CITY OF BATAVIA

DATE: **August 12, 2010**
TO: **Government Services Committee**
FROM: **Bill McGrath**
SUBJECT: **Approval of Recommendation of Waiver of Formal Bidding by Tri-Com Board**

Summary: This memo requests approval by the Council, through Government Services, of a recommendation by the Tri-Com Board of Directors that formal bidding be waived for its impending purchase of new radio and dispatch equipment. The main rationale is that the equipment and its maintenance are so related to public safety that the relationship and communication is deemed to be very important, and something that probably cannot be adequately measured by formal bidding. In terms of competition, there is only 1 type of equipment that can best work with the Tri-Com setup, but there are several vendors of that equipment so the taxpayers will be protected.

Background: Tri Com handles the emergency dispatching for the Tri-Cities as well as Elburn. It is run by a board which includes the Police and Fire chiefs from each municipality, as well as an elected official, who, in Batavia's case, is Alderman Schmitz.

Chief Deicke's description of the project is as follows:

> Tri-Com is the dispatch agency for both fire and police for Batavia, Geneva, St. Charles and Elburn. Batavia, Geneva and St. Charles created Tri-Com and have governing powers over the agency. When it was created, a contract with a private alarm company was created to monitor the alarms that are to go to Tri-Com. The commercial alarms that come from businesses within the communities are sent either by phone line or radio to this private alarm company. The alarm company receives the alarm and calls Tri-Com by phone to notify them of the activated alarm. The business owner pays a fee to install the equipment, a fee to the private alarm company and pays for the cost of any phone lines. The cost of installation is normally $300. The fee for monitoring a radio alarm is $68 per month. The fee for monitoring a phone line alarm is $27 per month plus $114-$140 per month for the phone line.
>
> Tri-Com wants to eliminate the private alarm company that acts as a middleman and purchase the equipment to monitor the alarms directly through Tri-Com. The process would be more streamlined and eliminate the time needed for the private company to call Tri-Com and advise them of the alarm activation. The new alarms would go directly into the CAD (Computer Aided Dispatch) system and recommend the department and type of response. The new equipment would replace all phone line alarms with radio alarms which are more reliable. Tri-Com projects a monitoring fee of $65 per month and no cost for installation.

At the proposed monitoring fee, the estimated cost of the equipment and installation will be paid in five years. Depending on the number of subscribers, that time could be reduced. This includes the cost of leasing the equipment or interest on a loan until it is paid for. After that time, the monitoring fee will be for revenue and maintenance which is estimated at about $6 per month. Because the alarms will be going directly into CAD there is no projected need to increase staffing to handle the amount of alarms they expect to receive in the next few years. If some day there is a large number of alarms going to Tri-Com, the revenue projection would more than offset any additional staff time needed.

Tri-Com has identified Keltron as the alarm monitoring equipment that would work best with the CAD system and radio alarms that are currently installed. There are roughly 7 licensed Keltron dealers in the Chicagoland area who may submit a proposal on this project. The project to install the equipment, interface it to CAD and then install all of the radios in the field is complex and costly. Tri-Com Board of Directors desires to waive the bidding process and issue a Request for Proposal (RFP). The RFP includes specifications, terms, conditions and expectations of the applicants. By issuing the RFP, they will be in a position to effectively negotiate the project, the price and select the most qualified vendor. It would not be in the best interests of the Tri-Cities to simply go with the lowest bidder on a project of this size and scope because of the number of factors that must be considered.

Though the Tri-Com board has approved this action, its attorney has requested that the member cities also approve of the waiver. Geneva's Committee of the Whole has approved it and will take it up as a Council this Monday. St. Charles will address it next week and hopes to take action at its September 7 Council meeting. Staff would like the Council to do the same.

Attorney Noble advises that a simple motion to "waive formal bidding by Tri-Com related to its project to secure alarm monitoring equipment and maintenance agreements" would be.

It is important to note that the acquisition of this equipment does not prevent businesses from contracting with any vendor of its choice and continue the current procedure.

Alternatives:

1. Waive formal bidding for acquisition of equipment

    a. **Pros** This would give the agency the best opportunity to fully understand the proposals made by the vendors, to make modifications if necessary, to negotiate the best possible price, ad to make the best analysis of which vendor could supply both the equipment and continuing services for this safety-related project. As the current vendor may be a proposer, it also allows Tri-Com the most latitude in analyzing a proposal in light of actual experience, and to discuss that with the vendor. Saving the time also allows more work to be done prior to expiration of the current contract.
    b. **Cons** This could allow for the charge of favorites in the choice of a vendor due to the lack of formality as required in the bid process.

c. **Budget Impact** The City pays into Tri-Com each year and this action has the result of not only decreasing expenses, but producing revenues, perhaps significant in the future. However, there is really no guarantee that waiving results in best price or performance.

d. **Staffing Impact** There is no staff impact to the City of Batavia. This will not cause a staff increase for Tri-Com.

2. Proceed to formal bidding
    a. Pros Should avoid any sense of favorites or bias in the public purchase process. Gives all vendors a chance to propose at the same time.

    b. **Cons** Will take longer because of publication and other requirements. Removes ability of Tri-Com to deal with issues which are not practical to be addressed through formal bidding, especially maintenance and technical issues. Takes away opportunity for Tri-Com and vendors to take advantage of occurrences that take place later which allow a change of requirements without beginning bidding process all over again.

    c. **Budget Impact-** As above, cannot determine whether use of bidding will guarantee best price or performance.

    d. Staffing Impact There is no staff impact to the City of Batavia. This will not cause a staff increase for Tri-Com.

Staff recommendation: Government Services recommend Approval of "Waiver of formal bidding by Tri-Com related to its project to secure alarm monitoring equipment and maintenance agreements."

Timeline for major actions: Government Services action August 18. City Council action on September 7, 2010

Please call with any questions. Thanks.

C: Mayor & City Council
Department Heads

Tri-Com Central Dispatch
POLICE • FIRE • EMS

Tri-Com Central Dispatch

Dear Prospective Applicant:

Tri-Com Central Dispatch is pleased to invite you to submit a sealed proposal for:

Title: Alarm System Monitoring Equipment and Wireless Network

Request for Proposal No: 10-001

Request for Proposal Opening: Tuesday, September 21st, 2010 at 9am

Pre-Proposal Meeting: 9am on September 7th, 2010 at Tri-Com Central Dispatch , 3823 Karl Madsen Drive, St. Charles, Il.

Please note the following requirements for the proposal:

- Completed and Notarized Affidavit of Compliance (attached to packet)
- Proposal Deposit in the amount of $500.00
- An acceptable certificate of insurance will be required prior execution of a contract by the Board of Directors of Tri-Com Central Dispatch, see page 5 of General Terms and Conditions
- Performance Bond, upon award

We sincerely hope that you will take the time to review the specification and submit a proposal. If you choose not to submit a proposal please return the request proposal back to us with an explanation as to why you are unable to bid and mark it "NO BID." If we do not hear from you we will assume that you are not interested in doing business with Tri-Com Central Dispatch and will remove your name from our list.

If you need any additional informtion please contact us at 630.232.0911 or fax 630.232.8831.

Sincerely,

Stacy Guercio
Director, Tri-Com Central Dispatch

REQUEST FOR PROPOSALS

for
Alarm Monitoring System & Wireless Network
for
Tri Com Central Dispatch

PROPOSALS DUE ON OR BEFORE:

9am CST on September 21st, 2010

DELIVER PROPOSAL TO:
Tri-Com Central Dispatch
3823 Karl Madsen Drive
St. Charles, Il 60175

ATTENTION: Director Stacy Guercio

PRE-PROPOSAL CONFERENCE -

All potential Applicants are required to attend a pre-proposal meeting to view the current system configuration and ask questions about the proposed new system.

MANDATORY PRE-PROPOSAL MEETING DAY AND TIME:
September 7th, 2010 at 9am

LOCATION:
Tri-Com Central Dispatch
3823 Karl Madsen Drive
St. Charles, Il 60175

Tri-Com Central Dispatch is exempt from paying Illinois Use Tax, Illinois Retailers Occupation Tax, Federal Excise Tax, and Municipal Retailer's Occupation Tax.

Price may not be the determinative factor in the issuance of a contract for award. Tri Com Central Dispatch reserves the right to select, and subsequently recommend for award, the proposed equipment or service which best meets its required needs, quality levels and budget constraints. Factors in determining award are, but not limited to products and services best suited to the Tri-Com Central Dispatch's need; contractor's experience; qualifications; time required to complete work; and price.

TERMS AND CONDITIONS

A. General Conditions of the Request for Proposals:

Authority:
This Request for Proposals (sometimes referred to as "RFP") is issued pursuant to applicable laws of the State of Illinois, including a two-thirds vote of the Tri-Com Central Dispatch Central Board of Directors ("Board") authorizing the solicitation of requests for proposals.

Errors in Proposals:
Applicants are cautioned to verify their proposals prior to submission. Negligence on the part of the Applicant in preparing the proposal confers no right for withdrawal or modification of the proposal.

Reserved Rights:
The Board reserves the right, at its sole discretion, to use without limitation any and all information, concepts, and data submitted in response to this RFP, or derived by further investigation thereof. The Board further reserves the right at any time and for any reason to cancel this solicitation, to reject any or all proposals, to supplement, add to, delete from, or otherwise change this RFP if conditions dictate. The Board may seek clarifications from a Applicant at any time and failure to respond promptly may be cause for rejection. The Board also reserves the right to interview only those Applicants it determines shall provide the most advantageous services to the Board, and to negotiate with one or more Applicants acceptable to the Board.

Incurred Costs:
Neither the Board of Directors nor the Cities of Batavia, Geneva, or St. Charles will be liable in any way for any costs incurred by Applicants in replying to this RFP.

Award:
Award shall be made by the Board to the responsible Applicant whose proposal is determined to be the most advantageous to the Board, taking into consideration price and other evaluation criteria. The Board of Directors reserves the right to accept the Proposal as a whole, or any component thereof, if it appears to be in the best interests of the Board.

Evaluation Considerations:
Selection criteria refers to the qualifications that the Board would require in order to award a contract for services, or qualifications that the Board intends on using to evaluate Applicants in order to select the most qualified Applicant for the project. At a minimum, Applicants must provide all requested information in this request for proposal.

B. Specific Responses required to be made by Applicant in its proposal:

Services to be Provided
This refers to the exact type and nature of the Applicant's proposed services and how they accomplish the objectives of the project.

Schedule
This refers to the Applicant's proposed delivery schedule. The schedule shall be a critical element of any awarded contract.

Qualifications of Key Personnel
This refers to the Applicant's capability in all respects to perform fully the contract requirements, and the tenacity, perseverance, experience, integrity, and reliability which will assure good faith performance, as well as satisfactory reference verification. This criteria includes:

1. The experience of the Applicant and its record on engagements of a similar nature, including the ability to serve in a similar capacity for other units of government or organizations.

2. Personnel to be assigned to the project, and their education, capabilities, qualifications and experience with similar projects; and

Alternative Cost Proposals. If Applicant's proposal includes alternate equipment or services not covered in the base proposal pricing, the Applicant, when offering such alternative equipment or services must provide a detailed explanation of additional optional services to be offered. A proposal offer alternate equipment must demonstrate that the alternate equipment is equal to or better than the specified equipment in this Request for Proposals.

C. **Certain provisions which will be included in the contract awards to the successful applicant:**

Contract Period:
As required in the specifications shown herein.

Taxes:
Tri-Com Central Dispatch is exempt from paying Illinois Use Tax, Illinois Retailers Occupation Tax, Federal Excise Tax, and Municipal Retailer's Occupation Tax.

Hold Harmless Clause:
To the fullest extent permitted by law, the Applicant shall be required to defend, indemnify and hold harmless the Board; the Cities of Batavia, Geneva, and St. Charles; their officials, agents, and employees against all injuries, deaths, loss, damages, claims, patent claims, suits, liabilities, judgments, costs and expenses, which may in anywise accrue against the Board; the Cities of Batavia, Geneva, and St. Charles; their officials, agents and employees, arising in whole or in part or in consequence of the performance of the work by the Applicant, its employees, or subcontractors, or which may in anywise result therefore, except that arising out of sole legal cause of the Board; the Cities of Batavia, Geneva, and St. Charles; their agents or employees. The successful Applicant shall also be required, at its own expense arising therefore or incurred in connection therewith, and, if any judgment shall be rendered against the Board; the Cities of Batavia, Geneva, and St. Charles; their officials, agents and employees, in any such action, the successful Applicant shall be required, at its own expense, to satisfy and discharge the same.

The Applicant shall acknowledge that it expressly understands and agrees that any performance bond or insurance policies required by contract, or otherwise provided by the Applicant, shall in no way limit the Applicant's responsibility to indemnify, keep and save harmless and defend the Board; the Cities of Batavia, Geneva, and St. Charles; their officials, agents and employees as provided by contract.

Successful Applicant shall also agree to be solely liable for any fines or civil penalties that are imposed by any governmental or quasi-governmental agency or body that may arise, or be alleged to have arisen, out of or in connection with Applicant's, or its sub-contractor proposal or supplier', performance of, or failure to perform, the work or any part thereof. The Applicant shall be permitted to contest any such fines or penalties in administrative or court proceedings; provided, however, that Successful Applicant shall pay such fines or civil penalties prior to such protest if payment is required prior to making such protest. Successful Applicant shall be held solely responsible for all costs, including attorneys' fees and administrative expenses, of protesting any such fines or civil penalties.

Insurance Requirements: The Applicant awarded this project shall maintain for the duration of the contract and any extension thereof all required insurance in amounts as follows:

Comprehensive General Liability	$1,000,000

General Aggregate	$2,000,000
Automobile Liability per person	$1,000,000
Per Occurrence	$2,000,000
Workers Compensation	State of Illinois Statutory Limits
Errors and Omissions	Legal Limits

The Applicant's insurance policies, as outlines above, shall provide primary coverage to Tri Com Central Dispatch for any and all claims arising out the contractual obligation. Further, the Applicant's policies shall name Tri Com Central Dispatch as a primary non-contributory additional insured, and with original endorsements affecting coverage required by this clause. Tri-Com Central Dispatch reserves the right to request full certified copies of any insurance. Policy coverage shall contain no special limitations on the scope of protection afforded to Tri-Com Central Dispatch, its agents, employees, or volunteers. Evidence of coverage must be presented to Tri Com Central Dispatch, with proposal, as provided in the proposal specifications.

Coverage shall state that the Applicant's insurance shall apply separately to each insured against whom claim is made or suit is brought. Any failure to comply with reporting provisions of any policy shall not affect coverage provided to the municipality, its agents or employees.

If this insurance is written on the Comprehensive General Liability Policy Form, the certificates shall be ACORD 25, Certificate of Insurance. If this insurance is written on a Commercial Liability Policy Form; ACORD 25S will be acceptable. In Form ACORD 25 and 25S, strike out (delete) in the cancellation provisions the following words: "Endeavor to" and "but failure to mail such notice shall impose no obligation or liability of any kind upon the company, its agents, or representatives."

All insurance contracts must maintain a Best's rating of **A**: Class VI or better. Tri Com shall approve no contract nor shall the successful applicant commence any work until he has submitted evidence of insurance.

Meetings:
The Applicant will be required to meet with various Board representatives and outside officials as required, throughout the project.

Equal Employment Opportunity:
The Applicant, by submitting a proposal in response to this RFP, agrees that he/she is an "Equal Opportunity Employer" as defined in Federal and Illinois law and as such will not discriminate against any person on the basis of race, creed, color, religion, age, sex or physical or mental disability with respect to hiring, tenure, terms or conditions of employment. The Applicant also agrees that it is in compliance with all laws applicable to this transaction including the Illinois Public Contractor Misconduct Act, 720 ILCS 5/33-7.

Responsibility & Default:
The awarded Applicant shall be required to assume responsibility for all items listed in this Request for Proposals. The successful Applicant shall be considered the sole point of contact for purposes of the contract.

Time is of the essence and shall be considered in awarding the contract. If delivery of acceptable items or rendering of services is not completed by the time promised, the Board reserves the right, without liability, in addition to its other rights and remedies, to terminate the contract by written notice effective when received by the Applicant, as to stated items not yet shipped or services not yet rendered and to purchase substitute items or services elsewhere in such as manner as the Board of Directors may deem appropriate, and charge the Applicant with any or all losses incurred. The Board shall be entitled to recover its attorney's fees and expenses in any

successful action by the Tri-Com Central Dispatch Central Dispatch to enforce the contract.

Performance Bond:
A performance bond is required ~~as part of the submission of any proposal~~ for the project. Such bond shall be issued, upon award, by a company acceptable to Tri Com Central Dispatch. ~~Proposal~~ The Performance Bond shall be for the TOTAL AMOUNT OF THE CONTRACT including cost for all labor and equipment at Tri Com Central Dispatch and all Subscriber sites. The bond shall remain in force through the term of the contract.

The purpose of the bond is to guarantee that the successful Applicant will supply the materials and/or services as specified in this RFP. The bond shall further guarantee the Applicants' compliance with the Prevailing Wage Act, 820 ILCS 130/0.01 should such Act be applicable to this RFP.

~~Proposal proposals not accompanied by acceptable bond will not be considered as valid.~~

~~Except for the successful Applicant, all other bonds shall be returned the next business day after the proposal opening. The successful Applicant's bond will be returned within thirty (30) calendar days after the complete term of the project has been reached – seventy-two months from the date of initial award or after any subsequent renewal.~~

Payments:
The Applicant shall furnish the Board with itemized invoices as required for the project.

All payments to be made in accordance with applicable provisions of the "Local Government Prompt Payment Act."

Interpretation or Correction of Request for Proposals:
Applicants shall promptly notify the Board of any ambiguity, inconsistency or error, which they may discover upon examination of the Request for Proposals. Requests for interpretation of specifications may be made in writing, and directed to the Tri-Com Central Dispatch. All such requests must be delivered in a timely fashion.

Interpretations, corrections and changes to the Request for Proposals will be made by addendum. Interpretations, corrections or changes made in any other manner will not be binding.

Law Governing:
Any contract resulting from this RFP shall be governed by and construed according to the laws of the State of Illinois.

Compliance with Laws:
The Applicant shall at all times observe and comply with all laws, ordinances and regulations of the federal and State of Illinois, which may in any manner affect the awarded contract.

Termination for Lack of Funding:
The Board reserves the right to terminate, in whole or in part, of the awarded contract, upon written notice to the successful Applicant, in the event that sufficient funds to complete the contract are not appropriated by the Board of Directors.

Addenda:
Addenda are written instruments issued by the Board prior to the date of receipt of proposals, which modify or interpret the RFP by addition, deletions, clarifications or corrections.

Prior to the receipt of proposals, addenda shall be distributed to all who are known to have received a complete RFP.

After receipt of proposals, addenda shall be distributed only to Applicants who submitted proposals, and those Applicants shall be permitted to submit new or amended proposals as detailed within the addenda.

Each Applicant shall ascertain, prior to submitting a proposal that all addenda issued have been received and, by submission of a proposal, such act shall be taken to mean that such Applicant has received all addenda and that the Applicant is familiar with the terms thereof and understands fully the contents of the addenda.

Applicants shall acknowledge receipt and understanding of the addenda in the area provided herein on the *Form of Proposal* page.

