92Y Tribeca Video Production System

PART 1- PROJECT HISTORY AND SCOPE OF WORK

A. In early 2007 SMW embarked on the design of audiovisual systems for the 92Y Tribeca facility at 200 Hudson Street in Manhattan. As requirements were being studied it became apparent that a built-in video production system could not be accommodated in the base AV budget. As such, this system was held apart from the base AV design as a deferral. The Owner allocated conduit and power infrastructure as well as floor space for a future video production system. 92Y Tribeca has since opened with its base AV systems installed by ACE Audiovisual. Having been asked to return and design the previously deferred systems, SMW presents here the bid specification for the 92Y Tribeca Video Production System.

B. 92Y Tribeca includes the following existing spaces and AV systems as installed by ACE Audiovisual in 2008:

1. Café/Ticketing area with graphical displays and background music system
2. Screening room with Dolby Digital surround playback, as well as film and digital video projection
3. Lecture Room with simple AV presentation system and sound reinforcement
4. Music Club with performance sound reinforcement system and bar area display

As-built documentation for the AV systems described above is available for bidder reference. The reader should note that 92Y Tribeca is called by its previous name “Makor” throughout many of these documents. Makor and 92Y Tribeca refer to the same facility.

C. In the basement of 92Y Tribeca are a small data room and two empty rooms slated for use by the Video Production System. Conduit infrastructure connects between the raised floor access shared between these rooms and the existing ACE Audiovisual AV systems upstairs. The two rooms in the basement are to be called the Video Production Control Room and Audio Mix Room, and will contain the majority of equipment described by these specifications.

D. The Video Production System specified here consists of remote camera connection panels installed throughout 92Y Tribeca and connected to the Video Production Control Room and Audio Mix Room. These connection panels support demountable pan/tilt/zoom cameras. Together with new AV feeds installed into the base ACE Audiovisual AV systems, these camera connections form the primary source for live broadcast video, archival recording, and overflow origination at 92Y Tribeca. In addition to these functions, the Video Production System may also feed the display and loudspeaker systems in the Café, Screening Room, Lecture Room, and Music Club.

E. So as to achieve the above, the bidder’s scope of work includes, but is not limited to, the following:

1. Systems and basebuilding infrastructure within the Video Production Control Room as specified herein
2. Systems and basebuilding infrastructure within the Audio Mix Room as specified herein
3. Telecom cabling and terminations between the data room and Video Production Control Room and Audio Mix Room as specified herein
4. Video Production System -related servers, switches, and UTP patchfields in the data room as necessary

5. All remote camera connection panels and necessary infrastructure including open-wire pulls, conduit stubs, junction boxes, high voltage AC receptacles, and custom mounting systems as specified herein
6. Modifications and additions to the ACE Audiovisual AV systems, as well as modifications to existing Crestron control sourcecode, as specified herein.
7. All control programming and preset creation/storage for camera, routing, multidisplay processing, and related systems
8. All network configuration and integration for the Video Production System gigabit LAN and related PCs, servers, and production workstations
9. Configuration of digital video archive, tape magazines, and bar code reader/writer systems
10. All other programming and configuration as necessary so as to furnish a turnkey Video Production System
11. Installation of baseband video and audio cabling to building demarc for termination by Verizon Video to broadcast metro fiber links. All coordination as necessary to ensure smooth handoff between parties including Owner, Bidder, and Verizon Video during commissioning of broadcast links.
12. Installation of third party-provided control systems for provisioning by The Switch within the Video Production Control Room. All coordination as necessary to ensure smooth handoff between parties including Owner, Bidder, and The Switch during commissioning of controls and feeds to facilities managed by The Switch at 60 Hudson Street in Manhattan.
13. Coordination with Owner's data network technicians to ensure proper configuration of Video Production System hardware for connection to the Internet across shared and dedicated links. All coordination as necessary to ensure smooth handoff between parties including Owner and Bidder such that a turnkey system be delivered.
14. All other scope as delineated within these specifications and drawings.

See Part 4 - Master Lists for a detailed listing of all relevant drawings.
Detailed pricing sheets are provided at the end of this specification.

(End of Part)

PART 2- Instructions To Bidders

2.1 Qualification Of Bidders

A. The Bidders shall meet the following qualifications:

1. It shall be a firm with at least five (5) years experience in the fabrication, assembly and installation of professional video systems of similar complexity, magnitude and quality as specified for the subject project, and shall submit documentation to this effect along with submission of the bid return. **The firm shall include at least five client references, with contact names and phone numbers, for comparable *broadcast and production* projects in entertainment, education, and business environments.**

2. The Bidder must have a substantial presence within 50 miles of the jobsite. That presence shall include a fully equipped shop and no fewer than six qualified engineers/service technicians in full-time, permanent employment at that location.

3. The bidder must submit proof of a performance bond equal to 100% of the contract's value. The cost of this bond shall be shown on the Master Recapitulation sheet separate from the Lump Sum Pricing. A decision on whether to exercise this bond will be made at the time of award.

4. In the case of joint ventures of multiple firms, the firms must demonstrate that the joint venture has existed prior to this project, and has performed as a joint venture one or more projects similar in size and scope to this project.

5. In that it is our intention that no Bidder shall be awarded contracts totaling more than 40% of the value of that Bidder's annual gross receipts from the sale of integrated audiovisual/broadcast systems, the bidders shall submit proof of their gross receipts from such systems for the past three years. The bidders should exclude the value of service contracts, rental services and sales of un-integrated equipment. In arriving at this figure, we shall consider the average receipts for all wholly owned offices for any two of the previous three years.

2.2 Definition Of Terms

A. The term "Owner" shall refer to “The 92Y”

B. The term “User” shall refer to the operators of facilities at 92Y Tribeca.

C. The term "Consultant" shall refer to Shen Milsom & Wilke, Inc.

D. The term "Bidder" shall refer to any firm submitting a bid in response to these issued specifications.

E. The term "AV Contractor" shall refer to the Systems Contractor who has been awarded the contract for the subject project and who has responsibility for performance of the work specified herein.

F. The term "NIC" shall refer to material(s) and work which is Not In Contract (not included in this specification) and for which the AV Contractor is NOT responsible except as otherwise noted and/or detailed herein.

G. The term "OFE" shall refer to Owner Furnished Equipment, which will be provided by the owner or user to the AV Contractor. This equipment will be delivered to the AV Contractor at their shop. The AV Contractor shall be responsible for installing the equipment in good functional order as detailed herein. The Owner warrants that all such equipment will be functioning to manufacturer's specifications at time of manufacture.

H. The term "shall" is mandatory; the term "will" is informative; the term "should" is advisory; and the term "provide" means to furnish and install.

2.3 Information To Be Submitted With The Bid Return

A. Equipment Costs

1. The bid return (response) shall include a detailed listing of all equipment to be supplied, both on paper and on disk in Microsoft Excel format. Each equipment component shall be individually priced. Equipment lists are provided herein at the end of this specification.

   Copies of these listings shall be used for the response with the appropriate pricing information added. Equipment costs shall reflect all required and/or requested modifications and/or accessories. Any and all alternates for specified equipment shall be listed and individually priced on separate pages. Further information for Alternate Equipment is provided under Section 2.7 as well as in the detailed equipment list.

2. Equipment cost totals from each individual equipment list shall be entered in the Master Recapitulation of Costs document, which can be found in the bid package.

B. Non-Equipment Costs

Non-equipment costs shall also be furnished separately on the Master Recapitulation of Costs summary form. These non-equipment costs shall be detailed for each of the following categories:

1. Engineering: Including all required designs, drawings, run-sheets, instruction manuals, etc.

2. Pre-installation/installation: Including all on-site installation and wiring. Coordination and supervision, testing, system checkouts, user training, etc. To be performed on or off the user's premises.

3. General and administrative: To include all G & A expenses, shipping, insurance and guarantees.

4. Sales and Use Taxes: Identify any such taxes, including any taxes embedded in subcontractors / suppliers costs.

C. Statement of Gross Receipts. See section 2. 1. A. 5 above.

2.4 Warranty Statement

A. In order to maintain certain manufacturer's warranties, system equipment must be installed, aligned and serviced by those installers recognized and authorized by said manufacturers to be capable of performing such duties. If a certain installer is not so authorized by a particular manufacturer, it is solely their responsibility to make such arrangements to come into such compliance and they shall bear all costs and consequences thereof.

