ford AV

Helping People Communicate!

May 4, 2016

Mr. Brad Klingenberg
City of Broken Arrow
1101 North 6th Street
Broken Arrow, OK 74012

RE: Flat Classroom AV Proposal

Dear Mr. Klingenberg:

Ford Audio-Video Systems, LLC (Ford AV) respectfully submits for your consideration the attached proposal, which covers the details of the system requirements in the following outline:

A. Introduction
B. Description of Work and Responsibilities
C. Installation Schedule
D. Equipment List
E. Cost Summary and Terms
F. Guarantees and Limitations of Warranty
G. Training and Documentation
H. Building Construction and Installation
I. Discussion of Technology
J. Acceptance

The proposed systems are based upon our understanding of your requirements as communicated to us during our meetings and conversations. If there are any changes that need to be made, please let us know. We invite you to compare our systems with any other; in quality, price, and professionalism of installation, we are second to none.

This proposal contains confidential pricing, design, and installation information that is proprietary to Ford AV and utilizes Ford Audio-Video Systems, LLC's **Oklahoma State Purchasing Contract, #ITSW1021**. It is provided for your private use, and is not to be disclosed, in part or in whole, without the express, written authorization of Ford AV. Please let us know if any questions arise. We look forward to serving you.

Sincerely,

FORD AUDIO-VIDEO SYSTEMS, LLC

James Mitchell, CTS
Senior Account Manager

FORD AUDIO-VIDEO SYSTEMS, LLC

Bryan Burdick
Vice President

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Proposal

For

City of Broken Arrow, Broken Arrow, OK

A. INTRODUCTION

This proposal provides a description of the technology incorporated into the systems, lists the major equipment and components, and states the terms, conditions, and responsibilities. Individual components and quantities may be changed, deleted, added, or designated as optional to be added to the system at a future date.

B. DESCRIPTION OF WORK

Ford AV shall provide and install the following systems for the City of Broken Arrow, Oklahoma (Customer):

SIDE A

1. AUDIO SYSTEM

a. Six (6) 4", two-way loudspeakers shall be suspended from the ceiling structure and distributed evenly in the room.

2. VIDEO SYSTEM

a. One (1) 16:10 aspect ratio, front-projection, recessed, electric video screen shall be ceiling-mounted on the window side of the flat classroom, on Side A.

b. One (1) 5,000 ANSI-Lumen, 1280 x 800, WXGA resolution, LED video projector shall be ceiling-mounted and aligned with the video screen, on Side A.

c. One (1) Blu-ray player shall be provided and mounted in the podium equipment rack on Side A.

d. One (1) owner furnished equipment (OFE) cable tuner shall be mounted in the podium equipment rack on Side A.

e. One (1) 19" computer display shall be provided and mounted on the podium, on Side A, for OFE desktop computer confidence monitoring.

f. One (1) rolling equipment rack podium shall be provided and installed one Side A of the flat classroom to house the AV equipment.

3. CONTROL SYSTEM

a. One (1) presentation video matrix switching control system, with 7" wired button panel shall be set on the top of the equipment rack on Side A. The control system shall allow

for room combing of the Side A inputs. Side B shall have one (1) 6 button panel for its own control. When the rooms are not combined, Side B shall operate independently from its computer input plate to display audio and video from the Side B wall plate. The control system shall be installed and programmed to control the following functions:

1) Blu-ray (Power On/Off, Play, Pause, FF and RW, Menu)
2) Switcher (Power On/Off, Input Source Select, Master Volume)
3) Projectors (Power On/Off, Input Source Select)
4) Screens (Up/Down)
5) System (On/Off)

SIDE B

1. AUDIO SYSTEM

a. Six (6) 4", two-way loudspeakers shall be suspended from the ceiling structure and distributed evenly in the room. The speakers on Side B of the flat classroom shall be tied into the Side A system, so they can provide overflow audio from Side A, or have the capability to provide audio from the computer input plate on Side B. Switching of this audio combining path shall be provided by the control system button panel on Side A.

2. VIDEO SYSTEM

a. One (1) 16:10 aspect ratio, front-projection, recessed, electric video screen shall be ceiling-mounted on the window side of the flat classroom, on Side B.

b. One (1) 5,000 ANSI-Lumen, 1280 x 800, WXGA resolution, LED video projector shall be ceiling-mounted and aligned with the video screen, on Side B.

c. One (1) HDMI and VGA with audio wall plate shall be provided and installed on the window wall, behind the podium equipment rack, on Side B.