Guarantees and Warranties:
All guarantees and warranties required shall be furnished by the Applicant and shall be delivered to the Board of Directors before final voucher on the awarded contract is issued.

D. PROPOSAL FORMS AND CONTENT

Submission of Proposals:
To be considered, Proposals should arrive at the Tri-Com Central Dispatch 911 Communications Center, 3823 Karl Madsen Drive, St, Charles, IL 60174 on or before the date and time specified in the Request for Proposals.

Each Applicant shall submit 4 copies of proposals as enumerated on page 11 herein, one of which shall be the original.

Proposals shall be submitted in a sealed envelope, addressed as follows:

Tri-Com Central Dispatch
3823 Karl Madsen Drive
St. Charles, IL 60174
Attention: Stacy Guercio, Director

Late proposals will be rejected and returned to the sender.

Form of Proposal:
See Submittal requirements below.

Qualifications of Applicants (Statement of Qualifications):

1. Complete the enclosed "Vendor References" form. Provide references of organizations to which similar services have been provided. A minimum of three references is required; however, an Applicant may list more than three.

2. Describe your involvement in projects of similar size and scope, providing references where appropriate. Include a minimum of 3 projects of similar dollar value.

3. List the abilities, qualifications, licenses and experience of the persons who would be assigned to the engagement and their experience on similar contracts.

4. Provide background information on your Applicant, including, but not limited to, the age of the business, the number of employees and other data that will permit the Tri-Com Central Dispatch to determine the capability of the offer or to meet all contractual requirements.

5. Provide a narrative detailing the quality assurance procedures that the Applicant uses to maintain the highest level of quality.

6. Identify the names of any entities associated with the Applicants who may pose a potential conflict of interest with any activity of this specific project. Please provide details and reasons for any such conflict. (Applicants are subject to disqualification on the basis of any potential for conflict of interest as determined by the Board.)

Items to be Submitted:

1. Form of Proposal: The cost summary and proposal form is attached to this RFP

2. References and Qualifications: See Qualifications of Applicants (Statement of Qualifications) Section

3. Narrative Response :
The Narrative Response shall include:

   Work Overview: State your understanding of the proposed project.

   Work Plan: Describe in narrative and/or outline form your detailed work plan which indicates your Applicant's methodology for execution of this contract including a summary of the methodology to be used to perform the work specified, and a synopsis and review of other areas or considerations not addressed in the Statement of Work herein, which the Applicants believe to be essential to the effective execution of the project.

   An agreement or contract resulting from the acceptance of a proposal shall be on forms approved by the Board's legal counsel and shall contain, as a minimum, the applicable provisions of the request for proposal and the proposal itself. The Board reserves the right to reject any agreement or contract which does not conform to the request for proposal, the proposal of the Applicant concerned, or the Board's requirements for agreements and contracts.

   Terms and Conditions: List any terms and conditions, which may apply to an awarded contract and are not included in this RFP.

   Implementation Schedule: Provide a complete schedule for implementation of the project including all significant milestones.

   Additional Information and Comments: Include any other information which may be requested in the "Statement of Work" herein, or which you believe to be pertinent to the Board's requirements.

PROPOSAL SPECIFICATIONS

ALARM SYSTEM MONITORING EQUIPMENT

Introduction:

Tri-Com Central Dispatch was formed as an intergovernmental agency in 1976 by the three Illinois municipalities: Batavia, Geneva and St. Charles. Serving a population of approximately 100,000 residents, Tri-Com Central Dispatch is located in Kane County and covers an area of approximately 200 square miles. In addition to the three Tri-City departments, Tri-Com Central Dispatch also contracts dispatch services to the City of Elburn and Elburn Countryside Fire Protection District.

Background: Tri-Com Central Dispatch Central Dispatch is a Public Safety Answering Point (PSAP) located at 3823 Karl Madsen Drive in St. Charles, Illinois 60175. Tri-Com Central Dispatch is responsible for the dispatching of police and, fire departments and ambulance services to the scene of emergency incidents. Tri-Com Central Dispatch has been governed by a multi-year contract with Alarm Detection System (ADS), who has provided fire/burglar alarm monitoring equipment in the dispatch center. Tri-Com Central Dispatch is now prepared to accept proposals for new fire/burglar alarm monitoring equipment and related services outlined in this request for proposals.
Tri Com Central Dispatch has a Keltron direct wire alarm receiving system which was installed in their new building in 2005 which is owned by Alarm Detection Services (ADS). The current contract extension with ADS will expire on February 28, 2011. TRI COM CENTRAL DISPATCH has determined that it is in its best interest to own, through a lease purchase arrangement, its own Keltron Wireless Network DMP703 to provide the best territorial coverage and increase TRI-COM CENTRAL DISPATCH'S capacity to monitor fire/police/ambulance alarms throughout the Tri-Cities service area, specifically within the Cities of Batavia, Geneva, St. Charles and potentially the City of Elburn. Monitoring of alarms will be done by TRI-COM CENTRAL DISPATCH

It is the intent and desire of this specification to establish minimum requirements to lease purchase an upgraded and improved alarm monitoring system with increased capacity over the current system to serve the Tri-Com Central Dispatch area and the residences and businesses located within the jurisdictional areas of Tri-Cities and Elburn. All technical tolerances and criteria contained within these specifications are considered to be current state of the art and currently are being made by commercially available equipment. Only equipment that meets current industry standards will be considered or acceptable. The fact that a manufacturer chooses not to produce equipment to meet these specifications, providing the above criteria are met, will not be sufficient cause to judge these specifications as restrictive.

It is the intent of this RFP to solicit alarm vendors, who are Authorized Keltron Wireless Dealers to make a proposal to TRI COM CENTRAL DISPATCH to (1) purchase (or lease purchase) a complete wireless alarm monitoring network pursuant to the specification contained herein; (2) provide maintenance of the TRI COM CENTRAL DISPATCH owned (or leased purchased) equipment at TRI COM Central Dispatch; and (3) provide maintenance to Subscribers connected either directly or via a Subscriber owned radio. TRI COM CENTRAL DISPATCH will monitor the subscriber transceivers connected either directly via telephone lines or through the Keltron Wireless Network which is currently monitored remotely by Alarm Detection Systems (ADS). The new system will be installed at and monitored by Tri Com Central Dispatch who will dispatch an appropriate response to the location where activated alarm signals originated.

There are currently 118 subscribers connected to the receiving system via direct wire telephone lines. Approximately 332 Tri-Com radio alarms are currently being monitored by ADS. In addition, Tri-Com Central Dispatch desires to connect all city-owned buildings, fire (via radio alarm) and burglar alarm systems (via phone line) located in St. Charles, Batavia and Geneva into the new system at no cost (see Exhibit A) to Tri-Com Central Dispatch or member departments, excluding work required at the premises where the member municipalities' systems are located. The new radio head end will be located at 3823 Karl Madsen Dr. St. Charles, IL. The Cities of Batavia, Geneva and St. Charles currently have no ordinances mandating connection of required fire alarms to Tri-Com Central Dispatch. It is the goal to eliminate all direct connected alarms within 2 months after the new system is installed.

It is the intent of TRI COM CENTRAL DISPATCH to include in any contract with the approved Applicant, language establishing that alarms will be monitored by the Tri Com Central Dispatch dispatch center without any restrictions. Any contractual agreement(s) pertaining to these alarms will be between TRI COM CENTRAL DISPATCH and the Subscriber or, at the discretion of the Subscriber, the Subscriber's respective alarm contractor.

IT SHALL BE INCUMBANT ON THE SUCCESSFUL APPLICANT TO EXECUTE ALL CONTRACTS, APPROVED BY TRI COM CENTRAL DISPATCH, BETWEEN TRI-COM CENTRAL DISPATCH AND THE SUBSCRIBERS AND TO PROVIDE EACH CONTRACT TO TRI COM CENTRAL DISPATCH.

Scope of services:

The terms of the contract will be 5 years from date of the acceptance of the system. The successful Applicant will be responsible for keeping all equipment current with technological changes. Tri-Com Central Dispatch shall be responsible for obtaining any and all permits required to perform tasks contracted through this proposal. However, the prospective Applicant shall assist Tri-Com Central Dispatch when permits are required. The installation shall be in complete compliance with applicable laws. The successful Applicant shall work with Tri-Com Central Dispatch to provide latent/reliable services.

Tri-Com Central Dispatch's expectations of the successful Applicant:

1. Provide new state-of-the-art equipment that will be compatible with different types of fire and burglar alarm systems (direct connect, wireless, dual line digital signal, etc.) Tri-Com Central Dispatch desires to purchase out right or lease purchase the equipment over a 60- month period at which time Tri-Com Central Dispatch will own the equipment. The successful Applicant will maintain the equipment to ensure that it is operational according the manufacturers specification. Tri-Com Central Dispatch is also looking for back-up options, should the system experience a failure of any type. Desired features of the new alarm monitoring equipment should include, but are not limited to the following:

    a. A total of 2 monitoring stations located on existing PC's on the CAD system at Tri-Com Central Dispatch.
    b. The monitoring stations should be capable of group acknowledgement of multiple trouble fire alarms.
    c. The monitoring stations should be capable of placing alarms in and out of a "work" or "test" mode, during which alarm activations will be recorded by the system, however, require no immediate action on the part of the telecommunicator.
    d. The system should have the capability of being placed in "storm" or similar mode, during which all trouble fire alarms will be recorded, however, requiring no action on the part of the telecommunicator. Upon placing the system back into a normal mode of operation, an indication would be received for any alarms, which have not restored, and require action on the part of the telecommunicator.

e. The system should be capable of supplying reports including, but not limited to, the history of alarm activations, "work/test" status, etc., for a specified time frame.
f. The system should be capable of various features such as automatic placement of restored alarms back into service at a specified time of day, time of week, or after a period of time in "work" or "test" mode.
g. The system should have visual, audible, and printed information to alert the telecommunicator of any valid alarm activations, system malfunctions, or alerts which may indicate an alarm which has been in a "work" or "test" mode in excess of a specified period, or which requires telecommunicator action for any other reason.
h. The system should be capable of interface to the computer-aid-dispatch system (currently Motorola CAD).
i. Other available features should be identified, described, and available, as desired.

2. Applicant will take an active part in developing systems and programs to assist in reducing false fire alarms.

3. All equipment will be UL listed and compliant with National Fire Protection Association 72 (NFPA 72) and other applicable codes.

Schedule:

Pre-Proposal Meeting	September 7th, 2010 at 9am Tri-Com Central Dispatch 3823 Karl Madsen Drive St. Charles, Il 60175
Response Due	September 21st, 2010 at 9am CST
Commence Project	As soon as possible after Board approval of selected vendor

Requirements for response:

Four (4) copies of the proposal must be received no later than 9am CST on September 21st, 2010. The package should be labeled "Proposal 10-001 Alarm System Monitoring Equipment." It is required that the statement be submitted in a standard 8-1/2" X 11" format for ease of review and reproduction. NO LATE SUBMITTALS WILL BE ACCEPTED.

Proposal documents shall be sent to:

Stacy Guercio
Director
Tri-Com Central Dispatch
3823 Karl Madsen Drive
St. Charles, Il 60175

Submittal Requirements:

Proposal SUBMITTAL (Due September 21st, 2010 at 9am CST):

1. **Format of response.** Proposals should be submitted on 8-1/2" X 11" paper and should be stapled, spiral bound, or contained in a binder.
2. **Completeness of response.** Proposals must respond to the scope of service listed in this proposal.
3. **Required information.** The Applicant shall submit the following information to be

included in the proposal with the proposal as evidence of compliance with specifications. The proposal may be rejected is the information listed herein is incomplete or if the proposed system deviates from the specifications.

A. Introduction

1. **Title Page.** A title page that includes the following information: name of the Applicant, organization of the Applicant (individual, corporation, partnership, joint venture), local address, telephone number, email address, fax number, name of the contact person, location of branch offices, if any, and states which your Applicant is licensed to practice. As a pre-qualification of submittal, all Applicants must be licensed in Illinois.

2. **Table of Contents.** A table of contents that includes a clear identification of the material contained in the Statement of Proposal by section and page number.

B. Content

1. **Statement of Interest.** A statement of interest pertaining to this specific project.
2. **Statement of availability.** Statement of availability of Applicant(s) and sub-contractors to undertake this project with specific references to the personnel noted above.
3. **Scope of Services.** Brief summary of the ability of the Applicant to Achieve the Scope of Services outlined in this proposal.
6. **Submittal Requirements Sheet.** The attached RFP 10-001 Worksheet should be completed. On each item, the prospective Applicant should initial under the Comply column. If an exception is taken, the prospective Applicant should initial under the Exception Taken column. If an exception is taken, the Applicant must also fill out the description of the exception.
4. **References Sheet.** Applicants should also complete the References form that is included in this package.
5. **Installed Accounts List.** Applicants must provide a list of at least three municipal accounts where their equipment is currently installed. The list should contain the account name, address, length of installation, contact person, phone number and fax number.
6. **System Description/Documentation.** Applicants shall detail the system they are proposing and attach any related documentation.

Selection Process:

Tri-Com Central Dispatch will award a single contract to the lowest responsive, responsible and qualified Applicant. Based on an evaluation of proposals submitted, a recommendation will be made to the Tri-Com Central Dispatch Board of Directors by the Director on the Applicant judged to be the most responsive, responsible, and qualified Applicant to perform all tasks.

Tri-Com Central Dispatch has selected Keltron Corporation Model DMP703 (or an equivalent) as the system desired. Any alternate system proposal must be available for inspection by designated Tri-Com Central Dispatch representatives with the exact location of the alternate system and contact information as listed above in the Submittal Requirements section (item 6).

MUNICIPAL ALARM MONITORING SYSTEM WITH RADIO NETWORK

1. **Overview**
   The system required shall include provisions for alarm monitoring capability between the Subscriber protected premise and TRI COM CENTRAL DISPATCH provided by a Keltron Wireless, two-way, digital, radio data transmission system and a Keltron LSNet IP based communicator – choice to be made by the Subscriber. The radio system shall employ encryption using a unique cipher code which shall become the property of TRI COM CENTRAL DISPATCH. The IP system shall use a proprietary IP address which shall be known to and owned by TRI COM CENTRAL DISPATCH.

2. TRI COM CENTRAL DISPATCH shall own all head end and Subscriber equipment. All subscribers shall receive a Tri-Com Central Dispatch owned transceiver and will pay TRI COM CENTRAL DISPATCH a monthly fee comprised of:
   2.1. Maintenance of the leased Subscriber radio (for wireless subscribers)
   2.2. Rental and maintenance fee on wireless; direct wire and digital dialer receiving equipment installed at TRI COM CENTRAL DISPATCH center.
   2.3. Monitoring fee for monitoring of alarms connected to Tri Com Central Dispatch. Said fees shall be billed and collected by the Applicant on a periodic basis

3. The wireless network configuration will consist of a dual radio receiver head end.
   3.1. The dual radio receiver head end will be located at TRI COM CENTRAL DISPATCH. This system will include a Keltron DMP-703. This system will accept subscribers from TRI COM CENTRAL DISPATCH. Because this network is currently monitoring subscribers on a dealer licensed frequency, TRI COM CENTRAL DISPATCH shall be licensed on a Keltron frequency as a modified user and all existing subscribers will be recrystaled onto that new frequency. This network will have a capacity of 1000 radio subscribers not counting direct wire subscribers. Some of the radios currently installed are owned by the subscribers. These subscribers will be required to add a service contract to their existing radio or have their owned radio replaced with a new radio at no initial cost to the Subscriber. The new radio will be owned by TRI COM CENTRAL DISPATCH and carry a monthly fee which will include a service contract.

   3.2. This proposal shall include a Keltron LS-7000 automation system for alarm monitoring, reporting; receiving IP alarms and remote networking. Only proposals for the Keltron Wireless radio network and the Keltron LS-7000 alarm automation system will be accepted. TRI COM CENTRAL DISPATCH may desire to connect remote fire departments at a future date. The initial system shall have workstation software installed on existing PCs which will connect to the LS-7000 server at dispatch. The initial automation system will provide TWO dispatcher seat licenses and ONE administrative seat licenses locally to access the server simultaneously. Additional copies of the workstation software can be installed on as many remote computers as desired, however, only the licensed number of seats will be allowed to connect at any one time.

4. **<u>TRI COM CENTRAL DISPATCH Requirements for Vendors</u>**
   4.1. Applicants shall submit the following information along with the proposal response as evidence of compliance with the specifications. Note: The proposal may be rejected if the information listed herein is incomplete or if the proposed system deviated from the specifications.

   4.2. Successful Applicant must provide a factory letter indicating it is an authorized Keltron Wireless dealer in good standing.

   4.3. Successful Applicant must provide a copy of documentation indicating it is properly licensed by the State of Illinois Department of Professional Regulation as an alarm contractor.

   4.4. Successful Applicant shall install proprietary radio cipher codes and Ethernet IP for LSNet which

will be owned by TRI COM CENTRAL DISPATCH.

4.5. Successful Applicant shall pass on all available and applicable warranties and guarantees as provided by the manufacturer to TRI COM CENTRAL DISPATCH.

4.6. Successful Applicant shall be responsible for securing letters from Keltron indicating Modified Frequency Use Rights from the Federal Communications Commission for operation of the radio alarm network. TRI COM CENTRAL DISPATCH and not the approved vendor will be listed as the licensee/user.

4.7. **Successful Applicant shall sell and install all equipment specified herein including all new radios installed in Subscriber premises.**

4.8. **Successful Applicant shall be required to visit installed subscriber's premise to certify proper antenna and transceiver installation and to check and, if necessary, replace the standby batter in the unit to comply with the 60 hour standby requirement.**

4.9. Successful applicant shall provide pricing for the purchase of all specified equipment; provide installation labor of all head end equipment at the specified locations; include a site visit to every current subscriber to evaluate the radios installed in Subscriber premises as previously detailed herein.

4.10. Successful Applicant shall provide ongoing service & maintenance for TRI COM CENTRAL DISPATCH head-end equipment. The successful Applicant shall also be the exclusive contractor for installation and ongoing maintenance of all Subscriber radio equipment. The successful Applicant shall provide ongoing network maintenance in accordance with the manufacturer's specifications including network balancing and subscriber antenna modification whenever required for optimum overall network operation.

4.11. Successful Applicant shall be recognized as TRI COM CENTRAL DISPATCH's approved vendor and shall be the only vendor allowed to install radios in the TRI COM CENTRAL DISPATCH network. Note: TRI COM CENTRAL DISPATCH may authorize the interfacing of current or future member departments' alarms into the automated system.

4.12. Successful Applicant shall provide TRI COM CENTRAL DISPATCH with its plan for installation of subscribers radio equipment and shall create and maintain an "as installed" deployment map of the initial network and any future radio networks that may be installed under the Applicant's contract.

4.13. There shall be ZERO initial cost to existing subscribers for conversion from direct wire connections or digital dialers to radio connections. Likewise, any subscriber who currently owns a radio transceiver who wants to have a new TRI COM CENTRAL DISPATCH owned radio installed shall have said radio installed at ZERO initial cost.

4.14. Successful Applicant shall maintain the inventory of spare parts and spare Subscriber premise equipment owned by TRI COM CENTRAL DISPATCH so as to guarantee that all alarm monitoring equipment at TRI COM CENTRAL DISPATCH so the radios installed at the Subscriber's premise can be repaired within a reasonable period of time from the time Applicant is notified of a failure.