B. The bidder shall include a statement of warranty on the entire system to be installed and on the individual equipment components of the system. The system warranty shall be for a minimum of 1 year from the date of system acceptance by the Consultant and/or the Owner. This warranty shall obligate the AV Contractor to provide all equipment, materials, and labor for repair, at no charge to the Owner during the warranty period, in the event of system or equipment malfunction. If a given item of equipment carries a manufacturer's warranty for a period greater than 1 year, that warranty shall remain in force for the entire period of the manufacturer's warranty from the date of system acceptance

C. All manufacturers' equipment warranties shall be activated in the User's name and shall commence on the date of system acceptance. In the case of AV Contractor-modified equipment, the manufacturer's warranty is normally voided. In such cases, the AV Contractor shall provide the User with a warranty equivalent to that of the original manufacturer.

D. All repairs required following Substantial Completion of the rooms shall be scheduled at the User's convenience. In no case will the User allow such repairs to interrupt or delay a regularly scheduled event. Notwithstanding the above, all repairs within the regular period of usage must be completed within 24 hours of notification of a failure; 2nd and /or 3rd shift warranty repair activity should be anticipated.

2.5 Service Contract

A. The Bidder shall offer a separate annual service contract, covering all installed systems. This service contract shall cover a minimum of four (4) visits per year, at regular intervals, in order to perform operational checks of the system(s) and equipment, to clean and service computers, tape machines, and other critical items, to lubricate moving parts as recommended by respective manufacturers and to adjust and align displays and other hardware to insure maintenance of optimum graphical performance. The service contract shall commence immediately after expiration of the warranty period. A "per-component" price for the service contract shall be submitted with the bid.

B. The Bidder shall also submit separate pricing for other, non-routine, emergency, "on-call" service visits and an "in-shop" hourly rate for repair and maintenance work.

C. Service and service contract related costs shall NOT be commingled with the costs for the system's base-bid.

D. The AV Contractor shall specify the cost for the 2nd year service contract.

2.6 Schedule of Implementation

A. The bidder shall submit a scheduling plan with the bid return, indicating the various pertinent "terminal" dates after the contract award for completion of design, pre-installation work completion, on-site installation, and testing/acceptance.

B. The Bidder shall obtain from the Owner those projected dates when the relevant areas will be available for on-site installation activity.

2.7 Alternate Equipment

A. All bids shall be submitted on the basis of the recommended equipment list covered at the end of this specification. **The Bidders are invited to propose alternate equipment. However, all such proposals shall be submitted separately and will be identified as "alternate(s)" with equipment costs shown as separate and apart from the costs of the equipment "as specified."**

B. Proposals for alternate equipment will receive careful and equitable consideration if differences do not result in a departure from the overall intent of the system design and operation, and are demonstrated to be in the best interests of the User.

C. All such proposals for alternate equipment shall be submitted at the time of Bid Return and accompanied by complete technical information and specifications, and "cut-sheets" for the equipment so proposed. The Bidder shall identify any and all substantive differences between the "alternate" and "specified" equipment.

2.8 Exceptions and Proposed Modifications

A. Should the Bidder wish to propose recommendations that will enhance the performance of the audiovisual system(s), or reduce costs without loss of performance, such comments shall be made in the bid submissions. All suggestions that are of value to the Owner shall be taken into consideration in the evaluation of bid returns. All such proposals shall be made as "alternate(s)", with the appropriate cost modifications clearly shown separate and apart from the costs of the system "as specified."

B. Any and all exceptions to specifications, related drawings, general conditions and terms & conditions must be made with the bid submission. In the absence of exceptions, these specifications and related drawings shall be binding in letter and intent upon the successful Bidder. It is further required, and the Owner shall expressly rely on the fact, that the Bidder has examined all designs and specifications in detail and is prepared to accept full responsibility for the performance of the complete system installation as designed and specified. It is further required, and the Owner shall expressly rely on the fact, that the Bidder has reviewed and accepted current site conditions.

2.9 Omissions from the Specifications

A. The Bidder acknowledges that the Owner has expended great efforts in preparing the Specifications and in attempting to describe as thoroughly and precisely as possible the scope of its operations, capacities, activities, performance levels and commitments to its customers, which are detailed in the Specifications. However, despite these efforts, it is possible that some components of these operations, capacities, activities, performance levels, or commitments, might have been involuntarily or inadvertently omitted from the

Specifications. Owner and Bidder agree that: (i) any operation, practice, activity, performance level or commitment set forth in the Specifications will be deemed incorporated by this reference into the relevant portions of this Agreement and will be subject to the terms and conditions of this Agreement; and that (ii) Bidder will perform or fulfill these involuntarily or inadvertently omitted operations, capacities, practices, activities, performance levels or commitments to the same extent and in the same manner as if they had originally been described or listed in the Specifications, at no additional cost to the Owner. When possible the parties will agree in writing to the changes to be made to the Specifications to add these involuntarily omitted operations, capacities, practices, activities, performance levels, or commitments, and any written document executed by each party that refers to this Section 2.9 shall serve as an amendment to this Agreement. The Bidder has reviewed the Specifications and agrees that the Owner's descriptions are accurate and that the Bidder will not contest their accuracy.

2.10 Specification Drawings

A. All drawings referred to herein are furnished with and become an integral part of this specification. These drawings and specifications shall remain the property of the Owner and shall be returned to the Owner by all unsuccessful Bidders, within ten (10) days after formal notification of contract award.

2.11 Specification Information Requests

A. Any requests for clarification, substitution, or changes to these specifications and/or drawings shall be directed to by email to Rob Badenoch of Shen Milsom Wilke with cc: to Lisa Rosen of the 92nd Street Y, at rbadenoch@smwinc.com and lrosen@92y.org respectively.

2.12 Sub-Contractors

A. If the Bidder proposes to sub-contract any portion of the system installation work, any such sub-contractors shall be clearly identified and their responsibilities and qualifications detailed in the Bidder's bid submission. Any and all work performed by a sub-contractor shall be considered fully as part of the primary Bidder's contract and responsibility.

B. For each proposed sub-contractor, the bid must include at least five client references, with contact names and phone numbers, for comparable projects in education and/or business environments accomplished by those sub-contractors.

C. If the Bidder proposes to sub-contract the installation and/or wiring, or any portion of this work, the Bidder shall provide direct supervision of any and all sub-contracted work.

D. As a result of the complexity and criticality of the specified audiovisual systems, the supervision of sub-contracted work shall not be intermittent, but instead MUST be continuous for the entire duration of such installation.

E. If it is the intent of the Bidder to "team" with one or more additional AV contractors, then this must be clearly stated and so identified in the Bidder's bid return. The AV Contractor (Bidder) who is returning the bid shall be considered as the "prime" with respect to these circumstances, and will assume and accept full responsibility for the performance of all

members of the "team," including themselves and all other sub-contractors and/or sub/sub-contractors engaged in the performance of the contract.

2.13 Investigation Of Contractual And/Or Scheduling Questions

A. It shall be the sole responsibility of the Bidder to investigate any and all potential contract, union-related and scheduling questions and issues, and to guarantee compliance with all requirements and regulations that shall be in effect on the job site. Any potential problems in this regard should be clearly identified and addressed in the bid return.

(End of Part)

PART 3 - GENERAL SPECIFICATIONS

3.1 AV Contractor's General Responsibilities

A. The AV Contractor shall be responsible for delivering a turnkey Video Production System to the Owner.

B. The AV Contractor shall furnish all equipment and materials, whether specifically mentioned within this document or not, to insure provision of a complete and fully functional system in line with the requirements of this specification. NIC and OFE equipment and materials are exempted from this requirement.

C. The AV Contractor shall generate all shop drawings and necessary information required for the complete installation of the audiovisual system(s).

D. The AV Contractor shall be responsible for initial adjustment of the audiovisual system as prescribed within this document and shall provide all test and operational equipment required for the system check-out and acceptance testing. The AV Contractor shall provide hands-on, on-site training in the operations and maintenance of the audiovisual system for those personnel as designated by the Owner.

3.2 Not In Contract (NIC)

A. Certain equipment and/or materials will be provided and/or installed by others. Unless otherwise indicated in these specifications, or on the related drawings, this equipment and material shall include the following:

1. All room lighting fixtures, architectural dimmers, power receptacles, outlets, and interconnect wiring for these circuits.
2. Performance lighting fixtures, dimmers, and control equipment.
3. All electrical breaker panels required to power audiovisual equipment.
4. All structural work, wall openings, platforms, railings, stairs, fire prevention and safety devices, rough trim, painting and patching, drapes, carpets, floor coverings, glazing, acoustical treatments, and heating, ventilation, and air conditioning systems.

Within the Video Production Control Room and Audio Mix Room, two flatscreen displays are specified. AC power receptacles, structure support for ceiling and wallmounts, as well as any conduit stubs or junction boxes required for open-wire runs between ceiling/wall and raised floor are in scope.

Each remote camera connection panel has associated with it a 120VAC receptacle. Provision of this receptacle and its accompanying circuit by a qualified electrical contractor is in scope.