3. THE CUSTOMER SHALL BE RESPONSIBLE FOR:

a. The Customer shall have a representative (one [1] person selected by the Customer) available throughout the installation to make decisions on behalf of the Customer concerning the installation. The purpose is to ensure that communication between the Customer and Ford AV is accurate and responsive in the event of questions or problems that may arise during installation.

b. The Customer shall clear the facility, auditorium, or other rooms involved in the installation of all activities during the periods of installation. Ford AV will work with the Customer to schedule the installation. Hours or days of work lost by the installation crew due to the inability to work as planned will be charged to the Customer based on the extra labor and expenses required.

c. The Customer shall provide a facility that is prepared for the installation of electronic equipment. This includes a clean, dust-free and air-conditioned environment that is secure and quiet. The Customer is responsible for providing a secure job site and for the cost of loss or damage to audio, video, and lighting equipment delivered by Ford AV to the job site.

d. Electrical AC Power:

In the event that AC electrical power is required to be installed or conduit systems are required to support the audio/video systems, it is the responsibility of the Customer, at their expense, to provide complete and adequate electrical power, unless otherwise noted.

e. Providing and preparing adequate space for the location of equipment, speakers, speaker clusters, subwoofer cabinets, distributed under and over balcony speaker systems, stage monitor systems, equipment racks, control and mixing consoles, video monitors, video projectors, projection screens, and equipment racks included in system. In the event floors are sloped or not level, the Customer is responsible for making the floor level under consoles and equipment racks. In the event a projection screen is recessed in a finished ceiling, the Customer is responsible for refinishing the ceiling.

f. Providing a clear area with adequate ventilation and air conditioning that maintains a room temperature not exceeding 75 degrees Fahrenheit in all rooms that are occupied by sound/audio/video/lighting equipment racks. Sound, audio, video and lighting equipment produces heat which must be dissipated by ventilation or air conditioning. Prolonged operation at room temperatures above 75 degrees Fahrenheit will shorten the life of electronic equipment, leading to premature failure of components.

g. Ford AV is not licensed for and does not perform any AC electrical, carpentry, painting, masonry, or carpet laying work.

4. FORD AV SHALL BE RESPONSIBLE FOR:

a. Providing line drawings for systems and equipment manuals electronically at no cost

b. Fabrication and installation of audio/video systems

c. Providing recommendations for electrical power and conduits, to be provided and installed by the electrical contractor, for the audio/video/control systems

d. Installation of low voltage audio/video wiring for systems

e. Electronic testing of audio systems

f. Testing and alignment of video systems

g. Training

h. Warranty service

i. Providing as-built drawings with wire numbers and labels

5. PREVENTATIVE MAINTENANCE

a. Ford AV shall perform one (1) pre-scheduled service call, prior to the end of the warranty period, for the purpose of conducting routine preventative maintenance (PM) to check the general operation of equipment. This PM service call shall be scheduled in advance with the Customer, between 8:00 am and 5:00 pm Monday through Friday, excluding holidays,

and does not include expendable materials used (e.g., light bulbs, lamps, light fixture lamps, fuses, batteries, portable connection cables, etc.) or system programming. This service is renewable up to three (3) years.

b. The Customer will provide a contact person that is authorized to answer questions and obligate the Customer if additional services are requested. The contact will be personally available to meet with the Ford AV technician and have knowledge of the equipment and systems to be inspected. The contact person will provide access to all areas and equipment rooms requiring inspection.

C. INSTALLATION SCHEDULE

1. Ford AV estimates that the actual on-site installation, test out and commissioning of this project will take three (3) days. In addition to the installation, Ford AV shall prepare system drawings, purchase the equipment, assemble the equipment in our shop, program control software as required and do in-shop testing. This work will take approximately six (6) to eight (8) weeks prior to the beginning of actual installation at your facility. The total time required to complete the project shall be approximately eight (8) weeks. The completion of Ford AV's work depends upon the facility being secure, dust-free, air-conditioned, and quiet.

2. For Ford AV to meet the above completion schedule, it is important that the Customer ensures the job site is available for Ford AV personnel, and there are no interruptions in the availability of the job site and the ability of Ford AV to do the work. Ford AV schedules its work force weeks in advance in order to meet the installation completion dates of all of its customers. As a consequence, it is vital that the Customer notify Ford AV's Project Manager in the event that the Customer changes the schedule or the Customer's other contractors fall behind in completing their portion of the work.