4.15. Applicant shall state what their response time will be for service required Monday through Friday 8am – 6pm; and evenings, weekends and holidays. **In no event may any TRI COM CENTRAL DISPATCH Subscriber's premise be left without a radio transceiver and unprotected.**

4.16. Successful Applicant shall maintain an inventory (at TRI COM CENTRAL DISPATCH) of

paper used by all system printers.

4.15 Successful Applicant shall provide Tri-Com with a Keltron LS-7000 Automation System which shall be configured as detailed in the attached specification.

4.16 Successful Applicant shall provide Tri-Com with a Keltron wireless radio network with configuration as detailed in the attached specification.

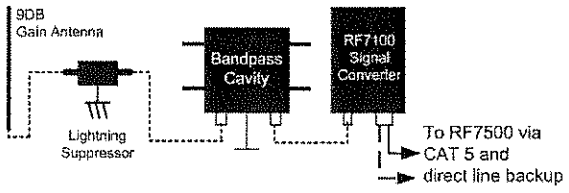
5. SYSTEM CONFIGURATION AND DIAGRAM

KELTRON

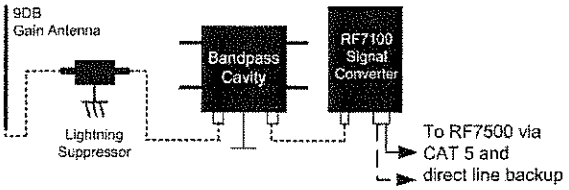
Keltron Active Network Radio System
Central Site Block Diagram

Depicted below is a typical configuration for the Keltron Wall Mount Radio Equipment: Minimum wall space dimensions are approximate
In the example 6' wide x 2' high
In municipal use, a redundant system is required so setups are duplicated.

"A" SYSTEM



"B" SYSTEM



* Weather tight enclosure for the Keltron 10R7230 lightning suppressor.

Signal Converter is powered via a Keltron 40PS1640 AC Adaptor – which requires a Keltron 10R1640-ENC. Use the Keltron 40B008 12V 10AH battery for backup power.

MUNICIPAL

www.keltroncorp.com

The following is an overview of the basic requirement for RF cabling between the Keltron 10R7219 antenna, Keltron 10R7230 lightning suppressor (surge arrestor), 10R0479-XX bandpass cavity and Keltron RF7100 signal converter. Reference Keltron 92MRF7100-IO Signal Converter manual section 5, Keltron Pre-Delivery Documentation for more specific installation information and Keltron Wall Mount Radio Equipment Diagram.

Keltron provides 3 RG8/U cables:
10R7203LL (3 foot)
10R7206LL (6 foot)
10R0345-100 (100 feet)

In addition Keltron also provides 8 each "N" connectors crimp type – use the Keltron 10R0213 crimp tool and 10R0215 coax stripper tool provided. This will enable best fit installation onsite.

Installer should plan to use the shortest length of RG8/U cable as possible but no more than 100' to minimize signal loss. Avoid tight cable bends wherever possible. Do not bend cable less than a 6-inch radius.

1st run of RG8/U will be from the Keltron RF7100 to the 10R0479-XX. Mount the Keltron RF7100 as close as possible to the 10R0479-XX cavity – the Keltron 10R7203LL 3' cable is typically used.

2nd run of RG8/U will be from the Keltron 10R0479-XX to the Keltron 10R7230 lightning suppressor. The Keltron 10R7206LL 6' cable is typically used for this run.

All wiring and installation must comply with UL installation standards and local buildings codes. RG8 Coax must be physically protected in conduit between the antenna and the Keltron RF7100 enclosure. Wall mount transformer (RF7100 power source) and its wiring must be protected in conduit and in a Keltron 10R1640-ENC enclosure. Unit must be tied to Earth Ground via the ground lug on PCB.
Customer is responsible for design of site-specific conduit detail including but not limited to the usage of enclosures to house the Signal Converter, Band pass cavity and Surge Suppressor for the purpose of protecting the coax and transformer wiring in conduit.

The Keltron 10R7230 must be mounted on the outside of the building (in a weather tight enclosure*) at the point where the RG8/U cable enters the building and as close to earth ground as possible. The ground lug in the center of the Keltron 10R7230 must be directly connected to earth ground. The earth ground strap should not exceed 3' and the wire used should be 14AWG or larger.

3rd run of RG8/U will be from the Keltron 10R7230 to the Keltron 10R7219 antenna mounted on the roof.

Central site antenna (Keltron 10R7219) must be mounted on the roof completely above the highest point on the structure to which it is attached. (reference Keltron Pre-Delivery Documentation section 3.3 and Keltron 92MRF7100-IO manual).

The Keltron RF7100 signal converter is the bridge between the radio portion and the data portion of the network. It is powered via a Keltron 40PS1640 AC adaptor – which must use a Keltron 10R1640-ENC cover. Also required is a UPS (Uninterruptible Power Source) with backup generator. Communications to and from the Keltron RF7500 is via an Ethernet connection (CAT-5 or better) with backup line.

The signal converter is wall mounted and must be located in an area maintained between 0 and 49 degrees C. The signal converter should be mounted so as to minimize the RF RG8/U cable run.

Note: Keltron supplies 100 feet of RG8/U low loss cable.

Figure 1 - TRI COM CENTRAL DISPATCH NETWORK OVERVIEW

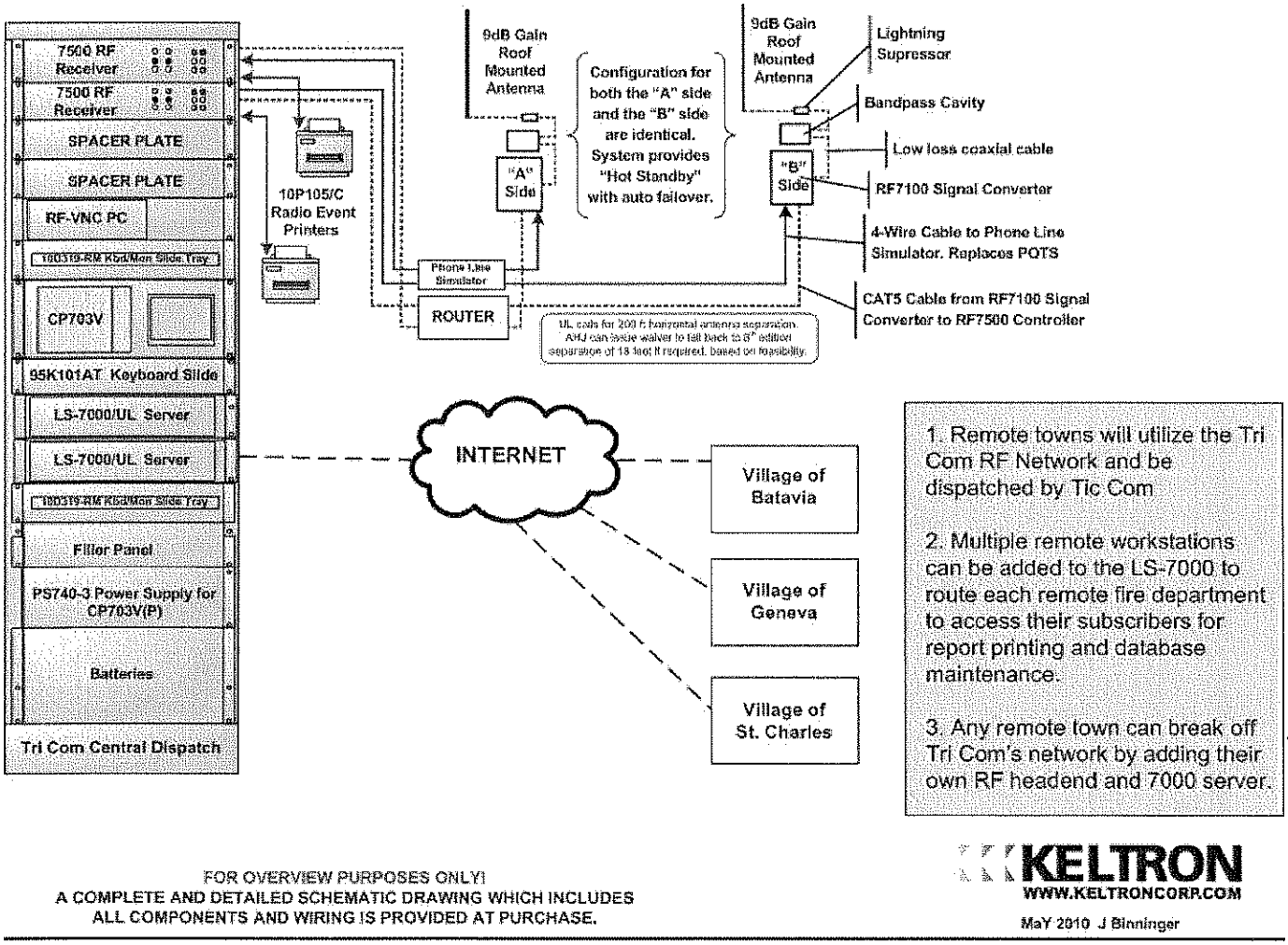


Figure 2 - TRI COM CENTRAL DISPATCH NETWORK DIAGRAM

EQUIPMENT CONFIGURATION FOR TRI COM CENTRAL DISPATCH FACILITY

The following is the list of equipment required for the primary dispatch location. If an exception is taken for any of the following equipment listed, Applicant must complete the exception taken form which follows the equipment list.

QTY.	MODEL #	DESCRIPTION
1	CP703VP	CENTRAL PROC. VIDEO DISPLAY/PRINTER
2	95K3068-5	DUAL PORT RS232 SERIAL I/O ASSY
1	97P0026	REMP703 SYSTEM SUPPORT SOFTWARE
2	97P0065	RF7500 INTERFACE DRIVER SOFTWARE
1	95K101AT	KYBD, ADAPTER, 60" CABLE, RACK MT SLIDING SHELF
1	95M2947-1	256K MESSAGE MEMORY CARD
1	97P0084	1500 EVENT RADIO BUFFER SOFTWARE
1	95K2947-6	NV RADIO ROTATION QUEUE/HEAP MEMORY
1	97P0067	GROUP ACKNOWLEDGE - DIGITAL DIALERS/RADIOS
		Dual Radio Receivers
2	RF7500/C	RADIO SYSTEM CONTROLLER/SIGNAL PROCESSOR Includes 6 foot, AC, 3 prong, line cord for connection to UPS. A UPS is required to provide backup AC power and is not included. One static IP address, one RJ 45 network drop and one PSTN line required per RF7500.
2	RF7500K	RF7830 INSTALLATION KIT INCLUDES: surge arrestor power strip, 25 ft phone cable, 25 ft RJ 45 Ethernet cable Y cable, 92MRF7500-IS.pdf & 92MRF7500-UM.pdf manuals
2	10P101/C	CENTRONICS 80 COLUMN PRINTER & CABLE
1	RF-SWPANEL/C	3.5" AB/Y SW. PANEL & CABLES - RF-NETPC/PRINTER
	Note: Switches RF-NETPC and 10P101/C printer between RF7300 radio receivers.	
2	40PS300	2.5 AMP 24 VDC POWER SUPPLY - RF7300
4	40B007	12 AMPERE HOUR 12 VOLT BATTERY
1	RF-TESTKIT	SWR METER, SCANNER, CABLES, LOADS & CASE
1	10R7041/C	PORTABLE RADIO PROGRAMMER & CABLE
1	RF-SITE	RF SITE COMMISSIONING/CERTIFICATION
1	10R7000	REMOTE RADIO PROG/NETWORK STATUS SW
1	RF-NETPC	RACK MOUNT DOS PC NETWORK CONTROLLER WITH RACK MT. KEYBOARD & INTEGRAL LCD SCREEN
1	PS740-3	24VDC POWER SUPPLY / CHARGER
2	40B006	24 AMPERE HOUR 12 VOLT BATTERY
1	10D-VPN08R	HARDWARE FIREWALL ROUTER TO CLOSE NETWORK
1	RF7100-CU	RF7100 CONFIGURATION WIZARD SOFTWARE UTILITY
2	RF7100-XX	IP CONNECTED RADIO FREQ SIGNAL CONVERTER Includes: 40B008 battery, 40PS1640 wall transformer and enclosure, 6 foot 9 pin M - F prog. cable RJ31X jack and 6 foot phone cable, 25 foot RJ45 Ethernet cable Note: One static IP address, one network drop and one PSTN line required per RF7100.
2	RF7100K	RF7100 TRANSCEIVER INSTALL KIT INCLUDES: 100' OF RG8/U, 10R7203LL, 10R7206LL, 10R7230 Surge arrestor, N

Connectors

2	10R7219-46	9 DB ANTENNA, WITH RADIALS, 460 TO 470 MHZ
2	10R0479-XX	BAND PASS CAVITY FILTER, FREQUENCY TUNED
2	10P105/C	CENTRONICS 80 COLUMN PRINTER & CABLE Note: Includes 6 foot connection cable
1	RF-MNSYS	REDUNDANT MESH NETWORK RECEIVING SYSTEM
1	10R04TLS	TELEPHONE LINE SIMULATOR INSTEAD OF PSTN
2	LP-KIT1	SURGE PROTECTORS, LAN/WAN x2, RJ31X x1, RJ11 x1
1	RF-VNCPC	2U RACK MOUNT PC FOR RF7500 ACCESS
1	10D319-RM	1 U, SLIDING RAIL 19" LCD MONITOR/ T.P. KEYBOARD
1	10R7041/C	PORTABLE RADIO PROGRAMMER & CABLE
1	RF-TOOLSET	RG8/U STRIPPER, N CRIMPER, 12 - 22 AWG CRIMPER
1	RF-TESTKIT	SWR METER, SCANNER, CABLES, LOADS & CASE
0	RFIP-SWMF	YEARLY SOFTWARE MAINTENANCE FEES Note: Due on first year anniversary, first year maintenance fee is to be included in the purchase price.
1	RFIP-SPT1	YEARLY BUSINESS HOURS PHONE TECH SUPPORT
4	TECH-HR	TECHNICAL PHONE SUPPORT DURING INSTALL
1	RF-SITE	RF SITE COMMISSIONING/CERTIFICATION Note: Maximum of two days, single trip, including expenses. Note: On-site services are provided at a mutually agreeable time, dependent upon personnel availability.

LS 7000 Interface

1	97P0016L	LS7000 AUTOMATION SYSTEM INTERFACE FROM CP
1	97P0055	PRINTER DISABLE ON KEYSWITCH

Note: Radio frequency must be assigned.
Note: FCC License required. Fees of $300.00 to obtain license are additional.
Note: Equipment mounting rack or cabinet is dealer supplied.
Note: Outside install & head end antenna mounting poles are dealer supplied.
Note: After first year there is an annual support fee.
Note: Discreet wiring such as power wiring and battery backup connection wiring is dealer supplied.

LS-7000 Automation System

QTY	MODEL #	DESCRIPTION - Multi-user System on Server PC
1.00	LS7000MSW-UL	LS 7000 Life-Safety Event Management System S.W.
		Multi-User application suite with utilities, includes
		Dispatcher, Maintenance, Monitor, History Editor
1.00	LS-SMTP	PROGRAMMABLE SMTP EMAIL OUTPUT MODULE
	Note: Provided as a five instance run license, adjust quantity as needed.	
		UL 864 Recognized PC - CORE 2 DUO 2.16 Ghz
1.00	LS7000/UL3/K	WIN XP PRO EMBEDDED, 300 WATT PS, USB 2.0
		DUAL RAID 160 GB SATA HARD DRIVES, 2 GB RAM,
		DVD-RW, 20 X, PATA DRIVE, PRINTER PORT
		VGA/SVGA, GIGAbit Ethernet, 2 SERIAL PORTS
		TouchPad keyboard, Rack Mount sliding kybd shelf, speakers
		server software installation, hardware certification
1.00	LS7000SS	SERVER & SERVICE TERMINAL SOFTWARE
1.00	NET924AC	AC POWER, 4 ZONE EOL, ETHERNET MUX
	Note: One NET924AC is required to provide power supply fault monitoring in a UL LISTED System.	
1.00	NETBX R14	RED, LOCKING, WALL MOUNT ENCLOSURE
	Note: Enclosure measures 14" H x 17" W x 4" D and features a removable door.	
	Note: Larger enclosure is required to accommodate Polarity Reversal and 60 hour backup options.	
1.00	40B007	12 AMPERE HOUR, 12 VOLT BATTERY
1.00	10D319-RM	1 U, SLIDING RAIL 19" LCD MONITOR/ T.P. KEYBOARD
	Note: Must be mounted to both front and rear rails in a rack that is between 23.5" and 33" in depth.	
1.00	10P101/C	LOGGING/EVENT PRINTER, CENTRONICS CABLE
1.00	10P103/C	LASER, REPORT & TICKET PRINTER, USB CABLE
1.00	LS-NETSW	LSNET ETHERNET MUX INTERFACE SOFTWARE
	Note: LSNET compatibility upgrade for LS7000 graphics and automation software system.	
	The optional equipment listed below achieves system redundancy	
1.00	LS7KDBR	KELTRON LS 7000 DATABASE REPLICATION SW
	Note: Database replication is a one way pull at the secondary server from the primary server.	
	Note: A manual database backup from active secondary server and restore to primary server procedure must be performed prior to returning initial primary server to service in a redundant system configuration.	
1.00	LS7KSHAD	LS 7000 SHADOW FILE REPLICATION ENGINE
1.00	LS7KSQLWG5	SQL SERVER WORKGROUP 2008 SOFTWARE
1.00	LS-AFSW-1	AUTO-FAILOVER, IP ADDRESSED SERVER SWITCH
		Three RS232 A/B switched ports for auto connection of DMP703 to active server
		Three Ethernet ports for LS Net connection to active server
		One Ethernet port for switch connection to primary server only
		Note: Dual LS7000 interconnect cables are included
1.00	LS7000-UL-SU2	COPY OF SOFTWARE FOR SECONDARY SERVER
		UL 864 Recognized PC - CORE 2 DUO 2.16 Ghz
1.00	LS7000/UL3/K	WIN XP PRO EMBEDDED, 300 WATT PS, USB 2.0
		DUAL RAID 160 GB SATA HARD DRIVES, 2 GB RAM,
		DVD-RW, 20 X, PATA DRIVE, PRINTER PORT
		VGA/SVGA, GIGAbit Ethernet, 2 SERIAL PORTS
		TouchPad keyboard, Rack Mount sliding kybd shelf, speakers
		server software installation, hardware certification
1.00	LS7000SS2	SERVER & SERVICE TERMINAL SOFTWARE

Note: Redundant monitors as well as redundant touchpad keyboards or a KVM switch are required to provide direct server access for a dispatcher or administrator in a redundant system configuration.