Each remote camera connection panel has associated with it a custom steel baseplate to which a demountable camera attachment bracket is anchored. Structural support for these baseplates must be provided such that the camera, mount, pantilt, and attached hardware be safely and soundly supported when attached to the wall. Provision of safe and sound structural anchoring and custom steel bracket with mount is in scope.

The cutting of raised floor tiles to allow for cable passthrough as required between racks is in scope.

Provision of junction boxes, flexible conduit, wireways, J-hooks, and other basebuilding cable management systems as required for all cabling within raised floor systems is in scope.

Provision of hardwired 120VAC circuits to equipment rack plugmold strips within the Video Production Control Room and Audio Mix Room is in scope.

3.3 Owner Furnished Equipment (OFE)

A. The AV Contractor shall be responsible for obtaining, configuring, and installing OFE equipment. The AV Contractor shall ascertain that the OFE equipment is performing at or above factory specifications. This equipment is to be delivered to the AV Contractor's facility for review, testing, and installation. The AV Contractor shall be responsible for coordination with the Owner to ensure timely procurement and delivery of OFE equipment.
B. If the equipment is not operating "as-new", or is missing accessories necessary to properly integrate the equipment into the system as intended, the AV Contractor shall provide a proposal, including a time line, for returning the equipment to "as-new" condition and providing the needed accessories.
C. Coordinate the integration of existing components or new components provided by the Owner into the specified systems. Provide required mounting hardware, rack panels, cable, connectors, etc. to ensure proper operation of the OFE systems.
D. OFE equipment is itemized on the equipment lists as attached.
E. On site, AV Contractor is responsible for the connection to cable television service as well as coordination with the local cable provider for all necessary service configurations.

3.4 Quality Of Materials And Equipment

A. All equipment and materials provided by the AV Contractor shall be new and shall meet or exceed the latest published manufacturer's specifications in all respects.

B. The AV Contractor shall supply the latest model of each piece of specified equipment available at the time of bidding.

C. All equipment components, whether stock manufacture or custom built, shall be supported by complete and detailed schematic drawings and replacement parts. NO "black boxes" or otherwise unidentified or unidentifiable components shall be acceptable under the terms of this specification.

3.5 AV Contractor's Documentation

A. Prior to system fabrication, the AV Contractor shall submit (to the Consultant), for approval, any and all custom designs pertaining to the audiovisual systems. These designs include, but are not limited to, the following:

1. Shop Drawings
   a. Full system construction designs and point-to-point wiring schematic drawings, including all component values, and clearly showing complete letter and number

identifications for all wires and cables as well as all jacks, terminals and connectors.
   b. All panels, plates and designation strips, including all details relevant to terminology, engraving, finish and color.
   c. Any and all custom designed consoles, tables, carts, support bases and shelves.
   d. Schematic drawings of all custom components, assemblies and circuitry.
   e. Any and all unusual equipment modifications.
   f. Patch panel assignment layout drawings.
   g. Patch panel label strip layouts
   h. Front mechanical drawings for each equipment rack.
   i. Equipment mounting details.
   j. Shop drawings shall be submitted on reproducible media and in machine-readable form (AutoCAD 2007). Provide required AutoCAD PCP, PC2 or STB files defining pen allocation and line weights.
   k. Shop drawings shall be submitted on a consistent media size commensurate with standard architectural practices. Assorted drawings on letter or ledger size media will not be deemed acceptable.
2. Software
   a. Source code and graphical files for control system and touch panels.
   b. “Sitefiles” or “Viewfiles” for the audio digital signal processors.
   c. Documentation reflecting router preset and multidisplay processor layouts

3. Other Submittals
   a. Run-sheets or field wiring details in a format approved by the Owner in Microsoft Excel.
   b. Cut sheets on all equipment to be provided under this contract. Cut sheet submittal to be tabbed and collated in such a fashion as to match the order defined in the detailed equipment list provided at the end of this specification.
   c. Verification of video projection lens focal length and ability to achieve specified image size within system criteria.
   d. Sketches provided as a means for clarity during the installation process, shall be submitted on standard letter or ledger size media. Sketches shall be individually numbered so as to provide a consistent and clear reference.

B. At completion of the full system installation, the AV Contractor shall provide six (6) copies each of the following (except where noted):

1. As Built Shop Drawings
   a. "As Built" drawings for every item indicated above, including functional block drawings with the addition of all input and output circuit cable and terminal block numbers as well as all jack field circuit I.D. designations.
   b. Quantity as appropriate: full size or half size drawings of the above, framed in protective plastic and mounted on the inner surface of the equipment rack doors
   c. System functional drawings in AutoCAD 2007 format, provided on CDROM.

2. Equipment Manual
   a. An inventory of all equipment in Excel spreadsheet format, in electronic and paper forms, detailing the Manufacturer, Model, Serial Number and Location of each piece of equipment.
   b. One copy of the manufacturer’s operation manuals for each piece of installed audiovisual equipment.

c. Two copies each of the manufacturer's service and repair manuals for each model of equipment, if different from the operations manual.

3. Operations and Maintenance Manual
   a. One System Operations and Maintenance Manual. This manual shall be produced by the AV Contractor specifically for the systems installed and outlined in this specification.
   b. The "Operations" section shall describe all standard and typical procedures required to activate the system and each of its parts to provide for full system functionality as outlined in the Detailed Specifications.
   c. **The "Workflow" section shall describe relevant system operational procedures for recording, origination, and post production at both single operator and multi-operator staffing levels.**
   d. Readers of these manuals shall be assumed to be unfamiliar with the particular facility and installation. It is expected that this manual will require a minimum of twenty (20) pages.
   e. The "Maintenance" section shall provide a recommended maintenance schedule with reference to applicable pages in the manufacturer's maintenance manuals. When adequate information is not provided by the manufacturer, the AV Contractor shall directly provide the information necessary for proper maintenance.

4. NOTE: Five (5) copies of the above documentation will be retained by the Owner. One additional copy shall be delivered to the Consultant prior to System Acceptance Testing. All equipment manuals will go to the Owner.

5. This information MUST also be provided on CD-ROM or USB drive in an easily readable format (e.g. Microsoft Word, Excel, Adobe Acrobat). The CD-ROM or USB drive shall be accessible to all computers running the Windows XP operating system.

3.6 Obligations Governing the Software

A. This being a work for hire, title to and exclusive ownership of any software commissioned under this contract shall at all times remain with the Owner.

B. At the time of submitting the System to the Acceptance Tests, the AV Contractor will supply where applicable and having used its best efforts in the case of third party suppliers (best efforts will be demonstrated to the Owner by copies of correspondence between the AV Contractor and the third party stating the Contractor's request and giving the third party statement of compliance or otherwise) to give to the Owner media which will contain:,

   1. All source code pertaining to the System, where there is custom code.

   2. Instructions and full description of equipment required which will enable the Owner to create executable programs from source code.

   3. All executable programs

   4. Instructions and full description of equipment required which will enable the Owner to prepare operating systems and other third party Software as licensed hereunder for use.

   5. All production files for Web pages.

6. Graphic files for all interface screens, if any.

C. For any Software as purchased hereunder not developed by the AV Contractor all information, data, codes and documentation distributed to the AV Contractor and otherwise available to the AV Contractor, shall be given to the Owner.

D. The above so submitted Software shall be in a form suitable for immediate access by the System.

E. If the Owner discovers an error in the coding or the logic of the software as supplied under the terms of this Agreement to the Owner, which prevents the System from performing in accordance with the performance requirements of this Specification, the Owner shall notify the AV Contractor of the error and upon request the AV Contractor will deliver to the Owner its analysis thereof accompanied by complete program, module, data listings and sample runs exhibiting and rectifying the error.

F. The Owner shall assist the AV Contractor in its performance under the terms of this Specification by allowing the AV Contractor to use the Owner's System, data listings and sample runs to reproduce and/or correct the reported error and to install and check updated versions of the delivered Software licensed hereunder.

G. The AV Contractor represents and warrants that it is the owner or Licensee of the supplied Software as licensed hereunder and has the right to permit the Owner to use the same. The Owner shall not be liable for any incidental or consequential damages, whether foreseeable or not, even if the Owner has been advised of the possibility of such damages, resulting from or in any way connected with the use of the supplied Software as licensed hereunder.

H. Subject to Owner's written authorization, the AV Contractor shall defend, indemnify, and hold Owner, LMDC, and/or HUD, harmless from any suit or proceeding brought against the Owner, LMDC, and/or HUD, and shall pay any adverse judgment entered therein so far as such suit or proceeding is based upon a claim that the use of the Software as provided hereunder furnished by the AV Contractor under this Agreement constitutes infringement of any copyright or patent, provided the Owner is promptly notified in writing and given authority, information and assistance (at the AV Contractor's expense) for the defense of same; and the AV Contractor shall, at its own expense and at its option, procure for the Owner the right to continue to use the said Software as licensed hereunder, or to replace the same with a non-infringing release. The foregoing shall not be construed to include any agreement by the Owner to accept any liability whatsoever in respect to copyrights or patents for inventions including more than the Software as purchased and furnished hereunder, or in respect of copyrights or patents for methods and processes to be carried out with the aid of said Software as licensed hereunder, except those which are inherent in said System as furnished. The foregoing states the entire liability of the AV Contractor with regard to copyright and patent infringement as related to the delivered Software as licensed hereunder.