D. EQUIPMENT LIST

VIDEO DISPLAY SYSTEM (CONTRACT #ITSW1021)

Quantity	Description
3.00	NEC.NP-P502WL PROJ, WXGA DLP, 5,000 LUMENS
2.00	CHIE.RPMAU MOUN,UNIVERSAL RPMA W/Q-LOCK
2.00	CHIE.CMA440 MOUN,SUSP,CEILING PLATE,8"X2"
2.00	CHIE.CMS012 MOUN,FIXED PIPE 12"
1.00	EXTR.60-1081-01 SWIT,HDCP,COMP,SCAL,PRES,SWITC
2.00	EXTR.60-1271-12 TRAN,HDMI TWISTED PAIR TX
2.00	EXTR.60-1271-13 RECE,HDMI TWISTED PAIR RX
1.00	CRES.HDDA24KE VIDE,1X2,4K,HDMI,DISTRO AMP
1.00	SAMS.BD-E5700 BLUERAY PLAYER,WIFI
1.00	EXTR.60-1098-02 BOX,LOW PROFILE SRFC MNT,BLK
1.00	SAMS.UN22F5000A DISP.LCD,21.5"LED HDTV; 1080P
1.00	CHIE.K1C110B MOUNT,CLMN,MNT,SINGLE DISPLAY
12.00	JBL.CONTROL14CT SPEA,4",2WAY,IN-CEILING,WH
1.00	MIDD.PD-915R POWE,15,AMP,MOUNT,POWER,STRIP
1.00	TRIP.SMART1500L UPS,RACK/TOWER 120V W/LCD DISP
500.00	WEST.25225B WIRE,2C,16G,PLENUM,GRAY
1,000.00	WEST.25291B 2,COND,22,7X30,BARE,SHLD,CMP

1.00	CRIMPS, TIES & FASTENERS
16.00	CABLES & CONNECTORS
1.00	RACK HARDWARE/POWER/PANELS
1.00	SUPPORT HARDWARE
1.00	CUSTOM PODIUM ALLOWANCE
1.00	JBL.CSA2120Z AMP, 2 CHANNEL/120 W / 70 V
1.00	C2G.39710 PANE,HDMI,DECORA,PIGTAIL,WHITE
1.00	C2G.37091 HD15 + 3.5MM WAL PLATE-WHITE
1.00	C2G.41192 35FT HDMI HIGH SPEED PLENUM M/
1.00	C2G.40177 35FT PLENUM VGA+3.5MM CABLE
1.00	RADI.TX-J2 AV,UNBAL.INPUT TRANSFORMER
2.00	DALI.37575LS CONTOUR,130D 69X110 HCMW
1.00	MIDD.UD3 RACK,3 SP (5 1/4") UTLTY DRWR
250.00	WEST.254246F-BK WIRE, 4PR 23G SHLD CAT6 CMP

Sub Total	21,497.00

CONTROL SYSTEM (CONTRACT #ITSW1021)

Quantity	Description
1.00	CRES.CP3 CONTROL SYSTEM, OVER NETWORK
1.00	CRES.CENSWPOE5 DATA,SWITCH ETHERNET,5PORT,POE
1.00	CRES.MPB20BT PANE,BUTTON,MEDIA PRESENTATION
1.00	CRES.CNX-B6B ACCE,WALLPANL,SPKR,BLKTEMP,6BU
1.00	CRES.GLSPARTCN CRESNET PARTITION SENSOR

Sub Total	2,218.00

INTEGRATION SERVICES (CONTRACT #ITSW1021)

Quantity	Description
	DESIGN, ENGINEERING, FABRICATION, PROJECT MANAGEMENT INSTALLATION, COMMISSIONING, TRAINING AND WARRANTY

Sub Total	9,135.00
Merchandise:	23,715.00
Integration:	9,135.00
Freight:	.00
Sales Tax*:	.00
Total Amount:	32,850.00

E. COST SUMMARY AND TERMS

PROPOSED TOTAL: $32,850.00

PREVENTATIVE MAINTENANCE: $750.00

*TAXES: All taxes are the responsibility of the Customer. If a tax is charged to Ford AV, the Customer will be responsible for reimbursing Ford AV for the cost.

TERMS: 100% Payment upon completion.

All invoices are due upon completion of the project.

CC: Unless otherwise prohibited by law, a 3% bank interchange fee will be charged for using a credit card for payment.