1.00	NET924AC	AC POWER, 4 ZONE EOL, ETHERNET MUX
	Note: One NET924AC is required to provide power supply fault monitoring in a UL LISTED System.	
1.00	NETBX R14	RED, LOCKING, WALL MOUNT ENCLOSURE
	Note: Enclosure measures 14" H x 17" W x 4" D and features a removable door.	
	Note: Larger enclosure is required to accommodate Polarity Reversal and 60 hour backup options.	
1.00	40B007	12 AMPERE HOUR, 12 VOLT BATTERY
	Note: Alternatively, the original power monitoring NET924 can monitor both supplies on separate zones.	
1.00	LS-SMTP2	PROGRAMMABLE SMTP EMAIL OUTPUT MODULE
	Note: Provided as a five instance run license, adjust quantity as needed.	
1.00	LS-NETSW2	LSNET ETHERNET MUX INTERFACE SOFTWARE
	Note: LSNET compatibility upgrade for LS7000 graphics and automation software system.	
		End optional redundant equipment list

1.00	10D-VPN08R	EIGHT PORT KELTRON SUPPORTED ROUTER
	Note: LS7000 workstations must be installed on a private LAN in a redundant system configuration.	
	Note: Router(s) provide a VPN tunnel when configured as a hardware firewall for LS7000 computers.	
1.00	LS7000SNPCA	ADMINISTRATOR SOFTWARE RUN LICENSE
	Note: To be installed on PC's by others with sufficient resources for all applications.	
	Note: Includes monitor, history editor and maintenance applications only.	
2.00	LS7000SNPC	INDIVIDUAL ADDITIONAL SOFTWARE SEAT LICENSE
	Note: To be installed on PC's by others with sufficient resources for all applications.	
0.00	LS7000S	INDIVIDUAL ADDITIONAL SOFTWARE SEAT LICENSE
0.00	10P103/C	LASER, REPORT & TICKET PRINTER, USB CABLE

LSNet IP Transceivers include the following three items:

0.00	NET924AC	AC POWER, 4 ZONE EOL, IP TRANSCEIVER
	Note: One NET924AC is required to provide power supply fault monitoring in a UL LISTED System.	
0.00	NET4RP	4 ZONE POLARITY REVERSAL OPTION (3238)
0.00	NETBX R14	RED, LOCKING, WALL MOUNT ENCLOSURE
	Note: Enclosure measures 14" H x 17" W x 4" D and features a removable door.	
	Note: Larger enclosure is required to accommodate Polarity Reversal and 60 hour backup options.	

Maintenance and license for use

1.00	LS7K-SPT1	YEARLY SOFTWARE MAINTENANCE FEE
1.00	LS7K-SPTNA	YEARLY ADMIN RUN INSTANCE MAINTENANCE FEE
2.00	LS7K-SPTSNPC	YEARLY SHARED PC RUN INSTANCE MAINT. FEE
	Note: Maintenance and license for use fee is mandatory and includes yearly software upgrades.	
	Note: First year software maintenance fee is included in the purchase price.	

Training and on-site services

1.00	LS-TRAINING	ADMINISTRATION, PROGRAMMING, OPERATION
	Note: Two day course. Conducted at Keltron in Waltham, Mass. Participant expenses are not included.	
1.00	LS-SITE-2	ONSITE SYSTEM STARTUP AND TRAINING
	Note: Maximum of two days, single trip, includes expenses.	
	Note: On-site services are provided at a mutually agreeable time, dependent upon personnel availability.	
1.00	LS-TECHYR	YEARLY BUSINESS HOURS TECH SUPPORT

DETAILED EQUIPMENT SPECIFICATIONS

INTENT

It is the intent of this specification to provide the owner with a state-of-the-art, active network, Radio Fire Alarm Monitoring System. The system proposed shall be an operator-owned, self-optimizing, two-way, digital, radio data transmission system. The active radio network shall offer many benefits not available with conventional, one-way, analogue, critical path, repeater-based technologies including, multiple paths, automatic selection of the best routes, and remote radio transceiver polling and programmability. The proposed system shall employ encryption, a unique code or an equivalent means of insuring adjacent or overlaid same-frequency networks do not conflict or interfere with each other's operation.

PERFORMANCE

The purpose of this specification section is to describe the desired system configuration and minimum level of performance as required by the system owner. The level of performance required is based on the Active Network Radio Fire Alarm reporting system as manufactured by Keltron Corporation of Waltham, Massachusetts. Alternates must be able to prove, to the owner's satisfaction, that an equal or greater level of system performance is achieved to be considered.

10. SYSTEM REQUIREMENTS

A. The proposed system shall consist of redundant alarm receiving system processors in a "hot standby configuration". Required are, two alarm receiving system processors interconnected by software and hardware, in order to provide an automatic switch-over to the standby unit in case of failure of the primary (active) unit. In addition, a means shall be provided to switch the input and output signals manually, between alarm receiving system processors, via a push button accessible on the switch over assembly front panel. Automatic or manual switch over operations shall be seamless and require no additional operator intervention. The active alarm receiving processor shall monitor and supervise all inputs and provide all required outputs. The standby alarm receiving processor shall accept all system synchronization data from the active unit and update all internal statuses. The standby unit shall also supervise all connected inputs and report only those failures that would prevent the standby unit from becoming the active unit and immediately providing fully operational performance. The standby unit shall not report as failures those disconnected inputs and outputs accepted or provided and supervised by the active alarm receiving processor.

B.The active radio network controllers shall also be proposed in a completely redundant configuration. Sharing of antenna, cabling, band pass cavity, and transceiver or surge protection between network radio controllers shall not be acceptable. The active alarm receiving system processor shall monitor and supervise the redundant radio network controllers regardless of active or standby status. The active network radio controller shall provide the interface to the active radio network for the alarm receiving system. Alternatively, at the owner's discretion, the two alarm receiving systems and radio receivers may be installed in separate physical locations, to aid in disaster recovery, and shall then be connected in a peer-to-peer network. In this configuration, alarm monitoring and dispatch may be accomplished from either location and the automatic switching of active and standby radio receiver operating modes shall be provided.

C. Employed software shall be such that a serial data connection shall keep active and standby, or peer to peer connected alarm receiving system processors synchronized. System synchronization shall insure account and zone status memory, database entries, input status, output status, In/Out-of-Service status, Account-in-Test status and operator response status are identical between processors to insure a seamless switch over thereby preventing any chance of either false or unreported alarm activity.

D.This serial data connection shall be supervised, on both sides of the link, by periodic polling or

other effective and acceptable means. Communication failures shall be reported without delay to the system operator and the faulted system shall stop responding to supervisory line check polling from connected third party systems, such as CAD, Graphics PCs or Central Station Automation Software.

11. SIGNAL INPUTS

A. The radio network alarm monitoring system shall have the capability of monitoring 9 types of inputs simultaneously. The system shall be modular and employ a separate Radio Network Controller to insure ease of maintainability, serviceability, replacement and ease of use. The system shall not require towers or tower based, dedicated RF repeaters to route the signals from the Radio Alarm Transmitters to the network receiver(s). The system shall be two-way.

B. (RAT) Radio Alarm Transmitter - The system shall be capable of receiving signals from Radio Alarm Transmitters. Radio Alarm transmitters shall include both 8 and 4 & 4 zone versions. Provided shall be both EOL resistor and Polarity Reversal type inputs.

C. (DART) Digital Alarm Radio Transmitter - The system shall accept signals from Digital Alarm Radio Transmitters using the 10R7068 - Intellitap module. The Intellitap shall interface the Digital Alarm Communicator Transmitter to the Radio Alarm Transmitter.

D. (DATATAP) Serial Alarm Data Interface - The system shall provide a serial alarm data interface for the radio transceiver. The DATATAP shall accept serial digital alarm data from sources such as a printer or annunciator port from an intelligent Fire Alarm Control Panel (FACP) or other serial data sources. The DATATAP shall be compatible with any Fire Alarm Control Panel providing a serial digital data port. The DATATAP shall provide a permanent means of selecting the appropriate personality matched software for interfacing to the subject FACP. The DATATAP shall provide the ability to send point-specific, event identification data from an addressable and intelligent FACP through the active network radio system to the head end alarm receiver. The DATATAP shall provide point-specific, event-identification, off-premises, reporting capability for Fire Alarm Control Panels otherwise incapable of reporting events by specific addressable point to a remote monitoring location. The DATATAP shall provide full supervision of the FACP link when permitted by the FACP.

E. The DATATAP device shall be used to centrally monitor Fire Alarm Control Panels, from varying manufacturers, avoiding the expense of being locked in to a single FACP manufacturer. DATATAP applications shall include university campus type environments and the system may also be used to cover an entire industrial complex or municipality. Defend in place locations shall be provided with a DATATAP device for incorporation in their overall fire protection program.

F. The DATATAP interface software shall support the following panels at a minimum: Siemens/Pyrotronics MXL/MXLV, Edwards Systems Technology EST2/QSC, FCI FC-7200, Gamewell IF 610, Flex 630, Flex 650, Flex 650E, Notifier AFP200, 300, 400, Notifier NFS-640, Notifier AM1010, Notifier AM2020, Firelite MS9200, Silent Knight 5800 series. All compatible panels shall report by individual detector and shall annunciate the event type, address, and detector type. The manufacturer shall provide references from existing successful installations of at least three of the aforementioned UL

LISTED panels interfaced to the active network radio system through the DATATAP and radio transceiver.

G. Official Fire Alarm Control Panel compatibility lists shall be available publicly to anyone with internet access direct from the manufacturer's web site. Lists that are not publicly available or that cannot be verified through publicly available means or information sources shall not be acceptable.

H. (DACT) Digital Alarm Communicator Transmitters - the system shall be capable of receiving alarms from Digital Communicators. The following formats shall be accepted: (SESCOA, VERTEX, DCI, FRANKLIN FAST - 3X1), (SESCOA - 4X3), (RADIONICS HEX - 3X1, MODEM IIIa^2 and BFSK), (Old ADEMCO, SILENT KNIGHT SLOW - 3X1), (ACRON - 4X1), (SILENT KNIGHT, NAPCO - 4X2), (CFSK, VFSK, SIA - MODEM), (FBI SUPERFAST, SUR-GARD, ADEMCO HI-SPEED, and (ADEMCO EXPRESS and ADEMCO CONTACT-ID - DTMF). The system shall support up to sixteen (16) incoming phone lines. The associated firmware for DACTs and Radio Alarm Transmitters shall support up to six (6) hexadecimal digits of account number, four (4) hexadecimal digits of zone number, and 64 three-character event codes per account. Each Radio Network Controller shall support a network of at least 9999 Radio Alarm Transmitters. The monitoring system shall support the connection, supervision and monitoring of multiple active or standby Radio Network Controllers.

I. The system shall provide sufficient memory to allow the storage of field programmable English text descriptions for all DACT/DART accounts, their associated event codes, and input zones. The system shall allow up to 40 lines of 32 characters each for every account message, up to 4 lines of 32 characters each for every zone message, and a 16-character descriptor for each event code. Field programmable event code tags shall be available to allow prioritizing of DACT/DART alarm events to insure the most appropriate and expedient response. Pre-defined event codes from such as Contact-Id and SIA DACT reporting formats shall automatically be annunciated in ENGLISH text with the received event. Optionally, a "GROUP TROUBLE ACKNOWLEDGE" function shall be available. This function shall allow the acknowledging of signals, programmed with the trouble event code tag, as a group when activated by a single operator action from the "touch screen".

J. The system shall allow 24 hour test codes to be programmed for all compatible DACT formats. The system shall have the ability to accept 24-hour call-in for transmitter verification, and annunciate a FAIL-TO-TEST alarm if the call-in is not received. The call-in time window shall be user selectable from 1 to 168 hours. The system shall receive supervisory call-in and Opening and Closing signals without operator intervention.

K. . Radio Alarm Transmitter check-in cycles shall be able to be set from 6 minutes to 24 hours and the radio receiver account supervision shall be able to be set from 1 to 168 hour intervals enabling frequent transmitter supervision and a high level of system integrity to meet the user's needs.

L. The system software shall allow DACT/DART accounts to be put IN and OUT-OF-SERVICE. If an account is OUT-OF-SERVICE, all incoming transmissions from that account will be ignored. When a DACT/DART account is returned to IN-SERVICE from an OUT-OF-SERVICE condition, all zones will be restored to normal at the receiver.

M. The system software shall support a DACT/DART Account TEST mode. If a

DACT/DART account is placed in TEST mode, all incoming signals will be printed in the standard alarm printout format and optionally stored in History. However, there will be no display or audible alert to the operator. The system shall allow up to 500 DACT/DART alarms to be included in the rotating, sequential, alarm display. The system software/hardware shall be available without the Radio Network Controller to support interfacing with third party digital and radio receivers.

N. The system shall be capable of receiving serially transmitted alarm signals directly or via modems over dedicated phone lines from remote alarm monitoring systems, digital receivers, or Fire Alarm Control Panels. The communication link shall be supervised and, upon failure, the system shall annunciate a communications failure condition. These alarm signals shall be annunciated in a way that is specific to the type of alarm input received. These signals shall be reported on a prioritized basis per U.L. 864.

O. The system shall be capable of interfacing to radio systems including the RADSCAN Alarm Net 7810 long-range radio receiver, The LARSNET RCI3300 and RCI4000 as well as the Keltron RF7300 - active network radio receiver, via RS-232c. All received alarms shall be annunciated in a way that is consistent with alarms received from DACT's. All field programmable, fixed field, English text annunciation capabilities and outputs shall be supported. It shall be transparent to the system operator whether these events were received via Radio or DACT.

P. The active network Radio Alarm Monitoring System shall also accept all direct connect and multiplex inputs and support all hardware outputs and software options of the DMP700 Series Alarm Monitoring Systems. The inputs that can be simultaneously accommodated shall include reverse polarity, end-of-line resistor, "AA" Security, dry contacts, proprietary tones signals, star multiplex and distributed multiplex as well as coded (McCullough/GAMEWELL) Fire Alarm signals.

12. SYSTEM OPERATION

When a signal is received from a DACT/DART, the system shall sound the audible alert, display the appropriate message, and print the appropriate message. In order to silence the audible, the operator must touch the ACK control. Touching this shall cause the audible to silence, and the ACKnowledge message to be printed. This message shall remain displayed until CLEAR is touched, whereupon, the system returns to its regular standby operation. If the operator does not touch ACK, the audible shall continue to sound, but no further printing shall occur for that event.

Inputs that are not in the "secure" condition shall become part of a display sequence. Every 5.0 seconds, one of the inputs in an abnormal state shall be displayed. Touching FAST SCAN shall speed this to once every 1.0 seconds. In addition to non Secure zones, the sequential or rotating display will include a screen for accounts out-of-service and a screen for accounts in test mode.

13. RADIO NETWORK

a. The radio network shall consist of redundant intelligent radio signal converters with integral RF transceivers and separate network controllers, an alarm monitoring system and field located Radio Alarm Transceivers. Antenna, batteries and other support equipment such as surge suppression devices shall be supplied as required to insure a complete turnkey system. The network shall employ proprietary, patented, store-and-

forward operation under software control. The radio network shall use distributed intelligence and not be dependent upon towers or repeaters. Critical path systems utilizing towers or dedicated repeaters, if accepted as alternates, shall be proposed in a completely redundant configuration. That is all repeaters shall be fully redundant to insure every Radio Alarm Transmitter signal reaches at least two repeaters on each of its two towers with sufficient signal strength to insure continuous and reliable performance under all conditions. Proposed system equipment and configurations shall be both UL LISTED and NFPA 72 compliant.

b. The radio network shall be two-way, self-routing, self-healing and utilize supervised communications. Each Radio Alarm Transceiver shall store at least six alternate routes to the central receiver. The Radio Alarm Transceiver shall provide an integral repeater and dynamically adapt to changes in the network. Radio Alarm Transceivers shall self-test and shall automatically enroll in the network after being programmed. The radio network shall provide for the reliable reception of signals beyond direct radio reach of the radio receiver location. The radio technology used by the network shall insure reliable radio signaling paths are always available and guarantee that even overlaid radio networks do not conflict. All Radio Alarm Transceivers in the network shall operate on the same fixed frequency and meet narrow bandwidth requirements. System software shall limit proper annunciation and operation to authorized subscriber Radio Alarm Transceivers. Radio network analysis, programming and maintenance software shall also be included in the radio network control receiver. This supervisory software shall provide network routing and transmitter status information to enable network maintenance and expedient troubleshooting. Software for remote transceiver interrogation and reprogramming from the central receiver shall be provided. The Radio Network Control Receiver shall provide audible and visual indications of all faults and failures including a tamper condition as well as printer malfunctions or connection problems.

c. Systems requiring manufacturer programming or installation shall not be acceptable. The active network radio system manufacturer shall provide dealer and system owner training and certification in installation, programming, maintenance and troubleshooting.

14. RADIO SIGNAL CONVERTER (RF7100)

a. The intelligent radio signal converter unit shall provide programmable operational parameters to allow the optimization of performance in varying environments. This programming shall be performed using the provided serial port. The radio signal converter shall allow installation either local to the radio network control receiver or at a remote location. The radio signal converter shall communicate to the radio network control receiver using a network connection as the primary path and use a PSTN line as a backup path in the event of network interruption. The radio signal converter shall automatically communicate to the primary or secondary radio network control receiver as appropriate to provide automatic equipment redundancy utilization.

b. Self-tests shall be performed automatically after power up during the initialization process. The unit shall provide LED indications of proper operation as well as fault conditions requiring service. The unit shall support installer level tests to ensure proper operation at appropriate stages of the installation process. At a minimum test capability shall include, pc board functionality, basic operation, modem and network communications as well as RF signal transmission functionality.

c. The radio signal converter shall be AC powered with automatic integral battery backup. The unit shall require no more than 370 mA standby and 900 mA while transmitting. On board fuse shall be self-resetting and the unit shall have no user serviceable parts. The AC power, battery and battery charger shall be supervised and faults reported in

accordance with UL 864 9th edition. The radio signal converter shall signal a tamper condition to the active radio network control receiver. Proper installation shall include a UL 497A And a UL497B protector. Coaxial cable and power wiring shall be enclosed in and protected by conduit. Coaxial cable minimum bend radius and permanent installation best practices shall be followed. Installation shall also include a band pass cavity filter and coax cable surge protector. The radio signal converter antenna must be at least 200 feet from any other antenna in the same radio network. The installer shall comply with manufacturer supplied antenna installation guidelines.

15. RADIO NETWORK CONTROL RECEIVER (RF7500)

a. The Radio Network Control Receiver (controller) shall provide extensive information to the installer/technician as to its status to facilitate the isolating and correcting of faults in the network or control equipment. The controller shall provide data outlets for the network signal converters, remote access, supervisory PC, radio network monitoring system and network printer. In addition, it must decode the received data from the transceiver. The controller will provide error detection and correction for both the transmitted and received data. In addition, the controller will convert the received data to a format suitable for decoding and database storage by the supervision software and annunciation by the monitoring system.

b. Programming shall place the radio network control receiver in either the primary or the secondary mode. The operating modes of all controllers shall be indicated at the alarm monitoring system. The logging printer connected to each RF7500 shall print only when the RF7500 is active and the connected alarm receiver or software automation system has failed to communicate. The controller shall have the ability to monitor multiple radio signal converters and facilitate efficient network expansion.

c. The controller front panel shall provide a 4 line by 20 character LCD display, an alert section, a status section, an audible tactile response confirmation device and a power button. They shall provide the interface between the radio network control receiver and the installer/operator. The alarm monitoring system to which it is connected should provide additional communication and status information.

d. Status section visual status indicators shall include: a Receiver led - on when specific hardware or system faults exist. Faults include printer offline and LCD display faults. . A CPU led indicates that the radio receiver processor has reset. An Ethernet LED indicates a network communications fault as detected by the absence of an expected RF7100 check-in signal. An automation led is on if the alarm receiver or automation system does not respond properly with an acknowledgement of alarm data transmissions. An RF interference led indicates carrier detect is active for more than 20 consecutive seconds. A Power led indicates that input power is applied.

e. The alert section shall contain two momentary push button switches - silence and acknowledge - and a single led. The alert section shall be active when specific faults exist. The led shall indicate unacknowledged messages requiring manual acknowledgement. Manual acknowledgement shall only be required if the automation system is not responding.

f. Depressing the silence switch silences the sounder whereas the acknowledge switch also clears the unacknowledged message from the buffer and allows the next message in the queue to be displayed.

g. The controller shall be AC powered and draw no more than 600 Ma at 120 VAC. The installer shall provide a UPS connected to a circuit backed up by a generator. The UPS shall provide backup power for the time period required by the owner and at a minimum

double the expected generator activation, startup and on-line delay. Controller shall be installed in accordance with the NEC, applicable UL standards and local building codes.