I. Provided that the Owner has obtained, under the terms of this Specification or subsequent agreements, all items, such as but not limited to source code and compilers, required to modify the Software, the AV Contractor hereby grants the Owner the right to modify and to enhance the Software as supplied and licensed under the terms of this Agreement at its own risks and expense and further agrees such modifications and enhancements developed by the Owner to be the property of the Owner without prejudice to the rights of the AV

Contractor to the basic Software. The Owner furthermore is under no obligation to notify the AV Contractor of any such modifications and enhancements.

J. Any new version of Software as provided hereunder and delivered to the Owner by the AV Contractor during the warranty period, under the terms of this Specification which is deemed, and advised so by the Contractor, to rectify a failure which occurred during the operations of an event, will cause the warranty period for the Software as provided hereunder to restart.

K. The AV Contractor warrants that all contracts, contacts and arrangements between the Contractor and all third party Software suppliers providing Software as licensed hereunder will transfer to the Owner with the successful completion of the Final Acceptance.

L. The Owner will inform the AV Contractor of all its dealings with third party Software suppliers supplying software as licensed hereunder for the duration of the warranty period.

M. The AV Contractor warrants that at no charge to the Owner it will reply to verbal queries from the Owner provided that,

1. The queries relate to the System provided by the AV Contractor pursuant to this Specification.

2. The query is raised by Owner's staff or an authorized agent of the Owner

3. The query is during the AV Contractor's normal business hours

4. The Owner or employee has attended standard basic training in the use of the System as provided by the AV Contractor, or is otherwise qualified.

3.7 Sub Contract

A. No sub-contracting will be allowed in the case of the AV Contractor's responsibilities (as defined within these specifications), unless specifically identified in the original bid submission and approved by the Consultant and Owner.

B. The AV Contractor shall have sole responsibility for the satisfactory implementation and delivery of the audiovisual system or systems, even though the AV Contractor may have sub-contracted some portion of the installation or had specific manufactures install their own equipment.

3.8 Cooperation With Other Trades

A. It shall be the AV Contractor's responsibility to cooperate, at all times and to the fullest extent, with any and all other trades performing work on premises in order to avoid lost-time, work stoppages, interference and other inefficiencies.

3.9 Equipment Delivery And Storage

A Any and all equipment delivered or received prior to system installation shall be stored by the AV Contractor at their place of business. Any costs of shipping, or of any unusual storage requirements shall be borne by the AV Contractor. The AV Contractor shall inform the Owner no later than seven (7) days in advance of delivery to the installation site.

It shall be the responsibility of the AV Contractor to make all appropriate arrangements with authorized personnel at the work site for the proper acceptance, handling, protection, storage and security of equipment so delivered. Any equipment where title is held by the Owner shall be stored in a secure area approved in advance by the Owner. The Owner is to set the installation date.

B. The AV Contractor shall insure all equipment supplied under this contract until the date of system acceptance, and shall provide proof of same.

3.10 Cleanup And Repair

A. Upon completion of each day's work, the AV Contractor shall remove any and all refuse and rubbish from and about the Owner premises, and shall leave all areas and equipment clean and in a fully operational state. The AV Contractor shall be responsible for all costs of the Owner in repairing any damage caused to the premises by installation activities, at no cost or hardship to the Owner.

3.11 User Training

A. The AV Contractor shall provide relevant on-the-job training (by a suitably qualified instructor) for those personnel designated by the Owner, in order to instruct them in the operation of the installed Video Production System. In the event that the AV Contractor does not have suitably qualified instructors on staff for specific highly sophisticated equipment components and/or systems, a manufacturer's representative for such equipment will be provided by the AV Contractor at no additional cost to the Owner. All such training shall take place after the systems are fully operational, but prior to acceptance testing.

B. In the case of the master router, multidisplay windowing processor, SAN, and digital video archive, the AV Contractor shall ensure that the manufacturer conduct Owner training directly, with the AV Contractor's oversight. Cost for this service shall be included in the manufacturer quotation referenced in the detailed equipment list herein.

C. Training sessions shall be in accordance with the following:

1. Remote camera operations training: one group of 1-3 individuals for a minimum of 4 hours. This training shall include, but not be limited to, the following subjects:
   a. Use of remote wireless microphones
   b. Use of custom steel camera mounts in both wall and tripod-mounted configurations
   c. Use of variable length cable harnesses for camera connection
   d. Use of custom foam-lined travel/storage cases for camera/mount hardware

2. Base AV System control training: one group of 1-3 individuals for a minimum of 1 hour each for the Café, Screening Room, Lecture Room, and Music Club. This training shall include, but not be limited to, the following subjects:
   a. Operation of new system features including source selection to Video Production feeds
   b. Selection of outbound feed from each base AV system using control touchscreen in Video Production Control Room.
   c. Use of new rack-mounted connector panels and tielines in each base AV system
   d. Orientation for music club staff regarding new transformer-isolated microphone splitter

3. Video Production Control Room operations training: one group of 1-3 individuals for a minimum of 16 hours or two days. This training shall include, but not be limited to, the following subjects:
    a. Operation of master router and windowing processor for system setup into multiple configurations
    b. Overview of video formats relevant to system capabilities including DVCPro HD and Apple ProRes
    c. Use of patchfields for system maintenance, troubleshooting, and fault-tolerance
    d. Response procedures for equipment failure during broadcast and recording
    e. Workflow overview from capture to archiving for both single and multiple operator levels of staffing.
    f. Use of metadata and content management principles for capture and archiving of video content
    g. Use of Telestream Pipeline and ingest-scheduling software
    h. Use of digital video archive system for archiving content originated in FinalCut Pro system
    i. Webstreaming functions
    j. Other functions as required

4. Audio Mix Room operations training: one group of 1-3 individuals for a minimum of 4 hours. This training shall include, but not be limited to, the following subjects:
    a. Setup and operation of live mix, multitrack recording, and communication functions
    b. Use of backup multitrack recorder
    c. Digital mixing console configuration and operations
    d. Use of Protools and related hardware
    e. Use of patchfields for system maintenance, troubleshooting, and fault-tolerance
    f. Response procedures for equipment failure during broadcast and recording
    g. Management of tielines to and from Video Production Control Room
    h. Use of digital video archive system for archiving content originated in Protools system
    i. Other functions as required

5. Training for Music Club operations in support of multitrack recording: one group of 1-3 individuals for a minimum of 2 hours.

6. Intercom, IFB, and other communications systems training: one group of 1-3 individuals for a minimum of 1 hour.

3.12 Publication

A. No information relative to the job covered under this specification may be released for publication without prior written consent and approval from the Owner, which may be withheld, at the Owner's sole discretion.

3.13 Installation Practices

A. General

1. Installation shall be understood to include the delivery, unloading, positioning in place, securing to walls, floors, ceilings, counters or other structures as required, interconnect wiring of all system components, equipment alignment/adjustment and all other work

whether or not expressly called for in this document which is necessary to result in complete and fully operational systems.

2. All installation practices shall be in full accordance with, but not limited to, these specifications and drawings. Installation shall be performed in accordance with all applicable standards, requirements and recommendations of National, State and Local authorities having jurisdiction over these and other relevant matters.

3. If in the opinion of the AV Contractor, an installation practice is desired or required which runs contrary to these specifications and drawings, written request for modification shall be made to the Consultant. Any and all such modifications shall not take place without written approval.

4. During the system installation, and up to the date of final acceptance, the AV Contractor shall be under obligation to protect his finished and unfinished work against loss and/or damage. In the event of loss or damage, he shall replace or repair any and all work at no cost to the Owner.

B. Physical Installation

1. All equipment shall be firmly secured in place unless requirements of portability dictate otherwise.

2. All fastenings and supports shall be adequate to support their loads with a safety factor of at least five (5). All boxes, equipment, racks, stands, remote camera connection and mounting panels, etc., shall be secured plumb and square.

3. In the installation of equipment and cabling, full consideration shall be given not only to operational efficiency, but also to overall aesthetic factors.