PRICE: The price stated above for this project is based upon the complete system being purchased and installed at one time. In the event the Customer selects to purchase less than the total project, delays purchase of any portion of the system, requires that the system be installed in phases, or delays the installation, Ford AV reserves the right to charge for additional labor, travel, and overhead. The price is valid for thirty (30) days from the date of this proposal.

COMMENCEMENT OF WORK:

Ford AV must receive the signed contract, down payment, and/or a purchase order accepting the terms and conditions of this proposal, prior to the contract being initiated by Ford AV. Without the acceptance of Ford AV no work on the contract will be under taken, including engineering the system, purchasing the equipment and scheduling the work crews for installation. In the event the Customer fails to pay Ford AV within the terms above, Ford AV reserves the right to stop work on the project until all payments are received by Ford AV in accordance with the terms.

CREDIT: This proposal shall not be deemed as accepted by Ford AV until the executed contract is returned to Ford AV's credit center for final review and acceptance.

CHANGES: Any Customer Change Orders (CCO) must be approved in writing by the Customer prior to execution by Ford AV and are subject to the credit terms of this agreement.

NON-HIRE: The Customer and Ford AV mutually agree, because of the high cost of training an employee, that neither party shall solicit the employment of any employee of the other party, and shall not employ any employee or any person who was an employee of the other party at any time during the relationship between the parties or for a period of one (1) year following the termination of any relationship between the parties. In the event of a breach of this section, the breaching party agrees to pay the other party an amount equal to the hired employee's annual wages as an agreed upon cost to replace the employee.

F. GUARANTEES AND LIMITATIONS OF WARRANTIES

1. FORD AV GUARANTEES THE FOLLOWING:

a. Equipment will be new, unless noted otherwise.

b. All workmanship provided by Ford AV will be free of defects and will be repaired, free of charge, for a period of one (1) year from the date of substantial completion or the first date of beneficial use of the system, whichever date occurs first. Substantial completion shall

be defined as the point where the work, or designated portion thereof, is sufficiently complete so that the system can be used for its intended purpose.

c. All equipment and materials provided by Ford AV that were manufactured by other companies will be warranted under the standard warranty terms of the original manufacturer.

d. If any questions arise now or in the future about the installation or operation of the system, a Ford AV engineer will be available to assist and answer any questions by phone.

e. The warranty does not include nor cover expendable materials used with the system installation (e.g., light bulbs, lamps, light fixture lamps, fuses, batteries, portable connection cables, etc.).

f. Ford AV is not responsible for the reliability of systems that communicate using wireless technology. The performance of equipment utilizing wireless communications is inherently unreliable and will experience "drop outs", distortion and loss of connectivity from time to time. Interference from other forms of radio frequency transmissions, such as radio and television broadcasts, cell phones, and computer wireless networks, is probable and should be expected.

g. Ford AV is not responsible for the performance, testing, or configuration of owner-furnished data networks that are used to transmit audio, video, and lighting program data and control signal data. IP-based videoconferencing systems rely upon data networks that can provide consistent bandwidth for the transmission. Videoconferencing that is transmitted over the Internet is subject to the intermittent and unreliable nature of the public network. In the event that the Customer's network is found to be the cause of defects in the quality of the audio/video signals, is unreliable, or has insufficient bandwidth to support the A/V/L system and Ford AV's network engineers are required to troubleshoot or configure the Customer's network, the cost of this service will be invoiced to the Customer.

h. The term "Software" as used in this document includes all editable source files, un-editable compiled files, graphical user interface files and functionality, audio digital signal processor (DSP) files, in whole and in part, produced under the terms of this agreement.

Unless otherwise expressly agreed in writing, all Software created by Ford AV remains the property of Ford AV, and the Customer is hereby provided a license to use the Software for this project only. The Software may not be used on any other project, nor used for any purposes outside of this project, nor shared nor disclosed to anyone who is not an employee of the Customer's company.

i. Any adjustments made by the Customer or the Customer's agent(s), other than routine operational adjustments, shall not be covered under this warranty statement. Re-calibration of settings shall be considered by Ford AV to be billable time to the Customer at Ford AV's standard engineering rates.

j. Procedures such as routine preventative maintenance functions (e.g., keeping filters clean, keeping system environment free from foreign materials, etc.) are the responsibility of the Customer and is not included within this warranty agreement. Failure on the part of the Customer to perform these routine maintenance functions shall void this warranty.

k. If warranty work is necessary within the warranty period, Ford AV will, at its option, repair the defective equipment or return it to the manufacturer for repair.

l. Repairs, modifications, or other work performed by personnel not authorized by Ford AV during the period of warranty on any equipment of the system may invalidate the warranty.

m. Ford AV will not be responsible for damages or cost of repairs due to modifications, adjustments, or additions to the system performed by personnel not authorized by Ford AV prior to acceptance of the system by the Customer.

n. Ford AV may withhold warranty service in the event that the Customer has an unpaid balance due to be paid to Ford AV.