16. SUPERVISORY SOFTWARE

a. The supplied network supervisory software application shall have the capability of communicating with the Radio Alarm Transmitters such that their data and control functions can be downloaded to each specific transmitter. The UL 864 9th edition radio transceivers limit remote programming access to a 10 minute window enabled at the radio transceiver. This application shall provide powerful tools for programming of remote subscriber transceivers and maintain a database of network operations. This database shall provide a window for observing data traffic on the active radio network. Capabilities shall include retrieving data from the remote radio transceivers. This action shall update the radio network database with the transceiver parameters, test the transceiver and record the message routing. Remote transceivers shall also be capable of responding to a poll to ascertain their status and routing table. The software shall also be able to force the transceiver data to take a specific route. Remote programming of the check-in time and zone configuration shall also be supported as well as remote reset, and deactivation and reactivation of the transceivers. Timing parameters such as consecutive events delay, loop response, radio packet life, and the antenna cut/acknowledge delay fault output, and time and date shall be capable of remote programming. The software shall also support two-way text messaging and automatic transceiver enrollment in the network. The software output will show individual transmitter status. This includes supervisory commands, self-testing routines, signal strength, diagnostics, link layer, Netcon, and routing tables.

b. The supervisory software shall display and print the operation of the radio system to include:

   i. All transmissions to and from the controller.

   ii. All messages to and from the controller.

   iii. Control message sent to field transmitters.

   iv. Database all routes to the field transmitters.

   v. Having provisions to modify or delete individual transmitter numbers.

   vi. Automatically add new transmitters as they are put on line and join the network.

   vii. The active network radio supervisory software shall be installed in the radio network control receiver and require only a standard pc for viewing and access. This requirement is essential and no alternate will be accepted.

17. RADIO ALARM TRANSMITTER

a. The Radio Alarm Transmitters shall be capable of providing multiple reporting routes over a web-like network structure. Each Radio Alarm Transmitter must include a network communications repeater and adapt dynamically and automatically to insure the transmission of all network communications via the best path. Network communication paths shall be frequently and dynamically adjusted for current operating conditions to assure optimum performance.

b. All Radio Alarm Transmitters shall communicate and position themselves in a hierarchical network based upon their signal strength communications with each other and the network receiver. System algorithms for hierarchical placement shall incorporate bit error

rate, and fault condition monitoring at a minimum.

c. All Radio Alarm Transmitters shall be housed in a locking steel case measuring 13.25" H X 8.5" W X 4.3" D. The transmitters shall use a UHF Data Radio, with a 2-watt output, and a frequency range of 450-470 MHz Input power shall be 16.5 AC at 40VA with a 12 VDC back-up battery contained in the cabinet.

d. Current ratings shall be no more than 175 ma- in standby and 800 ma- in transmit. The operating temperature shall be zero (0) degrees to fifty (50) degrees C at a minimum. The back-up battery shall be capable of powering the transmitter for at least 24 hours. The transmitter shall report low battery and AC status. All input zones will be individually programmable for FIRE, normally open, normally closed, end of line and restoral.

e. The Radio Alarm Transmitter shall be capable of being programmed on location or remotely from the central station receiver over the air.

f. Programmable parameters shall include but are not limited to: identification number, network code, automatic check-in time, zone input definition and restoral reporting suppression.

g. The Radio Alarm Transmitter shall be installed in an appropriate physical and environmentally protected location in a building structure capable of antenna mounting should an outside antenna be required. Optionally, NEMA 4 and NEMA 4X enclosures shall be available.

18. PROGRAMMER

a. The programmer shall be a hand held unit. It shall be programmable for baud rates of 110 baud to 9600 baud with variable lengths and parity. In addition, the programmer shall have a complete alphanumeric keypad with (5) delineated function buttons. The function buttons can be preprogrammed with a data program that is stored in the non-volatile memory. The programmer shall be no larger than 9 inches by 2 inches and weigh less than one pound. The programmer shall be powered from the Radio Alarm Transmitter without requiring any modification to the transmitter or programmer.

b. The hand held programmer shall provide a convenient and cost-effective way to both program subscriber radios prior to and check network connectivity during the installation process.

c. The hand held programmer shall be able to program the account number and network code into the subscriber radio prior to installation. This shall enable communication to the head end receiver facilitating self-enrollment into the network. The hand held programmer shall be able to key the transmitter and shall provide a status indication of the subscriber radio after successful network enrollment. The status indicators displayed shall include model number, account number, Link Layer, NETCON, self-test results and the account number of the first subscriber in the primary routing table. Resetting of the subscriber radio and text messaging may also be performed via the hand held.

d. Additionally, the hand held programmer shall also be able to set the check-in time, subsequent alarm reporting delay, packet time-to-live, and zone reporting parameters.

19. ANTENNA

a. The remote radio alarm transmitters shall be available with several sizes of antennas to fully satisfy the intended application. Antennas providing the following gains, 2.5 dB, 3 dB, 5 dB, 6 dB, 7 dB, and 9 dB, shall be available. Antennas suitable for both inside and outside building use shall be available. For applications

demanding an aesthetically pleasing solution, a stealth antenna shall be available. Systems requiring the exclusive use of outside mounted antennas shall not be acceptable due to the increased cost to the facility owner.

20. SIGNAL OUTPUTS

a. Relay Outputs - The system shall have the capability of controlling up to 96 normally open or normally closed Form A relay contacts. The relays shall be mounted 16 to a plug-in circuit board and be accessible from the rear panel. Relay operation is to be completely programmable via the plug-in keyboard, with provisions for up to four (4) relays being energized by one input. The relays shall have a rating of 400mA at 100VDC, 10VA max. The output connections are to be made by means of a 25 pair standard telephone connector for ease of installation. Relay outputs shall be field programmable by event code for each individual account and will be cleared upon operator acknowledgment.

b. Transistor Outputs -The system shall have the capability of controlling 288 open collector transistors (O.C.T.'s). The O.C.T.'s shall be mounted 48 to a plug-in circuit board, and be accessible from the central system processor. O.C.T. operation is to be completely programmable via the plug-in keyboard, with provisions for up to four (4) O.C.T.'s to be energized by one input. The O.C.T.'s are to be able to sink 100ma at 48VDC. The output connections are to be made by means of a 25 pair standard telephone connector for ease of installation. Transistor outputs shall be field programmable by event code for each individual account and will be cleared upon operator acknowledgment.

c. Auto/Manual Transmitter Output -The system shall include the ability to either automatically or manually transmit a coded signal. There shall be two output relays, and each relay may be set to any one of sixteen (16) speeds from .25 sec to 4 seconds. The relays shall be rated at 220VDC, 215mA, at 60W max. These coded output relays can be individually set by an internal switch to operate in either Type "A" or Type "B" Mode, with Type "B" mode being defined for Positive Non-Interfering Successive service. The transmission shall be accomplished by either accessing the touch screen for manual output, or by preprogramming individual zone and condition codes via the keyboard for automatic output. Default operational parameters, e.g. speed and number of rounds, shall be set by on-board dip switches which can be overridden by preprogrammed operational parameters for automatic operation.

21. The coded transmitter shall be a plug-in circuit board that is accessed from the central system processor. Special ALL-OUT, MULTI-ALARM and user-programmable software modules that cause the transmission of specially prefixed coded signals shall be optionally available.

22. RS232C Output - RS232C ports shall be available which can transmit data upon receipt of an alarm in three modes. Mode 1 will send the 4 lines of the message printed on the internal Dot Matrix Printer. Mode 2 will output the first 10 line display screen from the edited data base message. Modes 1 & 2 may be printed in 32 or 64 character lines. Mode 3 will output the RS232C data using Radionics or ADEMCO Contact-Id automation protocols to interface to a computer, another DMP703 monitoring system or a central station automation software package.

23. Manual Relay Control - as an option, the system shall allow the manual control of relay and transistor outputs by the operator from the Touch Screen. The outputs may be energized, de-energized, or momentarily energized.

24. PRINTER

The printer shall:

a. Provide a permanent record of an event, including the time and date of an event for recall purposes.

b. Allow the dispatcher to have available field programmable printed messages or sets of instructions.

c. Allow removal of the message or instructions from the printer to take to the site of the event for reference purposes.

d. The printer shall have a minimum width of 32 columns to allow the instructions to be presented in an efficient manner.

e. Upon alarm receipt the system will print four fixed lines. The first two lines include an alarm or restoral indication, the account number, a time and date stamp, the alarm receiver number, event code description if programmed, or event code default, and the zone number. The last two lines printed are field programmable. They are the first line of the account message and the first line of the zone message. The alarm printout may be printed in red or black for special emphasis. The acknowledge printout is always black and is the same as the first two lines of the alarm printout, except it indicates acknowledge instead of alarm and prints the time and date of acknowledgment.

f. For ready availability and low cost, the printer shall be able to use commercially available plain 3" roll paper. If desired, fanfold paper should be usable to allow collection in a fanfold catch tray. To assure the permanence of the record, the printout must not fade out over time, as is the case with thermally sensitive paper.

25. DISPLAY

a. The display shall have "touch screen" operating controls to provide the operator with detailed menu driven instructions for each operator function and maintenance free operation.

b. The display is used to present messages or instructions when an event occurs. The display shall be a cathode ray tube (CRT) at least seven (7) inches in size to allow major details of messages to be presented in a single display.

c. Character size shall allow the operator to read the display from a distance of ten feet. The CRT shall have an orange or green phosphor screen for lower operator fatigue, and direct etch for glare free viewing. Video attributes are used by the system to segregate the fixed format message display screens. Dialer alarms are displayed using a fixed format rather than free format messages as are used for other alarm input types. The event information is displayed in separate fields or areas on the display screen. Some fields are mandatory. Other fields are optional as programmed by the user.

d. Mandatory fields include the Account Number, Zone Number, programmable event code, and time and date of event. Unprogrammed event codes are displayed as received with the word 'CODE'. Programmed event codes will display their 16 character description on the alarm display screen. For SIA and Contact-Id formats, the system will automatically annunciate the event code description.

e. The system shall allow a total of 296 lines of 32 characters each to be programmed for the account and zone descriptions. The alarm display screen shall allow a total of seven (7) programmed 32 character lines to be displayed. These seven (7) lines shall be a combination of account and zone description message lines. All zone message lines shall display on the alarm and acknowledge screens. The system shall allow a maximum of four (4) zone message lines to be programmed for each zone. This leaves three (3) lines that will be displayed in the account message display window on the alarm screen. At least two (2) lines will be reserved for zone messages, even if blank. The maximum size

of the account message window shall be at least five (5) lines. Additional programmed account message lines will be accessible only from the acknowledge display screen. The remainder of the account message shall be scrolled through the account message display window by using the NEXT page and BACK page touch switches.

f. Unprogrammed account or zone description fields shall be blank. There will be a single alarm display screen for any given DACT/DART event composed of the fixed fields, programmable fields, and the touchscreen area.

26. CLOCK/CALENDAR

a. The clock portion shall provide military time (24 hour) in hours, minutes, and seconds. The calendar shall provide month, day and year. Once set, the calendar shall run automatically with no need to be reset at any time including leap years. A printout shall be made each time the clock/calendar is changed to record that a change was made.

b. The clock/calendar shall run on 60Hz as available from the power line with its attendant accuracy, averaging less than one second per month deviation. When placed on battery operation, the unit shall automatically switch to a crystal controlled time base, internally generated, averaging +/- 13 sec/month.

c. As an option, the system must be capable of synchronizing the real time clock to the National Institute of Standards and Technology (NIST) atomic time standard, via a Synchronized Master Clock from Spectracom or Chronolog Corporation or an approved equal.

27. MESSAGE CAPABILITY AND EDITING

a. Messages can be of various sizes. If an average message size is 256 characters, a minimum capacity of 1000 messages shall be provided with the system with expansion to 20,000 messages possible. Each message shall use the message storage area in multiple blocks of 128 characters each, according to its size, to allow for efficient use of memory space. The system shall support a minimum of 3 megabytes of internal memory.

b. The system memory shall not have to be removed from the system to be erased or programmed. An installer level password shall be required to access system diagnostics which support hardware and memory testing.

c. Editing shall be accomplished via a full computer style keyboard. The keyboard can be disconnected without disturbing normal alarm monitoring. Incoming alarms shall interrupt the edit process. After alarm acknowledgment and dispatch, a single control shall be provided to resume the edit process at the point of interruption.

28. CONTROLS

a. All controls used in the normal operation of the system shall be long life and non mechanical.

b. The controls shall be presented on the face of the CRT. Intersecting that area of the CRT screen displayed as a control, either by touching or by placing a finger or similar object just in front of the screen, shall cause activation of that control. This type of control shall allow multiple uses of the controls area with up to 16 different controls displayed simultaneously. Some indication of control activation shall be provided. Ether an obvious system action will take place or audible feedback will be provided.

c. When no changes are being processed, the operator shall be presented with the following controls:

FEED - This shall cause the printer paper to advance.

STOP - This shall cause the display to freeze on the current screen.

FAST - Inputs in an abnormal state are displayed sequentially on the CRT screen with a 5 second period. Touching FAST shall cause this period to be 1 second.

NEXT - Touching this control button shall cause the screen to change and display the following control buttons.

DIALER-ACTIVITY - This control shall cause the screen to display a Keypad, allowing the operator to select any programmed DACT/DART account number. All DACT/DART activity status changes shall be accomplished with this control. This includes placing accounts Out-of-Service, In-Service and in Test mode.

DISPLAY MESSAGE - This control shall cause the screen to display a Keypad, allowing the operator to select any alarm input to the system, and to display its programmed display message.

SET CLOCK - This appears only if the key switch is enabled. This control shall cause the screen to display a Keypad, allowing the operator to set the date and time.

PRINT MESSAGE - This control shall cause the screen to display a Keypad, allowing the operator to select any alarm input to the system, and printout its programmed print message.

PRINT - This shall cause "PRINTER OK" plus "TIME & DATE" - to be printed.

LIST - This control shall cause the printer to list the account numbers and the total number of accounts both Out-of-Service and in Test mode.

CLEAR - This control shall cause the display to return to normal display sequencing.

RETURNING TO THE NORMAL DISPLAY SEQUENCE:

STOP - This shall stop the sequential display to allow examination of a particular message. Also, this shall cause the touch area beneath the displayed message to change to include:

CLEAR -This returns the display to its normal sequencing routine.

FEED -This control shall cause the printer paper to advance. When a change of state occurs, the audible alert sounds and the appropriate messages are printed and displayed. Also, this shall cause the touch area beneath the displayed message to change to include:

ACK -Touching this shall cause the Acknowledge message to be printed and displayed and the audible to be silenced. This screen shall also display the FEED control button. After ACK is activated, the screen shall change and display the CLEAR and FEED control buttons.

29. SOFTWARE OPTIONS

a. HISTORY - A battery backed internal RAM storage facility in which to automatically record all operations performed by the DR703 shall be optional. Accessibility is menu driven from the keyboard. A minimum of 4080 events shall be provided per single storage facility. Expansion to 16,352 events shall be possible by adding additional memory capacity and a software upgrade. An external computer shall not be required. Actions recorded shall include Alarm Activations, Restorals and Acknowledgments, In/Out Service functions, clock set functions, Master Clock failures, Edit sessions, AC loss alarms, Communication failures, and all System Supervisory alarms. The history record may be printed or displayed in its entirety, or sorted by account, time, type, priority, and date or in any combination thereof.

b. REMP703 - The system shall be capable of being connected to a PC either locally or via modems. A password will be required to permit system access. This connection shall be

for the purpose of database backup, restoral, creation, editing, archiving, printing, or remote programming. This connection shall be transparent to the operator and must not affect alarm receiving in any way.

c. EDITOR PASSWORD - The system shall be capable of providing password protected database access. This shall limit access to the programmed message database to authorized personnel.

d. BACKROUND ALARM PROCESSING - The system shall provide the ability to permit alarms from a remotely monitored location to be passed through an operating system on the way to their final destination without operator interruption. If the signal transmission path is interrupted, the last system before the point of interruption becomes the dispatch location.

e. OPERATOR LOG-ON/OFF - The system shall be capable of providing operator accountability by requiring the operator to LOG-ON with a unique password before alarm acknowledgments will be accepted. LOG-ON/OFF activities shall be recorded in the optional system history file.

f. CALL ASSURANCE CHECK-IN - Optional software shall be available for institutions such as Assisted Living Facilities. The purpose of the "Call-Assurance Check-in" software is to reduce staffing requirements, by automating the supervision of these people who are self-reliant, but require daily confirmation of their physical and mental well-being due to their age, physical condition or mental health. With this system, the residents are required to manually activate a signal to the receiver. Reception of proper check-in signals on enabled accounts is normally transparent to system operators. The receiving system's receipt of the correct signal validates the monitored persons' "up and about" status. The absence of this signal within a predetermined time period will be treated as an alarm. An exception report, containing those accounts that have not yet checked in, is printed automatically upon expiration of the predefined time period. This alarm event printout signifies the need to physically check on those persons who have not yet reported in that they are "up and about".

g. FT-OPTION -The system shall be capable of dedicating any or all operator's consoles to receive a particular alarm type. The Central System Processor, when equipped with a video display, will annunciate all alarm types. The fire alarms may go to a particular operator's console at the Fire Department, and the Burglary or Hold-Up alarms may go to a separate operator's console at the Police Department. In the unlikely event of a system failure all alarms will be annunciated on the operational operators console without regard for the FT-Option.

h. NETWORKED SYSTEMS - The system shall be capable of supporting the connection of multiple system processors with alarm receiving and dispatch capabilities. Also supported shall be redundant databases with automatic updates between locations and cross-acknowledge functions.

i. AUTO ARM/DISARM - The system shall be capable of storing multiple schedules for the purpose of automatically arming or disarming pre-selected, security related, monitored inputs on a day of the week and time of day basis. Multiple holiday as well as weekday and weekend schedules shall be supported. Automatic input arming status control shall not preclude manual arming status control at any time. Manual arming status control shall override automatic control until the next scheduled automatic arming status change.

j.

k. PHYSICAL DETAILS

l. The panel operator's unit shall be inclusive to all operator functions. The panel operator's

unit shall run on 24VDC, filtered, regulated power. The power supply may be mounted remotely from the panel operator's unit, and shall be powered by 115VAC, 60Hz, and provide terminals to float charge a pair(s) of 12V solid cell batteries. The batteries shall be supervised and an output provided at the power supply for a no/low battery condition. If AC input power fails, the panel operator's unit shall run on batteries without interruption, and an audible alert shall sound indicating battery operation. Any system AC power failure shall cause a supervisory alarm at all panel operators' units as well as at the central processor, if equipped for annunciation.

m. The radio receiver antenna shall be connected to the surge arrestor, band pass cavity, and radio transceiver via low loss coax cable. The radio transceiver is then connected to the Radio Network Controller that is then connected to the central system processor unit (Radio Receiving Alarm Monitoring System).

n. The central system processor shall be available with no display, a video display, or video display and printer. A maximum of four remote operator's consoles can be provided per system. The operator's console(s) and central system processor will communicate via RS422 for distances to 4000 feet, and via modems for further distances. Operator's consoles will be available with video display only, or video display and hard copy printer. Communications between the processor and the operator's consoles shall be supervised and provide visual and audible indications of failure. System programming may be accomplished from any operator's console or the system processor with the display option.

o. Auxiliary Functions - When the paper supply becomes low, the screen shall so indicate by displaying PAPER LOW in the lower right hand quadrant. In addition, the audible alert shall be sounded briefly once per minute. The FEED button becomes an "E" control, which when activated permits access to printer feed and print commands.

p. When the paper supply is exhausted, PAPER OUT shall be indicated, and the alert will be sounded as for PAPER LOW. In this case, no further hard copy record will be available until paper is replenished. Events to be printed will be stored and then printed after the paper is replaced. Should the printer become jammed, the words HEAD JAM will be indicated, and the alert will be sounded once per minute.

q.

r. HARDWARE OPTIONS

s. Any system module with a CRT Display screen shall be capable of driving an external video monitor via a 75ohm coaxial cable to provide a redundant display only, no controls.

t. The system shall be capable of interfacing to external line printers via RS-232c, RS-422, or modems. Operating modes one or two may be selected as well as 32 or 64 character lines. This option may be added to the operator consoles or the central processor.

u. The system shall be capable of transmitting alarm event data to alphanumeric pocket pagers via either an on-site system or off-site commercial paging system provider.

v. The system shall be capable of transmitting complete alarm event data to a remote location or central station, that provides a digital alarm communicator receiver, over the PSTN, via integrated digital alarm communicator transmitter (DACT), using a serial data port connection plus supervised, hardwired, zone connections.

w. The system shall be capable of interfacing to Central Station Automation Software, PC GRAPHICS, and Computer Aided Dispatch Systems.

x. The system shall be capable of supporting redundant system processors. The system shall provide a seamless, automatic, switch over function with no loss of signals, account

and zone status or database information in the event of primary processor failure.

y. The system shall be capable of being connected to an RSW-2 switch which monitors the CPU FAIL signal and switches all hardwire inputs and outputs from the failed processor to the redundant processor.