C. Cable Installation

1. All wire bundles are to be neat and combed free of cable crossover.

2. All cables, regardless of length, shall be clearly marked with a permanent, wrap-around number or letter cable marker at both ends.

   a. There shall be no unmarked cables at any place or position in the audiovisual system.
   b. Marking codes used on cables shall correspond to codes shown on drawings and/or run-sheets.
   c. Cable marking codes shall follow the sequence RRR-TT-NNNN where:

3. RRR = System Room Number. The room number associated with the functionality of the system. For example, cables within a video closet that service room F45 will be identified by F45, not the room number of the closet. For cables running between two rooms, the room number of the source shall take precedence.

4. TT = Cable Type. The AV cables will be defined as having a specific ID code unique to each cable type. For example, various audio cables can have ID codes of A1, A2, A3, etc.

5. NNNN = Cable Number. The cable number shall be unique to each cable in a given system or room.
   a. The AV contractor shall not duplicate cable numbers across cable types within a given system or room.
   b. The AV contractor shall duplicate cable-numbering sequences between similar rooms (i.e. both 60 person rooms shall observe the same numbering sequence except for the room identifier).
   c. Do not truncate the leading zeros for cable numbers less than 1000. For example, audio cable number 5 for room F45 will be printed as F45-A-0005.
   d. It is recommended that the number sequencing be applied in a logical format to ease in diagnostics of the system.

6. All cables shall be grouped according to signals being carried. In order to reduce or eliminate signal contamination, separate groups shall be formed for the following cable families:

   a. Power cables
   b. Control cables
   c. Video cables
   d. Audio cables carrying signals less than -20dBm
   e. Audio cables carrying signals between -20dBm and +20dBm
   f. Audio cables carrying signals above +20dBm

7. As a general practice, all power cables, control cables and higher-level cabling shall be run on the left side of equipment racks as viewed from the rear. All other cabling shall be run on the right side of equipment racks as viewed from the rear.

8. Unless specifically called for in these drawings and specifications, the following cables, or their approved equals, shall be used in these systems:

   a. Control Cables

	Manufacturer	CL2	CL2P
1.	Serial Data Unidirectional (1 pr)	Belden 9451	88761
2.	Serial Data Bi-directional (2 pr)	Belden 8723	88723
3.	Serial Data Full Handshaking (4 pr)	West Penn	D2404 D252404
4.	Control Network Cable	Liberty	22/18-1PSH/2C 22/18-1PSH/2C-P
5.	Control Cable (4 conductor)	Belden	5302UE/6302UE
6.	Control Cable (12 conductor)	Belden	5309UE/6309UE
7.	UTP network cable – CAT-5/CAT-6	per 92Y telecom specification	
8.	UTP cable for analog RGB extenders	per extender manufacturer's specification	

   b. Video Cables

	Manufacturer	CL2	CL2P
1.	Video – Baseband SDI/HDSDI	Belden	1694A/1695
2.	Video – RF	West Penn	812/25812
3.	Video – RGBHV Long Haul	Extron	Hi-Res/1826A

4.	Video – Component	Extron	Hi-Res/NA	

c. Audio cables carrying signals less than -20dBm

	Manufacturer	CL2	CL2P
1.	Microphone Cable (install)	Belden	9451/88761

d. Audio cables carrying signals between -20dBm and +20dBm

	Manufacturer	CL2	CL2P
1.	Line Level Analog	Belden 9451	88761
2.	Digital Coax (S/PDIF)	Belden 1694A/1695	
3.	AES3	Belden 1800A	
4.	AES3id	Belden 1694A/1695	

e. Audio cables carrying signals above +20dBm

	Manufacturer	CL2	CL2P	
1.	Speaker Cable – 8 Ohm	West Penn	227B	25227B
2.	Speaker Cable – 70.7 Volt	West Penn	225B	25225B
3.	Spkr. Cable – Portable (4 cond.)	Whirlwind	W14/4	NA
4.	Spkr. Cable – Portable (2 cond.)	Whirlwind	W14GA	NA

Note: These cable types are cited to illustrate the type and quality of cable required. Unless otherwise noted, equivalent cables from other manufacturers will be considered acceptable if data sheets are submitted prior to installation and approved in writing by Consultant.

9. All cabling (except video and pulse cables which MUST be cut to an electrical length) shall be cut to the length dictated by the cable run. No splices shall be permitted in any pull-boxes without prior permission from the Consultant. For equipment mounted in drawers or on slides, the interconnecting cables shall be provided with a service loop of the appropriate length.

10. No cable shall be installed such that the bend radius is less than that recommended by the cable manufacturer.

D. Connection Plate Receptacles

1. Audio (microphone or balanced line level analog) – 3 pin XLR type.

2. Audio (unbalanced line level analog) – RCA type.

3. Audio (S/PDIF digital) – BNC type.

4. Audio (AES3 digital) – 3 pin XLR type

5. Audio (AES3id) – BNC type

6. Audio (loudspeaker level) - Neutrik NL4 "Speakon" type

7. Intercom - 3 pin or 5-pin XLR type for single channel or multichannel, respectively

8. MATV - "F" type connector. Receptacles shall be insulated from the connector panel.

9. Video (baseband analog or digital) - BNC type. Receptacles shall be insulated from the connector panel.

10. VGA - HD15-pin type.

E. Grounding Procedures

1. General:

   a. Because of the great number of variations in grounding systems, it shall be the responsibility of the AV Contractor to follow good engineering practice (as outlined below) and to deviate from these practices ONLY when deemed necessary to minimize crosstalk, ground loops, ground-induced noises, and to maximize signal-to-noise ratios in the audio, video and control systems.
   b. In order to eliminate or minimize potential problems resulting from improper grounding, and to achieve absolute minimum signal-to-noise ratios, the following grounding procedures shall be observed:

2. System Power Ground:

   a. A single, primary "system ground" shall be established for the systems in each particular area. All individual grounding conductors in a particular area shall connect to this "system ground". The system ground shall be provided in the audio equipment rack(s) for each area and shall consist of a copper bar of sufficient size to accommodate all secondary ground conductors.
   b. A copper conductor having a maximum of 0.1 Ohms total resistance shall connect the primary system ground to the nearest distribution panel providing power to the rack assembly.
   c. Secondary system grounding conductors shall be provided from all racks, audio consoles, and grounding points for each area. Each of these grounding conductors shall have a maximum of 0.1 Ohms of total resistance.
   d. Under no condition shall the AC neutral conductor, in either the power panel or in any receptacle outlet, be used as a system ground, except as specifically defined by NFPA 70 for bonding.
   e. Ungrounded equipment with either an inline transformer or a 2-prong plug, shall be bonded to the rack buss bar using #12awg cable.

3. Audio Cable Shields:

   a. All line level balanced audio cable shields shall be grounded at the receive end only unless specific circumstances dictate otherwise.
   b. For portable cabling connections and tielines the shield should be connected at both ends.

4. Video Receptacles:

   a. All video receptacles that are provided and/or installed by the AV Contractor shall be insulated from the mounting panel, outlet box or wireway. Unless otherwise detailed herein, this shall be accomplished by using "insulated-from-panel" type receptacles.

b. For long haul tie lines involving separate active electronics, some means of isolation is to be used to avoid ground loops.

3.14 AV Contractor System Check-Out

A. Before Acceptance Tests are scheduled, the AV Contractor shall perform a comprehensive system checkout. The AV Contractor shall furnish all required test equipment and shall perform all work that is necessary to determine and/or modify/correct performance of the system in order to meet the requirements of this Detailed Specification. The AV Contractor will test ALL audiovisual systems for compliance with the Performance Standards using appropriate test procedures. Any failure of System Acceptance Tests resulting from inadequate Contractor System Check-Out that requires additional Consultant time shall result in back-charges by the Owner to the AV Contractor to reimburse the Owner for costs of such additional Consultant time.)

1. Test Equipment will be provided by the AV Contractor and assembled on site for the system checkout. Test equipment will include the following components (or equivalent):

   a. Video Test Equipment:
      1. Multiformat high definition video test generator, SMPTE 259M/292M compliant outputs
      2. Multiformat RGBHV/DVI video test pattern generator
      3. Combination digital video analyzer with SMPTE 259M/292M compliant inputs capable of eye-pattern measurement, packet analysis, waveform/vector display.
      4. Prerecorded videotapes, discs, and test files of formats appropriate for system under test
      5. All cabling and adapters as required

   b. Audio Test Equipment:
      1. Time based measurement system, Goldline TEF20 or SIA SmaartLive with laptop PC, calibrated omnidirectional measurement mic, and appropriate interfaces
      2. Audio test set, Audio Precision P1Plus
      3. Prerecorded videotapes, discs, and test files of formats appropriate for system under test
      4. All cabling and adapters as required

   c. Network Test Equipment
      1. UTP Tester for 10/100/1000 Base-T

2. Audio Gain Structure:

   a. Adjust all systems (end to end within the room) for maximum signal-to-noise ratio. No hiss should be audible through any loudspeaker at the completion of gain structure setting, and all audio gain stages should clip simultaneously.