2. OWNER-FURNISHED EQUIPMENT (OFE):

a. Ford AV's intent is to provide a complete system, which includes providing all the equipment. In some cases, the Customer may own equipment that they desire to be included with the Ford AV installation. Ford AV reserves the right to accept or reject equipment provided by the Customer and to charge a service fee due to the problems encountered with using equipment that is of unknown origin, service history, software revision, etc. Ford AV will not accept OFE that is purchased by the Customer to replace equipment that is specified in this proposal.

b. Materials or equipment provided by the Customer/Owner, if any, to be included within the work, shall be done with no warranty or guarantee by Ford AV. Use of OFE is solely for the convenience and benefit of the Customer.

c. The existing equipment, removed as a courtesy by Ford AV, that is not being reused, shall be returned to the Customer. Ford AV is not responsible for the existing equipment or its condition when received by the Customer.

d. Ford AV shall take reasonable care in handling OFE and shall install it according to standard industry practices; however, Ford AV takes no responsibility for the operation, performance, appearance, or effects of OFE before, during, or after its integration into the system.

e. The Customer is responsible for installation and registration of all software on OFE computers. Ford AV will provide the Customer with system requirements for Ford AV-provided software, but the Customer is responsible for installing it on the OFE PCs and/or OFE Network. All software-related customer support shall be directly provided by the software manufacturer.

f. The Customer agrees to reimburse Ford AV for all work related to the service and/or troubleshooting of OFE with the provision that the Customer authorizes Ford AV to proceed with malfunction evaluation and repairs.

g. In the event that OFE does not function properly, Ford AV shall notify the Customer. The Customer will determine if the OFE is to be a) repaired, b) an alternate unit provided by the Customer, c) the unit is not to be used, or d) Ford AV is to provide a new unit. Ford AV shall provide a cost to the Customer for the work to be done. The Customer will authorize any additional costs to the job.

h. Scaffolding or lifts provided by the Customer for use by Ford AV must meet OSHA standards and be satisfactory to meet the needs of the Ford AV installation personnel. In the event the Customer furnished scaffolding or lifts are unacceptable, Ford AV will present a change request detailing the additional cost and time extension required to complete the project.

G. TRAINING AND DOCUMENTATION

1. TRAINING INCLUDED:

a. Ford AV will host a training session near the completion of installation. All system users and interested persons should attend this training so that all questions can be answered during this training.

b. During the training, if requested, Ford AV personnel will attend the initial first use of the system and assist the Customer's operators and users in the operation of the Ford AV-installed system.

c. Ford AV shall provide a training agenda for scheduled training.

d. Ford AV shall provide a quick start guide (QSG) for each room type. The QSG is a generic, brief description, of how to operate the system. One (1) copy of a laminated document, for each room type, shall be provided to the Customer.

2. ADVANCED TRAINING - OPTIONAL:

Ford AV is committed to providing the highest quality and most modern training experience possible to its Customers. In addition to the training included with this project, for an additional fee, Ford AV offers multiple, customizable options to fit the needs of any Customer. The possible programs include:

a. Ford AV shall supply a training video consisting of a visual tutorial or tutorials, if multiple room type videos are purchased, that will explain how to operate specific AV systems. This training tutorial, narrated by a Ford AV trainer, is a self-paced, always-available, online video, viewable on any mobile device which give the learner a step-by-step process on how to use the technology.

b. In consultation with the Customer, Ford AV will develop and execute a custom curriculum and curriculum schedule.

c. Ford AV will provide in-person presentation(s), as needed, including presentation materials such as PowerPoint or Prezi presentation.

d. Ford AV will develop a custom Orientation & Operations Handbook, which shall include detailed, user-friendly information on solutions, functionality, troubleshooting, curriculum, and other useful reference materials.

e. The Ford AV Training Center also highly recommends follow-up training sessions six months to a year following the initial session(s) to ensure that all concepts are anchored and being employed by each user as well as providing opportunities for new employees to receive the same level and style of training existing employees received. The Ford AV