30. SUPPORT

Due to the importance of continuing reliable performance from the active network radio fire alarm reporting life-safety system, the manufacturer shall provide with the proposal, detailed specification sheets on all radio system modules and components. The owner shall use this information in the equipment evaluation phase of the proposal review. The Applicant shall also provide additional documentation direct from the equipment manufacturer. The required documentation shall include the pre-system delivery site evaluation and preparation procedures and the active network radio system maintenance requirements, procedures and parameters. Preparation of similar documents by other than the manufacturer shall not be acceptable. Failure to provide said documents will result in disqualification of the proposal due to non-compliance with essential requirements.

31. GENERAL

a. The system shall be UL Listed by Underwriters Laboratory under Standards: 864 (Control Units for Fire-Protective Signaling Systems), 365 (Police Station Connected Burglar-Alarm Units and Systems), and 1076 (Proprietary Burglary-Alarm Units and Systems).

b. The system shall be UL Listed as a CENTRAL and REMOTE SUPERVISING STATION FIRE ALARM SYSTEM per NFPA 72 and as a PROPRIETARY SUPERVISING STATION FIRE ALARM SYSTEM. The UL Listing card shall show a (p) for proprietary Fire Alarm (Receiving Unit), using RF technology, under UL 864 category UOJZ. Depending upon the application, UL LISTING cards under the applicable categories including: AMCX, APAW, APOU, UOXX, UEHX, and AOTX shall be provided to the owner upon request. This insures the proposed equipment is listed for the intended application as required by NFPA 72, The National Fire Alarm Code.

c. Each processor controlled system module shall include an independent audible trouble signal (watchdog circuit) to indicate microprocessor malfunction. This is referred to as a "Supervised" configuration.

d. Applicant shall provide accurate statements regarding all dimensions, input power requirements, wiring requirements, and all other specifications required.

e. The system shall operate reliably in any environment comfortable to the human operator and shall have no special ventilation requirements.

f. A sufficiently detailed system description and a detailed drawing shall be furnished with each proposal for proper evaluation.

g. Applicant shall provide a full explanation of all deviations or exceptions taken from the specifications contained within this document.

h. Applicant shall be an authorized factory representative for the manufacturer of the equipment specified.

i. Equipment shall be fully warranted against defects in materials and workmanship for three years from the date of delivery.

32. SOFTWARE

Several software packages shall be optionally available for special municipal requirements. Required modules shall be supplied to fully satisfy the municipality's requirements.

33. KELTRON WIRELESS ACTIVE RADIO MONITORING SYSTEM - KELTRON RF7500 OVERVIEW

a. The proposed system shall consist of redundant Keltron Wireless radio receivers located at dispatch. The wireless network shall be on a frequency and cipher code under the control and knowledge of the municipality.

b. The wireless network is connected to local DMP-703 receiver to monitor radio and direct wire subscribers.

34. OPERATION

a. The DMP-703 alarm receiving processor shall monitor and supervise all inputs and provides all required outputs.

b. The radio network controllers shall be configured in a dual configuration on the FCC assigned network frequency and municipality selected cipher code. In the dual configuration receivers, sharing of antenna, cabling, band pass cavity, and transceiver or surge protection between network radio controllers shall not be acceptable.

c. The alarm receiving system processor shall monitor and supervise the dual radio network controllers connected to the processor regardless of active or standby status. The network radio controller shall provide the interface to the radio alarm monitoring network for the DMP-703 alarm receiving system as well as to the required radio network maintenance and remote programming software utility.

35. SIGNAL INPUTS

a. The radio network alarm monitoring system shall not require towers or tower based, dedicated RF repeaters to route the signals from the Radio Alarm Transmitters to the network receiver(s). The system shall be two-way.

b. Radio Alarm Transmitter - The system shall be capable of receiving signals from Radio Alarm Transmitters. Radio Alarm transmitters shall include both Keltron model RF774F with 4 Reverse relays and 4 supervised inputs; and Keltron model RF778F with 8 supervised inputs. Supervised inputs shall be End of Line (EOL) resistor type inputs.

c. Radio Alarm Transmitter check-in cycles shall be able to be set between 4-8 hours and the supervision of these signals shall be set between 4.5 – 8.5 hour intervals respectively enabling frequent transmitter supervision and a high level of system integrity to meet the user's needs. The Time to Live (TTL) parameters of the Radio Alarm Transmitter shall be set at 10 minutes for all TROUBLE and SUPERVISORY events and 20 minutes for all FIRE or other ALARM events. Supervision of the Subscriber radios shall be done by the LS-7000 automation system.

36. Each wireless network shall allow up to 1000 Subscriber transceivers to be monitored by a dual receiving head-end.

37. SUBSCRIBER RADIO ALARM TRANSMITTER TECHNICAL SPECIFICATIONS

a. The Radio Alarm Transmitters shall be capable of providing multiple reporting routes over

a web-like network structure. Each Radio Alarm Transmitter must include a network communications store and forward ability and adapt dynamically and automatically to insure the transmission of all network communications via the best path. Network communication paths shall be frequently and dynamically adjusted for current operating conditions to assure optimum performance.

b. All Radio Alarm Transmitters shall communicate and position themselves in a hierarchical network based upon their signal strength communications with each other and the network receiver.

c. All Radio Alarm Transmitters shall be housed in a locking steel case measuring 13.25" H X 8.5" W X 4.3" D. Cabinet key shall be a key specific to Tri Com Central Dispatch. Tri Com Central Dispatch logo and Fire Prevention Bureau phone number shall be silk screened on the front of the cabinet. Dealer's logo may be shown with the words: "FOR SERVICE CALL" < dealer's phone number>. It is the responsibility of the Applicant to provide logos in camera ready (JPG; BMP or TIF format) artwork to Keltron.

d. A TAMPER switch shall be mounted on the inside of the Subscriber radio which shall send a TAMPER signal to the dispatch when the box door is opened.

e. The transmitters shall use a UHF Data Radio, with a 2-watt output, and a frequency range of 455-470 MHz Input power shall be 16.5 AC at 40VA with a 12 VDC back-up battery contained in the cabinet.

f. Current ratings shall be no more than 175 ma in standby and 800 ma in transmit. The operating temperature shall be zero (0) degrees to fifty (50) degrees C at a minimum. The back-up battery shall be capable of powering the transmitter for at least 60 HOURS. The transmitter shall report low battery and AC status. All input zones will be individually programmable for FIRE, normally open, normally closed, end of line and restoral.

g. The Radio Alarm Transmitter shall be capable of being programmed on location or remotely from the central station receiver over the air when programming is enabled on the premises. Remote programming shall automatically expire after 10 minutes.

h. Programmable parameters shall include but are not limited to: identification number, password code, automatic check-in time, zone input definition and restoral reporting suppression.

i. The Radio Alarm Transmitter shall be installed in an appropriate physical and environmentally protected location in a building structure capable of antenna mounting should an outside antenna be required.

38. RF7100 HEAD-END TANSCEIVER TECHNICAL SPECIFICATIONS

Antenna shall be Omni-directional, 9db gain, power to 250 watts.

Transmitter	
RF output power	**2 watts**
Modulation Deviation	**+/-5 kHz Max**
Audio harmonic distortion	less than 6%
FM hum and noise	-55db
RF power spurious emission	155db to 1000 MHz
Modulation method	16F/3 (FM)
Output impedance	50Ohms
Receiver	
Sensitivity	12 dB SINAD, 0.35uv; 20db quieting 0.50 uv
Selectivity	-70db at +/- 25 kHz
Image & spurious rejection	-60 dB

Squelch sensitivity	0.5uv\
Modulation acceptance bandwidth	7KHz
Hum & noise rejection	40db unsquelched 55 db squelched
Receiver bandwidth	1MHz
Intermodulation rejection	-60 dB
FCC compliance	Parts 22, 74, 90, 95
Transmitter & Receiver Common	
Frequency, Standard ranges	450 to 470 MHz
Channel spacing	12.5 kHz

39. PROGRAMMER

The programmer shall be a hand held unit. It shall be programmable for baud rates of 110 baud to 9600 baud with variable lengths and parity. In addition, the programmer shall have a complete alphanumeric keypad with (5) delineated function buttons. The function buttons can be preprogrammed with a data program that is stored in the non-volatile memory. The programmer shall be no larger than 9 inches by 2 inches and weigh less than one pound. The programmer shall be powered from the Radio Alarm Transmitter without requiring any modification to the transmitter or programmer.

40. ANTENNA CONFIGURATION and NETWORK DEPLOYMENT

The remote Subscriber radio alarm transmitters is available with several sizes of antennas to fully satisfy the intended application. Antennas providing the following gains, 2.5dB, 3dB, 5dB, and 6dB, shall be available. The 2.5 and 3dB antennas shall only be used indoors. The 5 and 6dB gain antennas suitable for both inside and outside use. It shall be the responsibility of the successful Applicant to create and implement a deployment map of the radio network. This shall include the number of subscriber units requiring the exclusive use of outside mounted antennas. It shall not be acceptable for the Applicant to access an increased cost to the Subscriber for an external antenna. The cost for outdoor antennas must be incorporated into the initial cost of the network and spread, proportionally over all subscriber installations. Every subscriber, regardless of antenna configuration, shall be provided with the same monthly fee. At the head-end, UL established 200 feet horizontal antenna separation. In some places, this separation is impractical or physically impossible. In such cases, the Authority Having Jurisdiction (AHJ) may choose to grant a waiver and revert back to the previous UL 8th edition standard of 18 feet of horizontal separation. Applicant shall advise if a waiver is needed to install the head-end equipment.

41. GENERAL INFORMATION

a. The system shall be listed by Underwriters Laboratory under 9th Edition Standards 864 (Control Units for Fire-Protective Signaling Systems), 365 (Police Station Connected Burglar-Alarm Units and Systems), and 1076 (Proprietary Burglary-Alarm Units and Systems).

b. The system shall be UL Listed as a CENTRAL and REMOTE SUPERVISING STATION FIRE ALARM SYSTEM per NFPA 72 and as a PROPRIETARY SUPERVISING STATION FIRE ALARM SYSTEM when monitoring inputs other than DACT's. The UL Listing card shall show a (p) for proprietary Fire Alarm (Receiving Unit), using RF technology, under UL 864 category UOJZ.

c. Depending upon the application, UL LISTING cards under the applicable categories include: AMCX, APAW, APOU, UOXX, UEHX, and AOTX shall be provided to the municipality upon request. This insures the proposed equipment is listed for the intended application as required by NFPA 72, The National Fire Alarm Code.

42. KELTRON LS-7000 AUTOMATION SYSTEM AND SOFTWARE

We are requiring an optional Keltron LS 7000 life safety event management system which will integrate reliable alarm monitoring with state-of-the-art computing server hardware technologies. The system shall provide highly efficient access to information and enable fast and accurate response to life safety situations. The system shall utilize Windows XP as an operating system and graphical display events from monitored fire alarm panels, in such a way as to produce a system that meets the mission critical needs.

a. SYSTEM ARCHITECTURE – PERFORMANCE

i. The dispatch functions are to be separated from database maintenance and monitoring functions to minimize the impact of administrative requirements on the dispatcher while providing a high degree of security and reporting information to the systems administrator and managing stakeholders.

ii. The system architecture shall be of modular design making it robust, scalable and extensible. Modular design shall enable specialized software components to perform specific functions efficiently, quickly and accurately without interference from unrelated components. The architecture shall be built on a standard operating system, using known interfaces and connection methods, with extensive network and printer support.

iii. The central core software module shall be the Event Manager module. The primary function of the Event Manager is to maintain the list of active events and alarms and control access from competing client modules. It provides continuous backup shadowing to preserve the latest state of all active events in the unlikely event of system interruption.

iv. The Event Manager Module acts as a server for various client modules that can originate, manipulate, or display events. Because it has no database connections and very little dependency on system resources, it is very robust, very efficient and very small. Even when under a load of several thousand alarms, it consumes a small fraction of system resources.

v. To ensure reliability, and minimize the dependency of any specific function on system resources, individual client applications perform different functions, independent of one another. Some examples:

1. Receiver clients provide the interface to external alarm receiver hardware systems. They manage the unique requirements of the communications link and protocol, isolating these details from the rest of the system, and provide complete event information to the event manager. New receiver clients can be developed with no impact on the Event Manager or any other client module.
2. Supervisory Clients perform specific background tasks such as monitoring periodic device check-in, logging alarms, and monitoring disabled devices and recording events to history.
3. User Interface Clients, like the dispatcher, are designed to be intuitive for the user.
4. Interconnection Clients connect multiple redundant system functionality.
5. All of these clients communicate with the Event Manager through a single, well-defined interface. This interface provides the same functional connection whether the Event Manager and the clients reside and run on

the same machine or on two machines separated by thousands of miles.

43. LS-7000 AUTOMATION FEATURES

a. The Keltron LS 7000 shall be capable of receiving alarms from a wide variety of standard industry technologies including active network radio, star and distributed multiplex style inputs, digital dialers, direct connects, and coded signals. It can also accept alarm inputs directly from industry-standard alarm receivers. The system enables fast and efficient communication to the server by providing a customized, ODBC-compliant database that facilitates efficient, accurate alarm dispatching and tracking. Color-coded alarms and custom audio/visual indicators enable instant recognition of the nature and/or severity of an event. Full graphic capabilities enable the user to import graphic files to enhance the dispatcher's speed and accuracy and blinking icons that quickly identify the devices in alarm.

b. The Keltron LS 7000 shall include an integral history reporting function for analyzing historical trends and tracking false alarms. Powerful and flexible search capabilities enable systems administrators to locate and segregate information by entering one or more key words. The standard, open systems database enables the administrator to employ third-party reporting tools to provide custom reports when necessary.

c. The Keltron LS Server shall be a dedicated, rack-mount or tower, high-performance server, and form the core of single- or multi-user systems. Stand-alone or rack-mount PC workstations shall use a standard Windows-based operating system and components to provide sufficient resources for all installed applications.

d. The Keltron LS 7000 rack-mount system shall feature an advanced Intel Pentium processor, an 8.4-inch diagonal TFT color display with an optional easy-to-use touch screen or familiar keyboard-and-mouse operation, and an optional quiet thermal printer with automatic take-up. Dispatcher workstations are to be mounted in a standard 19-inch rack configured to fit a wide variety of dispatch consoles. External video and printer outputs are available to easily incorporate industry-standard printers and large-screen displays. The LAN interface enables operator workstations to be networked together with the server.

e. The expanded networking capabilities enable multiple users to access the system simultaneously with varying levels of privileges to perform many tasks such as maintaining customer account information, reviewing event history and active, on-line alarm dispatching. Internet accessibility is also available for feature additions or remote diagnostics.

44. LS-7000 FUNCTIONALITY

45. The Keltron LS 7000 system shall provide many unique features that meet the wide variety of requirements inherent in the life safety market. Keltron's engineers and product managers shall maintain an extensive schedule of software enhancements that are generated through ongoing customer and market research.

46. SUPERVISORY FUNCTIONS

The Keltron LS 7000 supervisory function monitors a variety of types of alarm and system activity including periodic device check-in, out-of-service and test service mode settings, receiver interface communications link integrity, and system status, such as logging, ticket or report printer availability and status. When the system detects a problem in these areas, the problem is reported to the operators as a supervisory alarm, and includes a detailed

description of the out-of-normal condition. In addition, the Supervisory Client provides event logging and history recording services.

47. ROTATIONAL DISPLAY SCREEN

The system provides a view of all active events by continuously displaying these events at five second intervals. This ensures that unresolved issues are not forgotten. Unlimited Accounts-The number of alarms accepted by the system is restricted only by the limits of the computer hardware.

48. AUTOMATIC SIGNAL PRIORITIZATION

The Keltron LS 7000 life safety event management software automatically prioritizes all alarm signals according to UL standards using programmable event classes.

49. SYSTEM RESPONSE MODES

a. The system supports programmable response modes including:

b. User - for full system control

c. Auto-log - to alleviate operator interaction

d. Ignore - for automatic discard of received events

50.OPERATIONAL AND DISABLE MODES

The system operator may set the service mode of any connected panel or device to active, out-of-service or test mode. In active mode the system will annunciate all events from the panel and its devices, according to the default or programmed colors, sounds and display tab preferences. In out-of-service mode, events are tracked and recorded by the system but not reported to the operator. When a panel or device is returned to active mode from out-of-service mode, its last recorded status will be reported to the operator if the device is not restored to normal. When a panel or device is returned to active mode from test mode its last recorded status will not be reported to the operator. Disable modes will have a selectable duration and will automatically lapse or may be manually cancelled by the operator.