3. Provide a written record of all test results in spreadsheet form.

4. Using touch screen and/or other controllers, check all machine control functions - from all controlling devices to all controlled devices - for proper operation.

5. Adjust, balance, and align all equipment for optimum quality and to meet the manufacturer's published specifications. Establish and mark normal settings for all level controls. Record these settings in the "System Operation and Maintenance Manual".

6. Maintain documentation of all performance tests for reference and examination by the Consultant and Owner during System Acceptance Testing.

3.15 System Acceptance Tests

A. System Acceptance Testing shall not be performed until the AV Contractor's own System Checkout has been completed and test results have been recorded and reviewed. The System Acceptance Tests will be supervised by the Consultant representative and will consist of the following:

1. A physical inventory will be taken of all equipment on site and will be compared to equipment lists in the contract documents.
2. The operation of all system equipment shall be demonstrated by the AV Contractor.
3. Both subjective and objective tests will be required by the Consultant and Owner to determine compliance with the specifications. The AV Contractor shall be responsible for providing test equipment for these tests.
4. All final, "as-built" drawings, run sheets, manuals, and other required documents, as detailed in B.1, shall be on hand. Five complete sets of these documents shall be delivered to the Owner at this time. (One complete set shall have been delivered to the Consultant prior to scheduling of Acceptance Tests).
5. In the event further adjustment and/or alignment is required, or that defective equipment is discovered which must be repaired or replaced, further testing may be either suspended or continued at the option of the Consultant.
6. Any charges for additional Consultant time required to oversee system tests due to improper system installation or previously failed system tests shall be the responsibility of, and charged-back to, the AV Contractor.

3.16 Recognition

A. All installations shall bear the following identification plate, supplied by this AV Contractor, mounted on the top of the main rack at the top:

SYSTEMS ENGINEERED AND DESIGNED BY:
SHEN MILSOM & WILKE
417 FIFTH AVENUE
NEW YORK, NY 10016
212/725-6800

SYSTEM FABRICATED & INSTALLED BY:
(This Contractor)

The following shall be listed below:

"This project is made possible by a grant from the Lower Manhattan Development Corporation, which is funded through Community Development Block Grants from the U.S. Department of Housing and Urban Development."

B. Engraving shall be white filled Helvetica type lettering on a black background or as appropriate to the identification plate material.

(End of Part 3)

PART 4 - DRAWING LIST

4.1 Audio Visual System Drawings Included in This Package

Drawing Number	Drawing Title
AV-F100	Remote Camera Connection Plate Detail
AV-S01	Video Functional Part 1
AV-S02	Video Functional Part 2
AV-S03	Video Functional Part 3
AV-S04	Video Functional Part 4
AV-S05	Video Functional Part 5
AV-S06	Video Functional Part 6
AV-S07	Video Functional Part 7
AV-S08	Video Functional Part 8
AV-S09	Video Functional Part 9
AV-S10	Video Functional Part 10
AV-S11	Audio Functional Part 1
AV-S12	Audio Functional Part 2
AV-S13	Audio Functional Part 3
AV-S14	Audio Functional Part 4
AV-S15	Audio Functional Part 5
AV-S16	Audio Functional Part 6
AV-S17	Intercom Functional
AV-S18	Control Functional
AV-S19	Camera Connection Plate Detail
AV-S20	Camera Mount Detail
AV-S21	Rack Elevations
AV-S22	Production Room Layout
AV-S101	Changes to existing AV System: Café Video Functional
AV-S102	Changes to existing AV System: Café Audio Functional
AV-S103	Changes to existing AV System: Café Control Functional
AV-S104	Changes to existing AV System: Screening Room Video Functional
AV-S105	Changes to existing AV System: Screening Room Audio Functional
AV-S106	Changes to existing AV System: Screening Room Control Functional
AV-S107	Changes to existing AV System: Lecture Room Video Functional
AV-S108	Changes to existing AV System: Lecture Room Audio Functional
AV-S109	Changes to existing AV System: Lecture Room Control Functional
AV-S110	Changes to existing AV System: Music Club Room Video Functional
AV-S111	Changes to existing AV System: Music Club Room Audio Functional
AV-S112	Changes to existing AV System: Music Club Room Control Functional

4.2 Legacy Drawings Referenced by This Package

The following drawings are made available for reference and reflect the base AV infrastructure design as installed throughout 92Y Tribeca, formerly named Makor. This base infrastructure is already installed and thus out of scope. The information on the drawings listed below is not necessarily accurate with respect to actual installed conditions. The bidder is responsible to verify relevant infrastructure on-site, as installed, so as to ensure all necessary provisions are in place such that design intent may be fulfilled.

AV-F101	Audiovisual Ground Floor Plan
AV-000	Audiovisual Electrical Symbols and Notes
AV-E100	Audiovisual Cellar Electrical Plan
AV-E101A	Audiovisual Ground Floor Electrical Plan and Riser
AV-E101B	Audiovisual Ground Floor Electrical RCP

(End of Part 4)

PART 5- DETAILED SPECIFICATIONS

Base AV System Considerations

As described above, several changes and additions to the base AV systems as installed by ACE Audiovisual are included in scope. Design intent drawings contained in this bid package show the changes required for each base AV system. Existing signal flow is shown in phantom on these drawings such that existing and new scope may be delineated. The Consultant recognizes that some differences may exist between the as-built status of each system versus the SMW signal flow drawings on which the systems are based. Thus, each drawing includes a note reminding the reader that it is the bidder's responsibility to verify each system change shown with the relevant ACE Audiovisual as-built.

In addition to changes to the base AV system hardware, several new control programming functions are required. These functions are itemized on the SMW signal flow drawings contained in this package. As with the as-built drawings, it is the bidder's responsibility to review the relevant system's Crestron source code such that modifications may be implemented so as to obtain the necessary functionality.

Broadcast Links

The Switch, located at 60 Hudson street, will provide broadcast routing and uplink service for connection of video originated at 92Y Tribeca to various broadcast partners. Dedicated fiber connections provided by Verizon Video will convey digital audio and video to The Switch. In this context, the AV Contractor shall be responsible to:

1. Furnish and install cabling as specified to the Verizon Video demark at 200 Hudson Street.
2. Coordinate with The Switch to ensure their control panel be installed as required in the Video Production Control Room. Although this panel is connected via internet link and does not interface to the Video Production System directly, the AV Contractor shall be responsible to provide the network connection within the Video Production Control Room and to supervise all necessary provisioning.

Final Cut Pro and Protools Mac Workstations

Two Mac Pro workstations are specified for use with Finalcut Pro and Protools. The specification for each Mac Pro is as follows:

- Mac Pro 8-core
- Dual 2.8GHz Quad-Core Intel Xeon processors
- 8GB DDR2 800MHZ PC2-6400 ECC RAM
- 16x Superdrive
- ATI Radeon HD 2600XT
- Dual 500GB internal HDD (System and content)
- Applecare protection plan for Mac Pro
- Host bus adapter as required for specified storage system
- All other specifications necessary to ensure compatibility with Digidesign Protools HD and Apple Final Cut Pro

Router Management Server

A management server is required to host Evertz router control software. This server is to be provided by the AV Contractor and appears as a line item on the detailed equipment list. The performance specification for this server is as follows:

- Quad-Core Intel(r) Xeon(r) processor X3220 (2.4GHz, 8MB L2 cache, 95 Watts, 1066MHz FSB) or similar performance
- Minimum 2GB Unbuffered Advanced ECC PC2-6400 DDR 2x1GB Memory or similar
- Integrated Serial ATA host controller RAID array controller
- RAID 5 drive set (Requires 3 matching drives with beneficial performance from 4 matching drives)
- Each drive should be at least 160GB SATA 1.5Gb 7,200 rpm Hard Drive
- Dual Port Gigabit NIC Adapter
- Serial port
- Optical Drive
- MUST SUPPORT Debian 4.0 (Etch) operating system

Note that an additional video archive management server with direct-attached LTO tape machine is specified under quotation in the detailed equipment list, and shall be located in the data room with the Router Mangement Server.

Utility and Webstreaming PCs

Two additional PCs are required to host Evertz the software router control panel, multidisplay windowing processor management console, and webstreaming applications. The performance specifications for these PCs are to be as follows:

- Windows 2000 PRO/Server/Windows XP PRO
- P4 2.6GHz or higher
- 8GB RAM
- 250GB HDD
- 100/1000 Ethernet Nic
- From XGA to UXGA screen resolution supported
- CD-ROM player

OS, application, and networking installation, configuration, and commissioning of the server, PCs, and Mac Pros are in scope.