Training Center will work with customers to develop a long-term training strategy and/or ongoing training curriculum.

f. Additional materials include documents in electronic format, additional hard and/or laminated copies of Quick-Start Guides and Orientation & Operations Handbooks, as well as CDs or DVDs of these curriculum materials.

g. All training curriculum and components will be developed and executed by a Ford AV Master Trainer.

h. The components of the optional training are to be determined by the Customer, Account Manager, and Ford AV Master Trainer to best meet the needs of the Customer. The cost of the additional materials and training is based on the desired program.

i. Please contact Ford AV to receive a customized price quote on the Advanced Training Program option.

H. BUILDING CONSTRUCTION AND SYSTEM INSTALLATION

1. VISUAL INSPECTION:

a. This proposal is based upon a visual inspection of the site conditions. It is agreed that some buildings may have inherent design and/or construction that is not visibly recognizable and is outside of normal standard and customary building procedures. If the walls, floors or ceiling are found to be constructed in a manner that wire cannot be pulled or equipment cannot be mounted or otherwise installed without labor or materials in excess of those anticipated by both parties and proposed herein, the Customer agrees to be responsible for any adjustments in the labor and materials required to perform the installation.

2. EXISTING CONDITIONS:

a. Acoustics and Noise

In facilities where Ford AV is providing a sound or audio system, the Customer is responsible for providing an environment free of ambient noise and excessive reverberation and echoes.

1) Typically, ambient noise is created by HVAC systems (Heating, Ventilation, and Air Conditioning), plumbing or other mechanical systems in the building. In general, Ford AV recommends that the ambient noise sound pressure level not exceed NC35 (Noise Criteria) or 35 dB A scale.

2) Long reverberation times and echoes are normally the result of hard wall, floor, and ceiling surfaces found in some rooms. Typically, Ford AV recommends that the reverb time does not exceed 1.5 seconds where the primary use is the communication of speech. The production of other types of music may require longer reverberation times. In the event that echoes exist, absorptive or diffusive wall and ceiling panels may be required to eliminate or minimize the detrimental effects of the echoes.

3) Ford AV is not responsible for any costs related to reducing the ambient noise or modifying the acoustics of the Customer's facilities.

I. DISCUSSION OF TECHNOLOGY

The following information is a general discussion of equipment and technologies normally used in systems similar to the one being presented in this proposal. This information is provided to the Customer as an educational overview of typical systems. Some of the equipment and technologies discussed may not be included in this proposal.

1. SPEAKER SYSTEMS

a. Distributed Speaker System

A distributive speaker system consists of a number of speakers installed in the ceiling over the seating areas. Each speaker is pointed down and has a conical coverage pattern that is between 60 and 90 degrees wide. This type of system is typically used in auditoriums or meeting rooms where the ceiling is low or where the distance that sound must be projected from the platform to the rear is long. Depending upon the length of the room, the speakers may be divided into separate zones with each zone being placed on a signal delay and timed so that the sound travels through the room properly. In that case, each zone will be powered by a separate amplifier.

2. WIRELESS SYSTEMS

Modern audio/video systems have communicated using Radio Frequency transmissions for more than thirty years, first beginning with wireless microphones and listening devices for the hearing impaired. Today wireless systems are used extensively in audio, video, and lighting (A/V/L) systems.

a. APPLICATION OF WIRELESS SYSTEMS: Wireless systems are used for transmitting audio/video program signals and for transmitting digital data that is used to control the functions and operation of A/V/L systems.

1) The primary use is for the transmission of the actual audio and video program signals such as wireless microphones, in-ear audio monitoring systems, or video to a video projector. Most of these systems convert the analog audio and video into a digital format that is transmitted and manipulated much like computer data.

2) The secondary use is for controlling the functions and operation of A/V/L systems. Although wireless control has been used for many years using "RF" transmitters and receivers, the wide adoption of computer systems using the 802.11b (a & g) or "Wi-Fi" industry standard has allowed the A/V/L industry to rapidly expand the control of complex systems. Based on computer industry standards for the transmission of wireless data, the wireless control of A/V/L systems is common and routinely installed. As a side note, most A/V/L systems designed today use the full functionality of PC's, laptops, tablet PC's, handhelds, local area networks (LAN), wide area networks (WAN), data switches, data routers, and the internet. Most control system manufactures are moving toward Ethernet-based communication.

b. BENEFIT: A Wireless system has only one benefit and that is it allows the user to connect to an A/V/L system without having the user's movement restricted by connection to a wire. Wireless connectivity allows "mobility".

c. LIMITATIONS: Other than providing the benefit of mobility, wireless systems are inferior to wired systems in terms of quality, reliability, range of connectivity, and security. Any person that has used a cell phone is aware of the potential for distortion and lost signals. Any person that has used a wireless laptop computer has experienced the loss of connection and in some cases the loss of data. Current wireless systems use much of the same technology as computer systems and are subject to similar failures. Below are specific limitations of wireless systems A/V.