51.GROUP ACKNOWLEDGE

The group acknowledge' function enables the operator to batch acknowledge a group of low priority events such as trouble and restore events, so that higher priority events can be managed expeditiously.

52.SWINGER SUPPRESSION

i. A 'swinger' is an alarm input that constantly toggles between normal and off-normal states presenting hundreds of identical events to the system for processing and operator interaction. The system provides a swinger suppression function that prevents the operator from being overloaded with such a huge number of alarms that effective response is impossible. It prevents exhaustion of system resources, even if the system is left unattended for very long periods of time, by reducing the number of spooled printer jobs, and reducing the size of the backup shadow file.

ii. This feature prevents operator frustration and overload by reducing the workload to manageable levels. Thousands of swinger events may have occurred, but the operator need only respond to the two initial alarms. Swinger

suppression prevents the system and operator overload problems by accumulating repeating events together in a single compact form.

iii. When the first trouble event comes in and generates an event on the screen, the Keltron LS 7000 sounds the audible alert, displays the pending alarm banner, and prints an event record. When the second signal from that alarm is received, if it's the same event code from the same device, no new alarm is generated. If it's a different event from the same device, a new alarm will be generated, printed, logged and, if it is a higher priority (e.g., a fire vs. a trouble) it will take over the pending display.

iv. If the device keeps going back and forth between the trouble and alarm condition, no new pending alarms are generated, thus the operator only responds to the pending fire and trouble events. The history tab shows several pieces of data on that event:

1. The first occurrence of the event
2. The most recent occurrence of the event
3. The number of times the event reoccurred
4. A detailed audit history of the event
5. After one swinger alarm has been acknowledged, the process starts all over again: the next occurrence of an event will generate a new alarm in the system, but further occurrences will, as above, accumulate into that pending alarm.

53.STORM MODE

Setting the system to 'storm mode' allows certain events, such as those caused by severe weather, to either be auto-acknowledged or ignored for the period of time the system is in this mode. Non-restoral events are maintained in rotation until cleared by restoral signals or manual deletion. At the end of this time, the system automatically reverts to normal operations. The systems administrator can define which classes of events will be affected along with the automatic expiration period for storm mode.

54. SOUNDS

Audible (.wav) files may be imported into the database and linked to incoming alarms for automatic operator notification.

55. PRINTING

The Keltron LS 7000 can use any Windows-supported local or networked printer for the following functions:

Keltron recommends that the site employ line-oriented, impact or thermal printers for this application. Laser jets, ink jets and other page printers are not recommended.

A site may use either line printers or page printers. Ticket printing is a summary of the dispatch information available on different tabs on the screen. It includes the 'banner', i.e., the alarm type, consolidated location summary and time of occurrence, location, personal contact/key holder information, instructions, site location and info, subscriber and locale name.

Either line or page printers can be used, though laser page printers produce higher quality output in shorter time.

56. DEFAULT OPERATION FOR UN-PROGRAMMED EVENTS

The Keltron LS 7000 software provides full support for an intelligent, operator-friendly display of events arriving from un-programmed sources. The software supports intelligent message interpretation of a variety of industry-standard message types, including Ademco - Contact ID format, direct-connect, distributed multiplexer formats, radio formats and SIA-compliant formats, and understands more than a thousand different messages and variants.

When the system is installed, it not necessary to perform extensive programming in order for the system to be immediately usable for operators. When the system receives a message from any of a variety of industry-standard signaling devices, an intelligent interpretation and display of that event is displayed for the operator. Only the physical location of the monitored system must be programmed.

To facilitate quick event response, instead of presenting obscure event codes, the system clearly displays the nature of the events in prioritized hierarchy. Further programming may add important functional capability, such as site- and device-specific instructions, customized graphics and audible alerts.

57. MULTI-USER FEATURES

a. REMOTE ACCESS

The Keltron LS 7000 system provides remote access through standard networking protocols over high-speed TCP/IP links. Remote workstations provide the same level of functionality as the host seat, limited only by the system access privileges that are determined on an operator-by-operator basis. Open networks employ a recommended hardware router for secure network communications. Remote stations can be used not only for regular dispatch access, but for system administration and configuration, as well as history maintenance, auditing and reporting.

b. SECURITY - OPERATOR PRIVILEGES

To increase security and ensure compliance with published policies and procedures, the Keltron LS 7000 provides multiple levels of privileges for operators, users, guests and administrators. For example, operators may acknowledge and resolve events but not clear them from the system, or a user must have a given level of privilege to access the history tool.

c. DISPATCHING

The Keltron LS 7000 main dispatch screen displays all the critical information a dispatcher requires to expedite event management. The system immediately displays the most critical and basic information, with extended support information only a single click away.

Basic dispatch information includes the nature of, location, time and date of the event. Extended information includes complete site description and location information, detailed dispatch instructions for the monitored site, call and contact lists, graphic display information including maps and floor plans showing the exact location and the nature of the alarm, photographs and diagrams, account information, and details that are useful in diagnosing faulty or run-away devices and managing defend-in-place or hazmat situations.

When an alarm is acknowledged, a programmable dispatch tab appears. Normally, the dispatch tab is displayed showing instructions, location and contact information. This setting does not limit access to the other tabs - the operator may access any tab by clicking it.

Rotation events may be programmed to appear by class. Rotation retains the last state of the device. Normally, the system retains all off-normal states including both alarms and troubles. Restores to normal, under these conditions, clears an off-normal event from rotation.

58. DATABASE

The Keltron LS 7000 system includes an ODBC database that enables ANSI-compliant SQL access. Schemas are public and published. An XML importer is functional, to allow the user to import other databases. Keltron provides online utilities for database maintenance such as backup/restore, version upgrades, and like functions.

59. GRAPHIC FILES

The system supports multiple graphic file formats. Files may be attached to an incoming alarm and linked in a hierarchy so navigation, can be performed by the operator. The following file types may be directly imported into the Keltron LS 7000: .BMP, .RLE - .GIF -.JPG, .JPEG -.WMF, .EMF - CAD files may be exported to one of these files and then included in the system.

60. MONITOR APPLICATION

The Executive Monitoring utility provides the site administrator or supervisor with a way to monitor basic system activity and status from any appropriately-configured local or remote Keltron LS 7000 workstation computer. This function is available only for monitoring the system status and provides no means to directly modify events. The monitor utility provides a display of the following important system activities and states:

Active events: all currently active events are displayed. Separate windows provide displays of all new, pending, in dispatch, on hold, resolved and in rotation events. Any event can be selected to display the details associated with the event, including extensive site-specific information.

Disable devices and zones: Any device which is placed in out-of-service, test or other disable modes is displayed, along with site information and expiration time.

Operators: a window displays all logged on operators by operator name, s name and log-in time.

61. HISTORY RECORDING

The Keltron LS 7000 provides full history recording capability. History data is stored to an ODBC-compliant database separate from the main configuration database to minimize impact on the main database resources. This allows the databases to reside on physically separate volumes.

a. The history system records the following important system events:
    i. All real-time events, such as alarms, troubles and restores originating from real devices through event receivers.
    ii. Operator-generated manual alarms
    iii. System-generated supervisory events such as missed check-ins, receiver communications failures, printer faults, etc.
    iv. Device service mode changes
    v. Operator logins and logouts
    vi. Where appropriate, a complete history for each event state change, such as

acknowledgement, resolution and eventual removal is captured, including details of when the transaction occurred, and the operator responsible.

62. HISTORY EDITOR

The Keltron LS 7000 includes an online history editor and viewer application that enables the user to instantly view the contents of the system's history database. Major functional features include:

a. Search on different criteria, such as locale, subscriber or site name/number, event type, current event status, and dates

b. Sort event display on any displayed attribute

c. View event details of any selected event

d. Add short notations to events (requires appropriate operator privileges)

e. Add updated or final resolution of events (requires appropriate operator privileges)

f. Print a report of selected and sorted events on any networked Windows-based printer.

g. Operator may choose to print all or just selected events.

h. Erase selected events from history database (requires appropriate operator privileges)

System Specification
Keltron UL-Listed Ethernet Transceiver
LS-Net-UL

Alarm Signaling

The head end receiving system shall have the capability of monitoring at least 10 types of alarm signaling technologies simultaneously. Compatible alarm receivers shall accept polarity reversal, multi-status audio tones transmitters, coded signals, home run wired EOL resistor direct connects, digital alarm communicator transmitters, remote alarm receiving systems, long range radio, active network radio, distributed multiplex over RS485 or fiber optics media and derived channel. Host computer software interfaces shall include alarm receivers and network connected transceivers.

IP Network Connected Transceivers

The system shall be capable of monitoring alarms via network connected transceivers that communicate using Ethernet henceforth referred to as LS Net transceivers. LS Net transceivers shall provide an RJ45 connection to the network.

LS Net transceivers shall provide isolation of either the power input or the network connection to ensure that ground fault detection of the connected FACP is not affected by any LS Net transceiver or network fault.

Each LS Net transceiver shall accept EOL resistor supervised contact inputs or RS232c data. Contact input transceivers shall be able to monitor multiple inputs and supervise each input with up to 3 EOL resistors. Contact input transceivers shall be available in efficient sizes to fit most common applications. At a minimum, four and eight zone models shall be available. Each zone shall be capable of monitoring two independent contacts with the ability to assign open or short circuit conditions as zone trouble.

A 4 zone polarity reversal interface shall be available to convert 4 and 8 zone contact input models to polarity reversal monitoring transceivers. In addition the 8 zone contact input transceiver shall be capable of accepting a single 4 zone polarity reversal module to provide 4 zones of polarity reversal monitoring in addition to 4 zones of contact input monitoring.

Serial input LS Net transceivers shall take in RS232c data from such as a fire alarm control panel, interpret that data, and present the status of all inputs represented by that data to the host system. The serial input LS Net transceivers shall be compatible with at least 50 different addressable fire alarm control panels from at least 16 manufacturers. The serial transceiver shall capture all information from the connected FACP data port including device type, device address, event type and all device descriptive text serially transmitted by the FACP.

All alarm signals shall be transmitted over the network using an event-driven, on-demand protocol to minimize bandwidth requirements.

All inputs shall be fully supervised by the transceiver. The host software application shall acknowledge all communications from all LS Net transceivers.

Mixing and matching of LS Net devices belonging to the same family or series shall be allowed on the network.

Operation

The network-connected, addressable LS Net transceivers that provide the event monitoring capability shall have fully operational and disable modes of operation as selected by the host software application.

The operational and disable modes shall be selectable in software on an individual transceiver basis.

For display purposes, any custom programmed FACP text shall appear in the banner screen segment and shall be followed by any textual descriptive information retrieved from the monitoring system database for that point.

All transceivers shall be comprised of three subsystems, including an AC power supply, a network interface board and a field interface board to facilitate cost-effective parts replacements and minimize spare parts stocking requirements.

Transceivers shall be provided from the factory pre-assembled with all subsystems mounted within the enclosure and wired together. A conduit knockout shall be provided in the standard enclosure for appropriate conduit installation.

Connections common to all transceivers shall include DC power, power supervision, and network interface connections.

Transceiver Security

The transceiver programming shall be optionally password protected. It shall be possible to disable Telnet access and downloads. The transceivers shall run on a closed architecture and not use Windows as an operating system due to numerous vulnerabilities that have been well documented. The transceiver shall report unauthorized access attempts to the host software application. The transceiver shall be compatible with a VPN connection as well as with gateways and subnet masks. Failure to receive timely check-in signals at the host computer from the LS Net transceivers should be cause to evaluate network vulnerability and bandwidth utilization.

Network Connections

The LS Net transceiver shall be connected to the local network via the RJ45 connector on the Network Interface module. This connector shall be a standard connector for RJ45/UTP Ethernet conforming to IEEE 802.3, and shall support dual speed (10/100 Base-T), half and full duplex operation, and auto-sense/auto-negotiate. Wiring shall be via standard connectors and cabling meeting Cat5, CAT5e or better specifications for connections to conforming Ethernet hubs, switches routers or other network connections and appliances. Some settings may be optionally fixed in programming rather than auto-negotiated to enable compliance with the owners' network policies and procedures.

Ethernet Network Requirements

The LS Net Event transceiver and the LS 7000 Life Safety Event Management System host software application shall work together in a wide variety of Ethernet environments. No special proprietary networking requirements shall be needed for proper operation and the systems shall be compatible with a wide variety of common, standard network deployments and topologies. Deployment and maintenance of an LS Net system shall require knowledge

and expertise in IT and networking appropriate to standard Ethernet/IP protocol. Network shall support at a minimum a transmission unit size of 1400 bytes or greater at all points between all LS Net transceivers and the LS7000 host system.

The host computer shall require a static IP address. The LS Net transceivers shall have either statically-assigned IP addresses or IP addresses assigned through standard DHCP protocols. The transceiver shall identify the host computer by static IP address. The host computer shall identify the transceiver by programmed name and not by IP address.

Ethernet Performance

The LS Net system shall use Ethernet resources and bandwidth as efficiently as possible. The LS Net transceiver shall communicate via a connectionless UDP protocol, and shall communicate all of the required information in single packets not exceeding the standard MTU (Maximum Transmission Unit) size of 1400 bytes. By using an event-driven, non-polled protocol, and allowing supervision times to be adjusted, the proposed system shall provide a minimum load on a network.

Remote Connections via Internet

The system shall support connections between remotely located LS Net transceivers and the server machine over public, open networks such as the Internet. A major problem with such connections is that they afford none of the protections of a closed, isolated and inherently secure network. Thus, it shall be necessary for the owner or installer to take other measures to ensure security, reliability and availability of the network connections.

There are a number of ways that are acceptable, and the exact method chosen will depend upon the details of the network installation and the nature and degree of potential threat from intruders and hackers.

An acceptable configuration shall be a system consisting of clusters of remotely-located transceivers connected via virtual private network (VPN) tunneling routers, one per cluster, through the Internet via another VPN tunneling router to the local cluster, including the LS 7000 host server.

Each of the routers shall be appropriately configured to only allow the necessary port access at each end. When properly set up, the participating nodes of the LS Net system are invisible and inaccessible to anyone outside of the VPN.

Network Diagnostic Tools

The system shall utilize standard Ethernet protocols and infrastructures, and support the use of common network maintenance and diagnostic tools including ping, trace route and SNMP MIB queries.

Field Wiring Connections

Field wiring connections shall be made via terminal wiring blocks. In addition to the field

interface wiring, there shall be a connection for a box tamper switch assembly. The serial data transceiver shall provide an EIA RS232 communications port to ensure compatibility with most FACP data sources. There shall be a minimum of four selectable EOL resistor network styles supported by the contact input monitoring transceivers. After selecting the network, the appropriate resistors shall be installed at the monitored site. Two wires must be connected to the barrier strip. Each input zone shall have a designated input on a barrier strip. Two zones shall share a return connection which can easily accommodate two #18AWG wires. Zone inputs shall be inherently power-limited and all wiring shall be segregated from the AC power wiring.

User Settings

The transceiver shall provide zone network style selection jumpers to accommodate varying wiring configurations and EOL resistor values.

Serial Programming Port

On the left side of the Network Interface module shall be an RJ-25 modular connector. This shall provide an RS-232 serial port connection for programming, testing and diagnostics. Access shall be via a handheld serial programming terminal or any PC or laptop computer supporting RS 232 serial communications at 4800 baud, 8 data bits, 1 start bit, 1 stop bit, no parity, and is able to run a simple terminal emulation program. For connection to a standard DB-9 PC serial port, an adapter shall be needed. The owner shall also be able to fabricate one using a generic RJ-25-to-DB9F adapter and the supplied pinout information. The LS Net programming utility shall also be available via remote connection via Telnet in addition to the local serial programming port. The transceiver shall support Telnet access or disable it depending upon user settings.

Programming

The LS Net transceiver shall support wide or narrow display modes for maximum legibility using a PC or the handheld terminal. Systems requiring proprietary software or a manufacturer specific programming utility shall not be acceptable. Programming shall be accomplished from a main menu and multiple sub menus.

Items on the main menu shall include check, setup, reboot and quit.

The check menu shall provide the LS Net, network, test and quit functions.

The check LS Net choice shall provide system or zone choices and upon selection, display the status of the system and zones.

The check network choice shall provide ping, status and quit choices.

The check test menu shall provide the ability to transmit simulated events to the host.

The setup menu shall offer edit settings, default and quit functions.

The edit settings menu choice shall provide account, network, security and quit functions.

The account settings choice shall prompt the user to program an account number for transceiver identification.

The network settings choice shall allow the user to configure a number of network settings including host, local and quit.

The host settings choice shall prompt the user to enter the Keltron LS Server host IP address, the host port, the host ACK timeout interval, the maximum retry number, whether to flush data after the retries are exhausted and the check-in interval.

The local settings choice shall prompt the user to enable or disable DHCP, enter a static IP address, enter the gateway and subnet mask IP addresses, and local port address.

The security settings choice shall prompt the user to enter or change the password, enable or disable Telnet, and enable or disable downloads.

The defaults choice shall restore factory default settings.

The system shall prompt the saving of programming changes if the programmer returns to the main menu and elects to exit the main menu ([Q]uit] without saving the changes.

The quit choice shall prompt the user to save the changes or exit without saving.

The reboot choice shall cause a soft reset. Programming changes shall require a reboot to take effect.

Monitor Mode

During normal operations, the local terminal connection port of the LS Net transceiver shall run in monitor mode. This mode shall provide a status output updated in real time, showing each important event or status change as it occurs. Included shall be each event as it is sent along as well as any acknowledgments received from the host. The user shall be able to view the monitor mode output simply by connecting a hand-held programmer or properly configured computer to the programmer's port.

When setup mode is entered from the local programmer's port, monitor mode shall be temporarily suspended and not interrupt setup. A limited number of monitor mode messages shall be queued up and displayed once setup mode is exited. Entering setup mode via Telnet shall not interrupt monitor mode on the local programmer's port. The first word of most messages shall indicate which transceiver subsystem originated the message. Monitor mode shall always be active on the local terminal when it's not in setup mode: no password shall be needed to view the monitor output.

Status Indicators

There shall be a minimum of 5 LED indicators on the Network Interface module. They shall indicate the following conditions: system activity, system status, network link, host ACK, and field interface status.

There shall be a minimum of four LED status indicators on all versions of field interface modules. These indicate the following indications power OK, transmit to field interface, receive from field interface, and zone in alarm or serial data received.

Failure Annunciation Relay Outputs

All LS Net transceivers shall provide dual Form-2C isolated relay output contacts to provide local annunciation of system or communications failure conditions. These relays shall be activated under any condition that prevents event communication with the host, including internal failures, network routing or host failures, failure to receive acknowledgement (system troubles) and local AC power and battery troubles (power troubles). Programming options shall allow annunciation on system trouble only, power troubles only, or all troubles.. These contacts shall be used to activate a trouble zone on the associated FACP or to activate local annunciation devices such as sirens or strobes. Connection to the annunciation contacts shall be via the barrier trip on the lower left corner of the Network Interface module. Two independent contacts shall be provided.

UL864-listed LS Net transceivers shall include an internal audible alert which will sound in conjunction with activation of the annunciation relays. An internal audible alert silence button shall be provided with automatic 24-hour resounding capability. An external LED visual trouble indicator shall be provided.

System Reset

Located next to the status indicators shall be a reset button. Pressing this button will reset the LS Net transceiver. After being reset, the LS Net transceiver shall be ready to report events in 10 to 15 seconds, unless network delays inhibit performance.

