- Provide conduit space for cable runs between each dispatch equipment room and its corresponding dispatch location.

Completion Criteria:

- Equipment installation completed and Main Dispatch console Field Staging complete and ready for programming.

5.8.2 Equipment Installation Complete

- All equipment is installed or field staged, and approved by the Customer.

5.8.3 Installation Acceptance (Milestone)

- All equipment installations are completed (except those to be completed as part of Cutover) and accepted by the Customer.

5.9 PROGRAMMING AND OPTIMIZATION

5.9.1 Develop Templates

Motorola Responsibilities:

- Motorola develops the new console template based on the City of Sacramento Police Department's current screen layout and fleetmap.
- Motorola develops the console template based on the City of Sacramento Police Department's current fleetmap.

Customer Responsibilities:

- Work with SRRCS to provide the necessary fleetmap information to develop the new console template.
- Approve console and console template.
- Any changes requested by the City of Sacramento Police Department after approval of the templates could result in a change order.

Completion Criteria:

- Templates completed and approved by the Customer.

5.9.2 System and Console Programming and Optimization

Motorola Responsibilities:

- Load additional licenses into the Master Site for the new consoles.
- Provision the Master Site for the new MCC7500 console dispatch sites.
- 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 Design Review.
- Configure and program the 18 new MCC7500 consoles and 3 new MCC7100 consoles.
- Flash upgrade and program the 20 existing console templates (not tied to consoles).



Customer Responsibilities:

- Provide access/escort to the sites.
- Provide fleetmap with required radio ID and alias information for new MCC7500 consoles.
- Provide guidance on any changes to the MCC7500 console screen layout (the existing Gold Elite screen layouts will be used as a guide).

Completion Criteria:

- System and console programming is complete.

5.9.3 Programming and Optimization Complete

- Programming is complete. Motorola and the Customer agree that the equipment is ready for cutover.

5.10 TRAINING

5.10.1 Perform Training

Motorola Responsibilities:

- Finalize training schedules purchased as part of this project with the Customer Project Manager.
- Conduct the training classes outlined in the Training Plan.
- Training to be conducted in the Training Room.

Customer Responsibilities:

- Attend training classes.

Completion Criteria:

- All training classes completed.

5.10.2 Training Complete

- All training classes completed.

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 of the new equipment.
- 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 Acceptance Testing

Motorola Responsibilities:

- Perform Field Acceptance Test Plan, which verifies the operational functionality and features of the new equipment supplied by Motorola, as contracted.
- If any test fails, repeat that particular test 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 acceptance testing.

Completion Criteria:

- Successful completion of the acceptance test.
- Customer approval of the acceptance test.

5.11.3 System Acceptance Test Procedures (Milestone)

- Customer approves the completion of all the required tests.
- Warranty will start upon acceptance of the system.

5.12 TRANSITION TO SERVICE

5.12.1 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 SUBSCRIBERS

5.13.1 Motorola Responsibilities:

- Deliver subscribers to the City of Sacramento Police Department.
- There are no subscriber services included in this proposal.

5.14 CUTOVER

Motorola Responsibilities:

- Motorola and the Customer develop a mutually agreed upon cutover plan based upon discussions held during the Design Review.
- 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.
- During cutover, follow the written plan and implement the defined contingencies, as required.
- Move 14 temporarily staged MCC7500 consoles into permanent positions, replacing Gold Elite operator positions on the Main Dispatch floor.
- Bond all new console equipment to the Customer -supplied ground system.
- Connect the Customer-supplied, previously-identified circuits to the consoles, to a demarcation point located within 25 feet of the console interface.

Customer Responsibilities:

- Attend cutover meetings and approve the cutover plan.
- Notify the user group(s) affected by the cutover (date and time).
- Participate in Cutover as directed by the Cutover Plan.
 - Provide circuits for the new consoles, as required.
 - Provide demarcation point located within 25 feet of the console interface.

Completion Criteria:

- Successful migrate from the Gold Elite consoles to the new MCC7500 operator positions in Main Dispatch.