1) QUALITY: The transmission of audio and video signals by wireless is accomplished by limiting the frequency bandwidth and dynamic range (signal to noise ratio) of the original signals. The conversion process to digital, the transmission process, and the conversion back to analog introduces distortion. Most wireless systems compress the original signal, transmit the signal, and then expand the signal. This process introduces non-linearity which is a form of distortion.

2) RELIABILITY: A wireless system is inherently unreliable due to the nature of electromagnetic Radio Frequency transmission. Each of the following elements contributes to unexpected and unreliable performance.

a) The expansion of wireless transmission use has led to "spectrum congestion", which results in frequency bands being overused and transmissions being interfered with by other transmissions in the same frequency band. There is no guarantee that your wireless signal will not be interfered with at any time.

b) Other types of dissimilar wireless transmissions may interfere with A/V program and control signals. In addition to FM broadcasts, the expansion of High Definition Television (HDTV) channels and cell phone usage may interfere with A/V wireless systems. FM broadcasts produce harmonics that fall squarely in channels of wireless mics. The use of cell phones in close proximity to an A/V wireless system typically causes electronic noise in the audio signal.

c) The range of transmission is limited to a maximum of approximately 100 feet. Although wireless systems will on occasion appear to work at longer distances, their performance will be intermittent and unusable for A/V systems where a high-quality and consistent signal is required. The limited range is due to the limited transmission power which is mandated by the FCC. The structure of a building (steel studs and floors) will limit the transmission range. Ford AV recommends that wireless systems be used where the transmitter and receiver are in close proximity to each other and have a direct line of sight between the two units.

d) While using a wireless system, physical movement by the user changes the transmission path between the transmitter and the receiver. This constant change of the transmission path causes interruptions of the signal.

The wireless system may work in one position and then fail to work when the user moves. Wireless systems with diversity antennas minimize this problem, but do not always provide an uninterrupted, noise-free signal.

e) It is common today to use multiple wireless microphones and wireless in-ear monitors for musicians and performers. Multiple wireless systems when operated together will interfere with each other. Frequencies bands for systems with multiple transmitters must be selected carefully so that combinations of frequency bands do not interfere with one another.

3. VIDEO PROJECTION SYSTEM

A video projection system should provide high visual impact of the presentation of computer data and video images from video tape, DVD (Digital Versatile Disc), cameras, and video production equipment. Communication of ideas and detailed material is greatly improved with the addition of high quality visual information. Due to the rapid change and improvement of technology, the selection of a video projection system should be carefully studied. The following items are important and should be considered prior to the selection of the system:

a. BRIGHTNESS: Providing a high impact image for the viewer requires that the projector provide more than 2,000 ANSI lumens for small screens and more than 6,000 ANSI lumens for larger screens in auditoriums. Auditoriums with seating of greater than 4,000 seats should consider a projector with 10,000 or more ANSI lumens. Ford AV recommends that the customer purchase the highest intensity projector that will fit into their budget.

b. RESOLUTION: Picture quality is improved with increased detail. Resolution is the measure of the capability of the projector to project small detail data and video. Currently the most commonly used resolutions are 1280 by 800 (WXGA) and 1280 by 1024 (SXGA) pixels. HD resolutions have recently been introduced at 1920 by 1200 (WUXGA) and 2560 by 1600 (WQXGA). Ford AV recommends that the customer purchase a projector with the highest resolution that will fit within their budget.

c. LENS: A video projector should be capable of utilizing a selection of various lenses so that it may be placed conveniently in the room and project an image that fills the screen. Lenses are available that allow the projector to be close to the screen or far away. Lenses are available that will zoom the image in and out to fill the screen. Projectors with a fixed focal length lens cost less, however, they restrict the physical placement of the projector and screen and they are not adjustable.