SAN

A self-contained central SAN is specified for installation in the data room. All SAN-related configuration, commissioning, and training of the end users shall be performed by the AV Contractor. The AV Contractor shall ensure that the following endpoints be configured to address the central SAN:

- Webstreaming PC (via single-port fibrechannel HBA)
- The ingest interface (Via gigabit Ethernet, utilizing the SAN's built-in NAS function)
- Protools Mac Pro workstation (via single-port fibrechannel HBA)
- Final Cut Pro Mac Pro workstation (via single-port fibrechannel HBA)
- Utility PC (Via gigabit Ethernet, utilizing the SAN's built-in NAS function)

Acoustical Isolation Racks

So as to reduce noise in the two control rooms, custom acoustical isolation racks are specified. The units quoted are rated by their manufacturer to exhaust up to three thousand watts of heat. Although the equipment contained in these racks outputs significantly less heat, concern remains that air be exchanged through the racks to ensure the rated heat performance is maintained. To this end, it is the responsibility of the AV Contractor to ensure adequate airspace within each rack through careful cable dressing and management of airways between equipment, fans, and each rack's inlet vent/outlet exhaust.

In addition, the AV Contractor shall identify what, if any, provisions need be made to ensure adequate cable access into each equipment rack from the raised floor system. As cables enter from the bottom rear of each rack, internal equipment layouts and wire dressing are critical to ensure successful installation. The AV Contractor shall verify that this suits their integration requirements during the submittal phase, and make recommendations for alternative cable entrance at no cost if required.

Within the Audio Mix Room, cable access must include a service loop so as to allow the rack to wheel forward for rear access. The method of dressing this service loop such that cabling is not allowed to tangle beneath the rack is left to the AV Contractor and will be reviewed at the time of submittals.

Gigabit LAN

A dedicated gigabit Ethernet LAN is included in this bid specification package. The exact requirements for installation are as follows:

Video Production Control Room Tie
1. Furnish and install twenty (20) Category 6 cables from an Owner-designated rack in the IT Server Room to the Video Production Room raised floor access.
2. Furnish and install one (1) 24-port Category 6 patch panel and one (1) 1-U wire management panel in an Owner-designated rack in the IT Server Room. Locate adjacent to the Audio Mix Room tie patch panel. Coordinate the exact patch panel location and installation with the Owner's IT representative.
3. Furnish and install one (1) 24-port Category 6 patch panel and one (1) 1-U wire management panel in Rack #2 within the Video Production Control Room. Install in the top-most rack position, in the rear of the cabinet with the wire management below the patch panel.
4. Terminate all twenty (20) cables on the patch panels on each end. Test and label each cable. Label both the patch panels and each patch panel port.

Audio Mix Room Tie
1. Furnish and install eight (8) Category 6 cables from an Owner-designated rack in the IT Server Room to the Audio Mix Room raised floor access such that sufficient slack is available for access to Rack #12 inclusive of service loop and other requirements for length.
2. Furnish and install one (1) 24-port Category 6 patch panel and one (1) 1-U wire management panel in an Owner-designated rack in the IT Server Room. Coordinate the exact patch panel location with the Owner's IT representative.
3. Furnish and install one (1) 24-port Category 6 patch panel and one (1) 1-U wire management panel in Rack #12 in the Audio Mix Room. Install in the top-most rack position, in the rear of the cabinet with the wire management below the patch panel.
4. Terminate all eight (8) cables on the patch panels on each end. Test and label each cable. Label both the patch panels and each patch panel port.

All network jumpers between Ethernet endpoints within the Video Production Control Room and Audio Mix Room, as well as in-scope server(s) within the dataroom, shall be furnished and installed by the AV Contractor. All network jumpers between the dataroom patch panel and Owner-Furnished gigabit Ethernet switch shall be furnished and installed by the AV Contractor.

Remote Cameras

Each remote camera shall include an AV Contractor-supplied custom steel mount allowing for wall or tripod mounting as required by users of the Video Production System. Detailed shop drawings describing the design and fabrication of these mounts shall be provided by the AV Contractor for approval during the submittal phase. The AV Contractor shall engineer these mounts to be as light as possible for reasons of portability. The fixed wall-mounted attachment plates shall be engineered by the AV Contractor so as to ensure appropriate safety factor of overhead suspension. The AV Contractor shall secure each fixed wall-mount plate using the appropriate attachment method for concrete, drywall, or other applicable surface such that appropriate safety factor is ensured.

A complement of wireless microphone receiver/transmitter pairs shall be furnished by the AV Contractor per the detailed equipment list. The AV Contractor is responsible to devise a method for securing the wireless receivers to any camera mount such that Users may pair any wireless microphone with any camera unit. Commercial-strength rigid plastic hook-and-loop fastener tape is an acceptable method of attachment.

Foam-lined Pelican cases shall be furnished by the AV Contractor per the detailed equipment list. Each case shall have its foam inserts customized to protect and store each camera, regardless of type, with its mount attached. Camera lens, cabling harness, wireless microphone hardware, and tripod mounts must also be accommodated such that no disassembly is required to pack the camera/pantilt unit into each case. Each case shall be wheeled with extendable pull handle.

A quantity of portable camera tripods shall be furnished by the AV Contractor per the detailed equipment list. The AV Contractor shall include an adaptor mount allowing for attachment of the custom wallmount bracket to the tripod for portable use. The exact means of attachment shall be determined by the AV Contractor.

For each tripod, an extended cable umbilical shall be furnished by the AV Contractor allowing any tripod-mounted camera to connect to a wall connection panel for remote use away from fixed wall-mount positions. These cable umbilicals shall be sheathed in “snakeskin” cable covering and dressed for a length of fifty feet. Video, control, power, and gunlock cabling shall be included in each umbilical.

Multidisplay Windowing Processor

The 65” and 32” flatscreen displays located in the Video Production Control Room and Audio Mix Room respectively serve as source monitors for all inbound and outbound signals. The AV Contractor shall be responsible for the full configuration of this system, including the setting of presets, such that Users may easily recall basic configurations. Display layouts shall be provided for approval during the submittal process. It is understood that audio peak metering is not currently provided in the system design. Future expansion of the router, together with audio embedders, will allow for this. The AV Contractor shall also be responsible to ensure that alphanumeric under-monitor-displays be labeled to indicate each source and destination on the multidisplay. The naming of these feeds shall match those given in the router configuration, patch panel labeling strips, and rack equipment labels for maximum consistency across the system.

Digital Video Archive

A digital video archive server with direct-attached LTO-4 tape library is included in these specifications. The archive is to be accessed via the two Mac Pros (Final Cut and Protools) and two PCs (Webstreaming and Utility) included in this system. The AV Contractor shall be responsible for all necessary installation,

commissioning, and training of the end-users on the use of the digital video archive with these workstations. Per the design drawings, the digital video archive system is to be located in the data room.

(End of Part 5)

PART 6- DETAILED EQUIPMENT LIST

System	Equipment	Engineering	Pre-installation / Installation	General & Admin.	Installation Services	Total
Video Production System						
					Grand Total:	

Description	Manufacturer	Model	Qty	Item Cost	Total Cost
Audio					
Digital audio mixing console type 1 (large)	Yamaha	LS9-32	1		
96KHz aes option card	Yamaha	MY16AE96S	2		
Mac Pro workstation for use with Protools	Apple	See narrative specification	1		
Protools core card and software	Digidesign	HD2 Accel	1		
Protools digital audio interface breakout	Digidesign	192 Digital I/O	2		
Flatscreen LCD monitor for Mac Pro	Dell	2407WFP	2		
DVI/keybd/mouse extender for Mac Pro	Gefen	CAT5 5500HD sender/recvr	1		
Digital audio mixing console type 2 (small)	Yamaha	01V96	1		
Active monitor loudspeakers type 1 (for audio mix room)	Genelec	1032A	2		
Active subwoofer (for audio mix room)	Genelec	7070A	1		
Active monitor loudspeakers type 2 (for audio mix room)	Tannoy	Reveal 6D	2		
Audio monitor panel	Wohler	AMP-1A-106	1		
Intercom master station	Clearcom	MS-702	1		
Intercom remote station	Clearcom	RM-702	3		
Intercom headset	Clearcom	CC-26	6		
2 channel intercom beltpack	Clearcom	RS-602	2		
Multipin breakout cable for 2 channel intercom beltpack	Clearcom	As required	2		
32" LCD display for audio control room	Sharp	Aquos LCD32D62U	1		
Wallmount for 32" LCD display	Chief	MWH Series	1		
HDSDI audio embedder	AJA	HD10AMA	2		
24 channel transformer-isolated splitter for music club	Whirlwind	SB24JT11G (Jensen xfmrs)	1		
DSP output expander frame	Biamp	Audia EXPO	2		
DSP input expander frame	Biamp	Audia EXPI	1		
DSP input card for lecture room	Biamp	IP2	1		
DSP output card for lecture room	Biamp	OP2	1		