5.15 FINALIZE

5.15.1 Gold Elite Equipment Removal

Motorola Responsibilities:

- Remove any remaining existing Gold Elite consoles and associated infrastructure equipment.
- Dispose /recycle existing equipment.

Customer Responsibilities:

- Provide access/escort to the sites.

Completion Criteria:

- All Gold Elite consoles and supporting infrastructure are removed.

5.15.2 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.

5.15.3 Finalize Documentation

Motorola Responsibilities:

- Provide an electronic as-built system manual on a Compact Disc (CD). The as-built documentation will include the following:
 - System-Level Diagram
 - Dispatch Equipment Room Floor Plan
 - Dispatch Equipment Rack Layout
 - Console System Interconnect Diagram
 - ATP Test Checklists
 - Functional Acceptance Test Plan Test Sheets and Results
 - Equipment Inventory List
 - Console Programming Template

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 a total of 20 tailored console Flip Books as part of console training course
- Provide a total of 12 Admin Flip Books as part of console training course

Customer Responsibilities:

- Receive and approve all documentation provided by Motorola.

Completion Criteria:

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

5.15.4 Final Acceptance (Milestone)

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

5.16 PROJECT ADMINISTRATION

5.16.1 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.

5.16.2 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).

5.16.3 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.

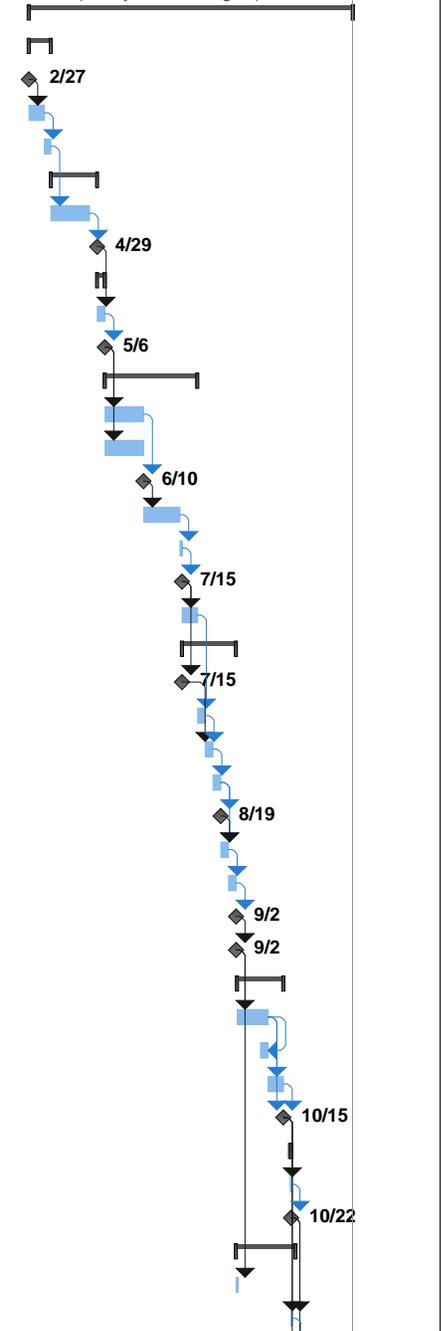
Example - Change Order Form follows.