Power Specifications

Input power requirements shall be no more than 120VAC at 0.09A. The power supply shall provide a supervised battery charger circuit in accordance with UL 864 9th edition. The supervised battery charger shall be capable of recharging up to 60 hours of battery backup in the maximum time allowed by UL of 48 hours. The power supply shall also supervise both AC power and battery voltage and report faults individually for AC and battery power.

Physical details

The standard enclosure shall measure no larger than 14" H x 17" W x 4" D. The enclosure shall be manufactured using 16 gauge cold rolled steel and be fire alarm red in color. The enclosure shall provide sufficient interior space to accommodate both 60 hours of battery backup and 8 zones of polarity reversal option cards simultaneously.

Documentation

Manufacturer documentation shall include a complete and comprehensive setup and configuration guide. This guide shall include Ethernet and networking basics. The guide shall also provide extensive troubleshooting charts and fault indicator interpretation definitions.

Support

Due to the importance of continuing reliable performance from the alarm reporting life-safety system, the manufacturer shall provide with the bid, detailed specification sheets on all system modules and components. The owner shall use this information in the equipment evaluation phase of the bid review. The bidder shall also provide additional documentation direct from the equipment manufacturer. The required documentation shall include the network requirements

and system maintenance requirements, procedures and parameters. Preparation of similar documents by other than the manufacturer shall not be acceptable. Failure to provide said documents will result in disqualification of the bid due to non-compliance with essential requirements.

General

The system shall be UL Listed as a CENTRAL and REMOTE SUPERVISING STATION FIRE ALARM SYSTEM per NFPA 72 and as a PROPRIETARY SUPERVISING STATION FIRE ALARM SYSTEM under UL 864 category UOJZ. This insures the proposed equipment is listed for the intended application as required by NFPA 72, The National Fire Alarm Code.

Bidder shall provide accurate statements regarding all dimensions, input power requirements, wiring requirements, and all other specifications required.

The system shall operate reliably in any environment comfortable to the human operator and shall have no special ventilation requirements.

A sufficiently detailed system description and a detailed drawing shall be furnished with each bid for proper evaluation.

Bidder shall provide a full explanation of all deviations or exceptions taken from the specifications contained within this document.

Bidder shall be an authorized factory representative for the manufacturer of the equipment specified.

Equipment shall be fully warranted against defects in materials and workmanship for one year from the date of delivery.

UL864 Non-Compliance Settings

While the LS 7000 and LS Net Ethernet Transceivers provide extensive flexibility through the use of field-configurable options, some may not be in strict compliance with UL864 requirements. Use of these features shall be subject to the review and discretion of the local authority having jurisdiction. The following table summarizes those features and the settings which are or not approved under UL864.

Option	Possible Settings	Allowed under UL864?
Contact Input Network Style	A	No
	D	No
	E	No
	H	Yes
AC Reporting Delay	None	No
	5 minutes	No
	1 hour	Yes
	2 hour	Yes
	3 hour	Yes
Local Annunciation	Not enabled	No
	System troubles	No
	AC/Batt troubles	No
	All troubles	Yes
Host ACK timeout Host retry count	2 second – 1 minute 1 – 5	Product of ACK timeout and retry count shall not exceed 90 seconds
Flush event on send fail	No	Yes
	Yes	No
Check-in interval	30 seconds – 1 hour	Not to exceed 90 seconds
Security password	Disabled	No
	Enabled	Yes: password scheme used shall have at least 1000 unique combinations

APPLICANT'S COST SUMMARY AND PROPOSAL

MUNICIPAL ALARM MONITORING SYSTEM
WITH WIRELESS RADIO

For

Tri Com Central Dispatch

APPLICANT'S COST SUMMARY AND PROPOSAL

INITIAL AND ONE-TIME INSTALLATION CHARGES

EQUIPMENT COST FOR RECEIVER and WIRELESS HEAD-END EQUIPMENT AT TRI COM DISPATCH –

60 Month Lease ($1.00 buy-out at end of lease)

Equipment Purchase: $ _____ $_____

Installation Labor: $ _____ $_____

EQUIPMENT COST FOR LS-7000 AUTOMATION SYSTEM – Single User Version

60 Month Lease ($1.00 buy-out at end of lease)

Equipment Purchase: $ _____ $_____

Installation Labor: $ _____ $_____

EQUIPMENT COST FOR UPGRADE TO MULTI-USER SOFTWARE AND ADDITIONAL SEAT LICENSE FOR LS-7000 AUTOMATION SYSTEM –

60 Month Lease ($1.00 buy-out at end of lease)

MULTI-USER SW UPGRADE $ _____ First Year $ _____ Each Subsequent Year $_____

DISPATCH SEAT LICENSE FEE: $ _____ First Year $ _____ Each Subsequent Year $_____

ADMINISTRATIVE SEAT LICENSE FEE: $ _____ First Year $ _____ Each Subsequent Year $_____

LSNET RECEIVER SOFTWARE –

$ _____ First Year $ _____ Each Subsequent Year $_____

INITIAL EQUIPMENT AND OR LABOR COST FOR ANY ITEMS NOT DETAILED ABOVE –
Detail the equipment and labor on additional sheet(s) and attached here to. Put TOTAL costs below.

		60 Month Lease ($1.00 buy-out at end of lease)
Equipment Purchase:	$ _____	$_____
Installation Labor:	$ _____	$_____

For the purposes of estimating costs, assume that Tri-Com will have 450 alarms over 5 years:

COST TO INSTALL NEW SUBSCRIBER RADIO TRANSCEIVERS – 3db INDOOR ANTENNA
FOR SUBSCRIBERS WHO ARE CURRENTLY ON A DIRECT WIRE CONNECTION

		60 Month Lease ($1.00 buy-out at end of lease)
Equipment Purchase: per unit	$ _____	$_____
Installation Labor: per unit	$ _____	$_____

COST TO INSTALL NEW SUBSCRIBER RADIO TRANSCEIVERS – 5 dbINDOOR ANTENNA
FOR SUBSCRIBERS WHO ARE CURRENTLY ON A DIRECT WIRE CONNECTION

		60 Month Lease ($1.00 buy-out at end of lease)
Equipment Purchase: per unit	$ _____	$_____
Installation Labor: per unit	$ _____	$_____

COST TO INSTALL NEW SUBSCRIBER RADIO TRANSCEIVERS – EXTERNAL ANTENNA
FOR SUBSCRIBERS WHO ARE CURRENTLY ON A DIRECT WIRE CONNECTION

		60 Month Lease ($1.00 buy-out at end of lease)
Equipment Purchase: per unit	$ _____	$_____
Installation Labor: per unit	$ _____	$_____

COST TO INSTALL NEW SUBSCRIBER RADIO TRANSCEIVERS – 5db EXTERNAL ANTENNA
FOR SUBSCRIBERS WHO ARE CURRENTLY ON A DIRECT WIRE CONNECTION

		60 Month Lease ($1.00 buy-out at end of lease)
Equipment Purchase: per unit	$ _____	$_____
Installation Labor:	$ _____	$_____

per unit

COST TO INSTALL NEW SUBSCRIBER RADIO TRANSCEIVERS – 6db EXTERNAL ANTENNA

FOR SUBSCRIBERS WHO ARE CURRENTLY ON A DIRECT WIRE CONNECTION

		60 Month Lease ($1.00 buy-out at end of lease)
Equipment Purchase: per unit	$ _____	$_____
Installation Labor: per unit	$ _____	$_____

COST TO INSTALL LSNet SUBSCRIBER TRANSCEIVERS –

		60 Month Lease ($1.00 buy-out at end of lease)
Equipment Purchase: per unit	$ _____	$_____
Installation Labor: per unit	$ _____	$_____

COST TO REPLACE EXISTING RADIO TRANSCEIVERS TO NEW FREQUENCY –

FOR SUBSCRIBERS WHO OWN THEIR TRANSCEIVER

		60 Month Lease ($1.00 buy-out at end of lease)
Equipment Purchase: per unit	$ _____	$_____
Installation Labor: per unit	$ _____	$_____

MONTHLY RECURRING FEES & CHARGES

MONTHLY COST PER MONTH PER SUBSCRIBER FOR MAINTENANCE & EQUIPMENT AT HEAD-END LOCATION:

60 Month Lease ($1.00 buy-out at end of lease)

$ _____per month / per subscriber $_____

COST PER MONTH PER SUBSCRIBER FOR MAINTENANCE & EQUIPMENT ON SUBSCRIBER RADIO EQUIPMENT - LABOR:

60 Month Lease ($1.00 buy-out at end of lease)

$ _____ per month / per subscriber $_____

COST PER MONTH PER SUBSCRIBER FOR MAINTENANCE & EQUIPMENT ON SUBSCRIBER LSNet IP TRANSCEIVERS: **60 Month Lease ($1.00 buy-out at end of lease)**

$ _____ per month / per subscriber $_____

COST PER MONTH PER SUBSCRIBER FOR BILLING OF SUBSCRIBER FEES AND CHARGES ON QUARTERELY, SEMI-ANNUAL AND ANNUAL BASIS:

$ _____ per CYCLE / per subscriber

Do you accept subscriber payment with:

____ VISA ___ MasterCard ___ Discover ____ American Express

Do you accept payments through an on-line service? ____ YES ____ NO

INDICATE RESPONSE TIME FOR REPAIRS AND MAINTENANCE TO SUBSCRIBERS:

Monday – Friday _____am to _____pm - response in _____ hours

Weekends 24 hours – response in _____ hours

Holidays 24 hours – response in _____ hours

INDICATE RESPONSE TIME FOR REPAIRS AND MAINTENANCE TO HEAD-END:

Monday – Friday _____am to _____pm - response in _____ hours

Weekends 24 hours – response in _____ hours

Holidays 24 hours – response in _____ hours

COSTS FOR ANY NON-WARRANTY COVERED SERVICE CALLS ARE THE RESPONSIBILITY OF THE SUBSCRIBER; INDICATE THE COST FOR NON-WARRANTY VISITS TO SUBSCRIBERS PREMISE FOR SERVICE:

$ _____PER HOUR

APPLICANT COST PLUS ___ % FOR PARTS (provide Keltron MSRP price list)

MONTHLY FEE TO TRI-COM PER MONTH PER SUBSCRIBER FOR BILLING AND COLLECTING SUBSCRIBER MONITORING AND SERVICE FEES:

$_____

IF THIS RATE DIFFERS FOR AFTER HOURS; WEEKENDS; HOLIDAYS INDICATES YOUR POLICY BELOW:

_____

_____

_____

APPLICANT TO SUBMIT EQUIPMENT LIST WITH DETAILED SYSTEM FEATURES ALONG WITH THIS COST PROPOSAL.

TO BE CONSIDERED ALL PROPOSALS MUST:

BE SIGNED,
INCLUDE ALL MATERIAL PROPOSAL SHEETS,
BE RECEIVED PRIOR TO THE OPENING TIME, AND
INCLUDE

PROPOSAL DEPOSIT OF $500.00, CERTIFIED OR CASHIER'S CHECK #:_____

NAME OF
COMPANY_____

ADDRESS:_____

TELEPHONE NUMBER:_____FAX NUMBER:_____

AUTHORIZED REPRESENTATIVE_____
(TYPED)

_____ _____
SIGNATURE DATE

TITLE:_____

IT IS ENCUMBANT ON ALL APPLICANTS TO INFORM THEMSELVES ON THE STATUS OF THE CURRENT SYSTEM AND TO DETERMINE THE NEEDS OF TRI COM CENTRAL DISPATCH.

Tri Com Central Dispatch
Contractor's Certification

Pursuant to P.A. 85-1295 (Illinois Compiled Statutes 720 ILCS 5/ 33E-1 eq seq.) the undersigned contractor hereby certifies to the Tri Com Central Dispatch that the contractor is not barred from proposing on the contract as a result of a violation of either Section 33E-3 or 33-4 of the Act.

Date: _____

_____
Company

_____
Mailing address

(_____) _____
Phone Number

_____
Primary Contact (Signature)

_____
Printed Name Title

Tri Com Central Dispatch
Fair Employment Practices
Affidavit of Compliance

NOTE: this affidavit must be executed and submitted with the signed proposal form. No proposals will be accepted by the Tri Com Central Dispatch unless said affidavit is submitted concurrently with the proposal

_____ being first duly sworn, deposes and says

that he is the _____ of _____
(Title or Officer)

And that he has the authority to make the following affidavit: that he has the knowledge of the Tri Com Central Dispatch ordinance relating to Fair Employment Practices and knows and understands the content thereof;

That he certifies that it is the policy of _____
(Name of Company)

To recruit, hire, train, upgrade, promote and discipline its employees without regard to race, creed, color, religion, age, gender or physical or mental handicap; and that the company has and enforces policies which prohibit sexual harassment in the workplace.

_____
(Signature) (Title)

SUBSCRIBED AND SWORN before me this _____ day of _____ 20___

_____
Notary Public

My commission expires: _____

S

E

A

L

Tri Com Central Dispatch
Anti-Collusion Affidavit of Compliance

_____ being first duly sworn, deposes and says

(Partner, officer, owner)

that he is the _____ of _____

(Title or Officer) (Contractor)

The party making the foregoing proposal affirms that such proposal is genuine and not collusive or a sham; that said Applicant has not colluded, conspired, connived or agreed directly or indirectly, with any Applicant or person to put in a false information or proposal, and has not, in any manner, directly or indirectly, sought agreement, collusion, communication or conference with any person to fix the proposal price element of said proposal or of that of any other Applicant or to secure and advantages against any other Applicant or any person interested in the proposed contract.

_____

(Name of Applicant if Applicant is Individual or Sole Proprietor)

(Name of Partner if Applicant is a Partnership)

(Name of Officer if Applicant is a Corporation or LLC)

SUBSCRIBED AND SWORN before me this _____ day of _____ 2010

_____

Notary Public

My commission expires: _____

S

E

A

L

Tri Com Central Dispatch
Applicant References

1. _____
Municipality or Fire Protection District Name

_____
Address

(_____) _____ _____
Phone Number Contact Name and Title

_____ _____
Installation Date Number of subscribers Installed to Date

2. _____
Municipality or Fire Protection District Name

_____
Address

(_____) _____ _____
Phone Number Contact Name and Title

_____ _____
Installation Date Number of subscribers Installed to Date

3. _____
Municipality or Fire Protection District Name

_____
Address

(_____) _____ _____
Phone Number Contact Name and Title

_____ _____
Installation Date Number of subscribers Installed to Date

EXHIBIT "A"

The following is a list of City owned burglar and fire alarms

St. Charles

City Hall 2 E. Main St	Burglar Alarm
Historical Museum 215 E Main St	Burglar Alarm
Dunham Hunt House 302 Cedar Ave	Burglar Alarm
Municipal Building 2 East Main Street	Fire Alarm
Police Department 2 State Avenue	Fire Alarm
Wastewater Treatment Plant Devereaux Way	Fire Alarm
Wastewater Laboratory 201 Devereaux Way	Fire Alarm
Wastewater Treatment Plant 3803 Lincoln Hwy	Fire Alarm
Fire Station #1 / Century Station Building 112 N. 1st Avenue	Fire Alarm
City Garage 200 Devereaux Way	Fire Alarm
Water Filtration Facility 2595 Oak Street	Fire Alarm
Well Building #112900 N. 5th Avenue	Fire Alarm
Well Building #8 454 37th Avenue	Fire Alarm
Electric Substation 630 N. 12th Street	Fire Alarm
Electric Substation #8 650 Peck Rd.	Fire Alarm
Electric Substation #7 1000 Dunham Rd.	Fire Alarm
Fire Station #2 2900 Production Drive	Fire Alarm
Fire Station #3 2901 Campton Hills Drive	Fire Alarm

Batavia

East Fire Station 800 E Wilson St	Fire Alarm
West Fire Station 1400 Main St	Fire Alarm
Public Works Building 200 N Raddant Rd	Fire Alarm
Public Works Warehouse 202 N Raddant	Fire Alarm
Wastewater Treatment 400 S Shumway	Fire Alarm

City Hall 100 Island Ave	Fire Alarm
Former Baptist Church 15 N Washington Av	Fire Alarm
Thomley Building 2 E Wilson	Fire Alarm
Shumway Booster Station 30 S Shumway	Fire Alarm
City of Batavia Well House 38W503 Fabyan Pkwy	Fire Alarm
McKee Street Substation 1101 McKee Street	Fire Alarm

Geneva

Fire Station 1 200 East Side Drive	Fire Alarm
Fire Station 2 2530 Fargo Blvd	Fire Alarm
Geneva Police Department 15 S. First Street	Fire Alarm
Geneva City Hall 22 S. First Street	Fire Alarm
Geneva Parking Deck 597 S. Third Street	Fire Alarm
Geneva Public Works 1800 South Street	Fire Alarm
Waste Water Lab 602 Crissey Ave	Fire Alarm
Water Treatment Plant 4000 Keslinger Road	Fire Alarm

RFP 10-001 WORKSHEET	COMPLY Yes/No	EXCEPTION/COMMENTS
Keltron equipment/system or evaluated equal (turn-key system including redundant receiving and reporting capabilities, computer terminal interface system designed to meet UL 9th Edition & NFPA standards) includes:		
DMP703, including 1 OP703 remote annunciator with printer see attached specifications.		
Dual RF7500 radio receivers. See attached specifications.		
Keltron LS7000 Dual server with automatic switchover on failure alarm automation system. See attached specifications.		
Other system components (i.e. digital signal interface equipment, direct signal interface equipment, IP Ethernet and wireless signal interface equipment).		
Desired features of the new alarm monitoring equipment should include, but is not limited to, the following:		
• The system should include current technology/PC based monitoring stations on existing CAD PC's.		
• 2 PC monitoring stations are desired, to be located in the 9-1-1 center on existing CAD PC's.		
• The monitoring stations should be capable of group acknowledge of multiple trouble fire alarms.		
• The monitoring stations should be capable of placing alarms in and out of "work" or "test" mode, during which alarm activations will be recorded by the system; however, require no action on the part of the dispatcher		
• The system should have the capability of being placed in a "storm" or similar mode, during which all trouble fire alarms will be recorded; however, require no action on the part of the dispatcher. Upon placing the system back into a normal mode of operation, a re-alarm occurs for alarms not restored and requires action by the dispatcher.		

• The system should be capable of supplying reports including, but not limited to, the history of alarm activations, "work/test" status, etc., for a specified time frame.		
• The system should be capable of supplying reports on currently connected accounts, and general system information and activity.		
• The system should be capable of various features such as automatic placement of restored alarms back into service at a specified time of day, time of week or after a period of time in "work" or "test" mode.		
• The system should have visual, audible, and printed information to alert the dispatcher of any valid alarm which has been in a "out-of-service" or "test" mode in excess of a specified period, or which requires dispatcher action for other reason.		
• The system should be capable of sending dispatcher selected alarms to the computer-aided dispatch (CAD) system, when desired.		
• Other available features not mentioned should be identified and described in detail on another sheet.		
• All warrantees and guarantees shall meet or exceed the Keltron Corporation warranties of THREE (3) years on Subscriber transceivers and ONE (1) year on all radio and receiver head-end equipment. Give details on any additional warranty or guarantee you are providing.		
• Supply FOUR (4) copies of your RFP response, this checklist and all applicable system documentation.		