				Sub-Total:	
Video					
HD video camera type 1 (One piece)	Panasonic	AW-HE100	4		
HDSDI option card for HD video camera type 1	Panasonic	AW-HHD100	4		
HD video camera type 2 (Box cam)	Panasonic	AW-HE870N	3		
HDSDI option card for HD video camera type 2	Panasonic	AW-HHD870	3		
HD video camera lens (2/3" motor drive	Fujinon	HAS18x7.6BMD-DSE	3		
Camera pan/tilt mechanism (for camera type 2)	Panasonic	AW-PH405	3		
PTZ joystick controller	Panasonic	AW-RP655N	1		
Power supply for PTZ joystick controller	Panasonic	AW-PS510N	1		
Miscellaneous camera system cables	Panasonic	As required	3		
Custom dockable wallmount for camera	By AV Contractor	Custom	7		
HDSDI production video switcher	Panasonic	AV-HS400AN	1		
Dual inut HD/SD-SDI input board	Panasonic	AV-HS04M1	2		
DVI/component scalable output module	Panasonic	AV-HS04M5	1		
DVI/component output module for production video switcher	Panasonic	AV-HS04M4	1		
Master router: 32x32 HDSDI with XLINK, accessories	Evertz	Per quote# AAAQ70863-01	1		
Master router: 64x64 analog audio, accessories	Evertz	Part of quote# AAAQ70863-01	1	(included)	(included)
Multiformat windowing processor 16 x 2 with XLINK	Evertz	Part of quote# AAAQ70863-01	1	(included)	(included)
Server software for route, XLINK, and windowing control	Evertz	Part of quote# AAAQ70863-01	1	(included)	(included)
Virtual control panel application for router control	Evertz	Part of quote# AAAQ70863-01	2	(included)	(included)
Linux-based server for router/XLINK applications	By AV Contractor	See narrative specification	1		
Onsite training and commissioning of router/processor	Evertz	Part of quote# AAAQ70863-01	1	(included)	(included)
65 inch LCD flatscreen display for video control room	Sharp	Aquos LC-65D64U	1		
Ceiling mount for flatscreen displays	Chief	PCM Series	1		
Flatscreen LCD monitor	Dell	2407WFP	5		
Bidirectional HD/SD transcoder	Evertz	HD2020 Video Passport	1		
Rasterized waveform monitor/vectorscope test set	Leader	LV-7700	1		
Rackmount for HD rasterizer	Leader	LR-2477	1		
HDSDI to DVI converter	Aja	HDP	1		
Master sync/test generator	Ensemble Designs	Brighteye 56	1		
Analog video distrubution amplifier (1x4)	Ensemble Designs	Brighteye 41	8		
Rack shelf for Brighteye products	Ensemble Designs	BERKMT	2		
Power supply for Brighteye products	Ensemble Designs	BEPS6	2		
HDSDI video distribution amplifier (1x4)	Aja	HD5DA	5		
HD-SDI repeater/DA (for remote camera video)	Aja	HD10DA	8		
Rack chassis/power supply for AJA products	Aja	DRM	2		
Webstreaming PC workstation	Dell	See narrative specification	1		
HDSDI capture interface for	Aja	KONA Lhe	1		

webstreaming PC workstation					
Streaming encoder application for webstreaming PC	Telestream	Wirecast	1		
Utility PC workstation (for router and windowing proc. control)	Dell	See narrative specification	1		
KVM switch for PCs	Gefen	2x2 DVI DL	1		
Button controller for KVM switch	Gefen	RMT-4	1		
Quad monitor with loopthrough	Marshall	VR44P-HDSDI	3		
HD video streaming ingest interface: 2 channel	Telestream	Pipeline	1		
Mac Pro workstation for use with Final Cut Pro	Apple	See narrative specification	1		
DVI/keybd/mouse extender for Mac Pro	Gefen	CAT5 5500HD sender/recvr	1		
HDSDI capture interface for Mac Pro	Aja	KONA Lhe	1		
Final Cut Pro Software	Apple	Final Cut Studio 2	1		
Central SAN: 12TB RAID5, 4 users, host software	Studio Network Solutions	Per quote# 105557	1		
Fibrechannel HBA (single channel) for central SAN	Studio Network Solutions	Part of quote# 105557	3	(included)	(included)
On-site commissioning and training for central SAN	Studio Network Solutions	Part of quote# 105557	1	(included)	(included)
Digital video archive: server and direct-attached LTO4 library	Rorke Data	Per quote# SMW042809	1		
Commissioning and training for digital video archive	Rorke Data	Part of quote# SMW042809	1	(included)	(included)
LTO magazines and tapes	Rorke Data	Part of quote# SMW042809	1	(included)	(included)
HD image scaler (For Café, Screening, Lecture, and Club)	Folsom	ImagePro HD	4		
HD-SDI fiber extender for Café, Screening, Lecture, and Club	Extron	FOX HD-SDI MM	16		
RGBHV switch 12 x 12 (for Café)	Extron	MVX 1212 VGA A	1		
Coax to fiber interface to Verizon video demarc	By Owner	By Owner	2	OFE	OFE
				Sub-Total:	
Portable Equipment					
Field wireless microphone receiver (for attachment to camera)	Lectrosonics	UCR401	2		
Field wireless microphone transmitter: Lavalier	Lectrosonics	UM400A	1		
Field wireless microphone transmitter: Handheld adapter	Lectrosonics	UH400A	1		
Clip-on lavalier microphone for use with field transmitter	Countryman	B6 with clip, TA-5F conn.	1		
Heavy duty tripod for remote camera operation	Vinten	HDT-2	5		
Adapter head for attachment of camera mount to tripod	Custom	By AV contractor	5		
Foam-lined travel / storage case for PTZ camera	Pelican	1730 series	5		
Extended cable umbilical for tripod mounting of camera (50')	Custom	By AV Contractor	5		
				Sub-Total:	
Control					
24 port gigabit ethernet switch	Owner furnished	Owner furnished	1	OFE	OFE

Control system mainframe	Crestron	AV2	1		
Contro l touchpanel	Crestron	CT-1550	1		
Control system programming: Video Production System	Custom	By AV contractor	1		
Control programming: Café sourccode modifications	Custom	By AV contractor	1		
Control programming: Screening Room sourccode modifications	Custom	By AV contractor	1		
Control programming: Lecture Room sourccode modifications	Custom	By AV contractor	1		
Control programming: Music Club sourccode modifications	Custom	By AV contractor	1		
				Sub-Total:	
Miscellaneous					
24 space equipment rack for video control room	Middle Atlantic	WRK-24-32	3		
Acoustical isolation rack for video control room	Sound Construction and Supply	Per quote# 1391	2		
Acoustical isolation rack for audio mix room	Sound Construction and Supply	ISOB-20	1		
Slide-out tray for Mac Pro	Sound Construction and Supply	Mac Pro Sliding Tray	2		
Production console for video control room	TBC Consoles	Per quote# S-6662-09	1		
Production console for audio mix room	Argosy Consoles	Per quote# QU5489	1		
Remote camera connection plate	Custom	By AV contractor	13		
Custom rack connection plate (for base AV system racks)	Custom	By AV Contractor	3		
HDSDI video patch panel	Canare	242U-DVJW	7		
Audio patch panel	Audio Accessories	WQP-01-E-H4-24-N-1	9		
Patch cables	ADC	As required	42		
Patch cord holder	ADC	As required	2		
Uninteruptible power supply	Middle Atlantic	UPS-1000R	3		
Series mode surge suppressor	SurgEx	SX-1120-RT	7		
Miscellaneous cable assemblies and accessories	By AV contractor	As required	1		
				Sub-Total:	

ADD / ALTERNATES					
List Add/Alternates here					
HDCAM VTR	Sony	HDWD-1800	1		
DVCPRO HD VTR	Panasonic	AJ-HD1400	1		
Teleprompter display, mount, mirror	Autoscript	ELP15-FS	1		
Attachment adapter for teleprompter and camera wallmount	Custom	By AV contractor	1		
Analog phone interface	Clearcom	AC-701	1		
Director's IFB controller	Clearcom	MA-704	1		
Gooseneck mic for director's IFB controller	Clearcom	As required	1		
Talent interrupt foldback interface	Clearcom	PIC-4704	1		
Talent IFB receiver	Clearcom	TR-50 w/ rack kit	2		
ALTERNATE Central SAN: 16TB RAID5, 4 users, host software	Studio Network Solutions	Part of quote# 105556	1		
ALTERNATE Fibrechannel HBA (single channel) for SAN	Studio Network Solutions	Part of quote# 105556	3	(included)	(included)
ALTERNATE On-site commissioning and training for SAN	Studio Network Solutions	Part of quote# 105556	1	(included)	(included)

(End of Part 6)

End Specification