PROJECT SCHEDULE



ID	Task Name	Duration	Start	Finish	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter										
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	
1	Sacramento PD Console Implementation Project	210d	Fri 2/27/15	Thu 12/17/15															
2	Contract	14d	Fri 2/27/15	Wed 3/18/15															
3	Contract Award	0d	Fri 2/27/15	Fri 2/27/15															
4	Contract Administration	10d	Fri 2/27/15	Thu 3/12/15															
5	Project Kick-Off	4d	Fri 3/13/15	Wed 3/18/15															
6	Contract Design Review	30d	Thu 3/19/15	Wed 4/29/15															
7	Review Contract Design	25d	Thu 3/19/15	Wed 4/22/15															
8	Design Approval	0d	Wed 4/29/15	Wed 4/29/15															
9	Order Processing	5d	Thu 4/30/15	Wed 5/6/15															
10	Process Equipment list	5d	Thu 4/30/15	Wed 5/6/15															
11	Order Bridged	0d	Wed 5/6/15	Wed 5/6/15															
12	Manufacturing and Staging	60d	Thu 5/7/15	Wed 7/29/15															
13	Manufacture Motorola FNE	25d	Thu 5/7/15	Wed 6/10/15															
14	Manufacture Motorola Subscribers	25d	Thu 5/7/15	Wed 6/10/15															
15	Ship to Staging	0d	Wed 6/10/15	Wed 6/10/15															
16	Stage System	23d	Thu 6/11/15	Mon 7/13/15															
17	Perform Staging ATP - No Customer Witness Test	2d	Tue 7/14/15	Wed 7/15/15															
18	CCSI Acceptance	0d	Wed 7/15/15	Wed 7/15/15															
19	Ship Equipment to Field	10d	Thu 7/16/15	Wed 7/29/15															
20	Console Installation	35d	Wed 7/15/15	Wed 9/2/15															
21	Customer-provided power, space, furniture, etc ready	0d	Wed 7/15/15	Wed 7/15/15															
22	Receive and Inventory Equipment in Field	5d	Thu 7/30/15	Wed 8/5/15															
23	Permanently Install Backroom Equipment	5d	Thu 8/6/15	Wed 8/12/15															
24	Permanently Install Training Consoles (4 MCC7500, 2 MCC7100)	5d	Thu 8/13/15	Wed 8/19/15															
25	Customer-provided temporary tables ready	0d	Wed 8/19/15	Wed 8/19/15															
26	Temporarily Install 14 MCC7500 Consoles in Training Room	5d	Thu 8/20/15	Wed 8/26/15															
27	Prepare for Cutover - Run any cables to Dispatch, etc.	5d	Thu 8/27/15	Wed 9/2/15															
28	Console Installation & Field Staging Complete	0d	Wed 9/2/15	Wed 9/2/15															
29	Installation Acceptance	0d	Wed 9/2/15	Wed 9/2/15															
30	Console Programming & Optimization	30d	Fri 9/4/15	Thu 10/15/15															
31	Console Programming	20d	Fri 9/4/15	Thu 10/1/15															
32	Flash Upgrade & Program 20 Consolettes	5d	Fri 9/25/15	Thu 10/1/15															
33	System Optimization	10d	Fri 10/2/15	Thu 10/15/15															
34	Programming & Optimization Complete	0d	Thu 10/15/15	Thu 10/15/15															
35	Training	1d	Thu 10/22/15	Thu 10/22/15															
36	Perform Console Train-the-Trainer Training on Training Consoles	1d	Thu 10/22/15	Thu 10/22/15															
37	Training Complete	0d	Thu 10/22/15	Thu 10/22/15															
38	Audit and Acceptance Testing	38d	Thu 9/3/15	Mon 10/26/15															
39	Perform R-56 Audit	2d	Thu 9/3/15	Fri 9/4/15															
40	Perform System Testing	1d	Fri 10/23/15	Fri 10/23/15															



TRAINING PLAN

7.1 OVERVIEW

Motorola Solutions understands that successful implementation and use of your communications system depends on effective training. We have developed a training proposal for the City of Sacramento Police Department to ensure a comprehensive understanding of your proposed system and all user equipment. We are leveraging over 85 years of training experience working with customers just like you to provide recommendations for your consideration. The training proposal detailed in the following pages incorporates customer feedback coupled with a best practices systematic approach to produce effective course delivery and content.



Our commitment to the City of Sacramento Police Department is to provide unsurpassed services that ensure the equipment operates efficiently for the life of the system. To do so, we directly train your personnel to utilize the system to its maximum potential.

The City of Sacramento Police Department personnel will gain in-depth understanding of the power of your new system through education and proficient daily use. Our high-quality training focuses on student needs. The training is complemented by detailed documentation and available continuing education programs.

We will collaborate with the City of Sacramento Police Department to develop a final customized training plan that fits your needs. Our goal is to insure system administrators, technicians and end users are skilled in using your new system.

7.2 TRAINING APPROACH

Our training solutions deliver field based instructor-led training in a classroom at the City of Sacramento Police Department location using operational equipment. Motorola Solutions will employ a knowledgeable and experienced instructor to deliver well-designed courseware and integrated lab activities.

Training is based upon several key criteria:

- Course design is driven by an analysis of student needs. It focuses on specific application rather than theory.
- Learning objectives are based upon what students need to accomplish on the job.
- Hands-on lab opportunities using the City of Sacramento Police Department specific job aids are incorporated to maximize learning and retention.

Our instructors bring invaluable experience and knowledge of customer communication solutions into their training approach. This gives them better insight and understanding into the practical aspects of

the City of Sacramento Police Department manager, technician and end user job functions. Each instructor has the proven ability to communicate with a novice as well as expert personnel.

7.3 PROPOSED COURSES

Motorola Solutions has identified the following course(s) for the City of Sacramento Police Department. Course descriptions are included after the training matrix. Class delivery for instructor-led courses in the field will be tailored for your system and features.

Specifically, our proposed training plan addresses the following categories as identified in your request for proposal:

- Console Operators and Supervisors

It is recommended that students bring their laptop computers for all System Administrator and Technician classes.

7.3.1 Console Operator and Supervisor Training Plan

Course Title	Target Audience	Sessions	Duration	Location	Date	Participants
MCC7500 & MCC7100 Console Operator and Admin Utilizing Interactive End User Tool Kit 6 training consoles (Instructor-led)	Dispatch Operators and Supervisors	1 (8-hour session)	1 day	Sacramento, CA	Prior to cutover	Up to 12 (6 per session)
<p>Operator Course Synopsis: This course provides participants with an introduction to the dispatch console, its basic operation and tailored job aids which will be available for assistance in operation. Through facilitation and hands-on activities, the user learns how to perform common tasks associated with the console operation.</p> <p>Admin Course Synopsis: This course provides participants with the knowledge and skills to manage and utilize the MCC7500 console administrator functions. Through facilitation and hands-on activities, the participant learns how to customize the console screens.</p> <p>Note: The duration of the sessions has been reduced because the customer is transitioning from CENTRACOM Gold Elite. The operator class is in the first half of the day. The Admin class and Interactive End User Tool Kit will be covered during the second half of the day.</p>						

7.3.2 MCC7500 Operator Training Course Description

Duration

4 hours

Delivery Method

Instructor-led

Target Audience

Dispatch Console Operators, Supervisors, System Administrators, and Support Personnel

Course Synopsis

This course provides participants with an introduction to the dispatch console, its basic operation and tailored job aids which will be available for assistance in operation. Through facilitation and hands-on activities, the user learns how to perform common tasks associated with the console operation.

Course Objectives

- Perform basic operational tasks of the dispatch console
- Utilize the provided job aids to perform specific tasks associated with the console
- Understand a high level view of the system configuration
- High-level overview of the customer system configuration
- General console operation
- Proper operating procedures for specific customer features

Recommended Prerequisites

None

Key Topics

- Overview
- Communicating with Radios
- Advanced Signaling Features
- Resource Groups
- Working with Configurations
- Working with Aux IOs
- Troubleshooting



7.3.3 MCC7500 Supervisor Training Course Description

Duration

4 hours

Delivery Method

Instructor-led

Target Audience

Dispatch Supervisors, System Administrators

Admin Course Synopsis

This course provides participants with the knowledge and skills to manage and utilize the MCC7500 console administrator functions. Through facilitation and hands-on activities, the participant learns how to customize the console screens.

Course Objectives

- Understand the menu items and tool bar icons
- Edit folders, multiselect/patch groups, auxiliary input output groups, windows and toolbars
- Add/delete folders

Recommended Prerequisites

None

Key Topics

- Introduction
- Configurations
- Folders and Resource Setup
- Customizing Folders
- Auto Starting the MCC7500 Dispatch Console
- Editing Preferences
- Configuring the Toolbar
- Setting Up Aux IOs
- Resource Groups



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

8.1.1 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.

8.1.2 Motorola System Technologists

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

8.1.3 Motorola System Support Center

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

- Network Monitoring
- Dispatch Service
- Infrastructure Repair with Advanced Replacement
- Technical Support

Motorola has proven experience to deliver mission critical network support

- Extensive Experience—Motorola has over 75 years of experience supporting mission critical communications and the Public Safety community.
- Capacity to Respond—Motorola’s network of local service centers, repair depots, system support center and parts support enable Motorola to provide quick and effective service delivery.
- Flexibility and Scalability—Motorola’s Support Plans are customized to meet individual Customer needs.
- Skills and Process—Motorola uses a well-established, structured, and disciplined approach to provide service delivery. Motorola’s team of well-trained and committed people understands the communications technology business.

8.1.4 Motorola Local Service Provider

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

Motorola places great emphasis on ensuring that communications systems, such as the one proposed for the Sacramento Police Department, 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 are listed below along with a brief description.

8.2.1 Dispatch Service

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

8.2.2 On-Site Infrastructure Response

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



8.2.3 Network Preventative Maintenance

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

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

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

8.2.4 Infrastructure Repair with Advanced Replacement

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.

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

8.2.5 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.



8.3 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 Sacramento 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 has not been included with this offering but can be provided upon request.

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. Motorola’s goal is to provide the Sacramento Police Department with the qualified resources, to maintain and improve system operation and availability, and to deliver world-class service support.

Warranty support services to be delivered are outlined in Table 8-1.

Table 8-1: Warranty Service Overview

Warranty Service Overview	Warranty Year
Dispatch Service	✓
On Site Infrastructure Response	✓
Network Preventative Maintenance	✓
Infrastructure Repair with Advanced Replacement	✓
Technical Support Service	✓

PRICING SUMMARY

Motorola pricing includes (18) MCC7500 dispatch console positions, (3) MCC7100 console positions, and system integration for the City of Sacramento PD, (1,078) APX subscribers and consolettes, and (1,078) subscriber flashes. The APX volume discount and subscriber flash incentive requires the City to purchase the consoles, APX subscribers and flashes by 3/27/15. Motorola's pricing is based on the equipment list and services for the system designed for the City of Sacramento.

MCC7500/MCC7100 Dispatch Console Equipment (21 Positions)	\$901,379
APX Subscribers & Consolettes (1,078)	\$5,648,797
Subscriber Flashes (1,078)	\$1,417,570
Equipment List Price:	\$7,967,746
System Integration (SI) & Services	\$490,061
Subtotal Equipment & Services:	\$8,457,807
<u>Standard Discounts & Incentives:</u>	
▪ Standard Contract Discount - Consoles	(\$180,538)
▪ Standard Contract Discount - APX Subscribers & Consolettes	(\$1,412,199)
<u>2014 ONLY Discounts & Incentives:</u>	
▪ 2014 APX Volume Discount – order by 3/27/15 & accept delivery by 3/27/15 (1,078 APX Subscribers)	(\$746,866)
▪ 2014 Subscriber Flash Incentive - order by 3/27/15 (1,078 flashes)	(\$1,417,570)
Subtotal Discounts & Incentives:	(\$3,757,173)
Subtotal Equipment & Services:	\$8,457,807
Subtotal Discounts & Incentives:	(\$3,757,173)
Subtotal Customer Sale Price:	\$4,700,634
Estimated Sales Tax on Equipment (8.5%):	\$357,899
Total Customer Sales Price:	\$5,058,533



9.1 PAYMENT TERMS

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 check, cashier's check, or wire transfer drawn on a U.S. financial institution and in accordance with the following milestones.

Subscriber Invoicing:

100% of the Subscriber Price invoiced upon shipment to customer identified field consolidation point.*

System (FNE&Services) Invoicing Milestones:

1. 30% of the Contract Price for mobilization due at Contract Execution (Effective Date);
2. 25% of the Contract Price upon shipment of equipment to customer identified field consolidation point*;
3. 25% of the Contract Price upon installation of equipment;
4. 15% of the Contract Price upon System Acceptance or start of Beneficial Use, whichever occurs first;
5. 5% of the Contract Price upon Final System 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.

* 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.



TERMS AND CONDITIONS

Replaced.