d. LAMP LIFE: A major cost of a video projector is the replacement of the lamps that provide the light. The life of the lamp in hours and the cost of the lamp should be considered. Most lamps lose brightness over time and may change color temperature. The location and accessibility of the video projector has an impact on the ease of lamp replacement and cost of service. Projectors suspended in the air higher than can be reached with a standard ladder will be difficult to reach and thus more expensive to service.

e. AMBIENT LIGHT: It is critical that ambient light be controlled in the viewing area. Excessive light that falls on the screen can "wash out" the image. This is seen as a loss of contrast which is the visual difference from full brightness (completely white) to no light (completely black). Newer technologies in screen materials are capable of providing higher

contrast ratios that can help minimize the effects of ambient light. Possible sources of ambient light include:

1) WINDOWS: The customer should consider the location of windows and skylights with respect to the location of a screen. Morning or evening sun should be examined for all seasons to determine the impact of direct light entering the viewing area. Alternative methods to control objectionable light intrusion should be considered if daylight presents a problem. Curtains and shutters are two of the available alternatives.

2) LIGHTING SYSTEMS: Architectural and theatrical/television lighting systems can project unwanted ambient light onto the viewing screen. The customer's Architect or Electrical Engineer should verify that all architectural lights that project light on the screen can be controlled and turned off, or re-aimed if necessary. Fixtures used in theatrical/television lighting systems should be evaluated. Fixtures that provide a means to control their projected pattern of light should be used on wall areas next to screens. PAR lights throw light in many directions and should be avoided. Ellipsoidal spot lights are recommended due to their ability to control the pattern of light projected. Ellipsoidal lights typically have small coverage patterns and therefore require a greater number of fixtures as compared to PAR lights. Shiny floors, glass or plastic podiums, and shiny piano lids may cause problems by reflecting light onto the screen.

f. FRONT/REAR/CEILING/TABLE-TOP MOUNTING: Each projector should be evaluated based on its ability to project an image in front of or behind a screen and to be mounted upright for table-top projection or inverted for ceiling mount. The projector may be moved to various locations over its life. Rear screen projection is considered to provide the best image; however, this option requires adequate space behind the screen. Typically, as a minimum, a distance of one and one-half times the width of the screen is required to place the projector behind the screen. This distance will vary based upon the lens selected. In some applications the distance between the projector and the screen can be reduced with the addition of a mirror bounce system. If a room is dedicated for rear screen projections, the room should be painted flat black. No equipment that will create noise should be placed in a projection room.

g. VIEWING ANGLE: In general, all persons viewing the screen should not be more than 45 degrees off of the center axis of the screen. Although some screens can be viewed at angles greater than 45 degrees, the enjoyment is reduced and there is a strain placed upon the viewer, particularly when viewing text or detailed computer data.

h. WALL SURFACES: All wall surfaces surrounding the video screen should have a non-reflective finish and be a flat color that is not a bright white. Highly reflective, white colors will diminish the visual quality of the image. Highly polished or shiny wall surfaces will reflect the image from the screen, causing the viewer to see double images around the sides of the screen.

i. VIDEO SOURCE EQUIPMENT: Each projector requires a video or data source. Typically, in each system there are multiple video and data sources using multiple signal formats. The various signal formats will need to be converted to a common format before being switched and routed to the video projector. The format conversion may be accomplished in a separate piece of equipment ahead of the video switcher or by the

switcher itself if that capability is built into the switcher. Most video projectors accept the RGB-HV signal format. The format conversion and switching system must accommodate various formats of video and computer data, as follows:

1) Composite Analog Video: A video signal where the luminance (brightness) and chrominance (color) components of the image are combined and encoded into one signal (NTSC). It requires one video cable for transmission. Examples: VHS VCR, camera, DVD player, or TV tuner line output.

2) Component Analog Video: A video signal where the video is divided into separate signals of luminance and chrominance. Component video is higher quality than composite video. It requires two or more video cables for transmission. Examples: S-video and RGB-HV. RGB-HV video is divided into the component colors of red, green and blue. It is synchronized by using a horizontal and vertical timing signal.

3) Digital Video is available in composite and component formats. The industry standard is "D1" (CCIR 601), which is a serial digital signal transmitted over a single video cable. This format is used in professional broadcast applications and occasionally for video projection.

4) Computer Data: Standard formats and resolutions are WXGA 1280 by 800, SXGA 1280 by 1024,and WUXGA 2560 by 1600.

j. FORMAT CONVERSION: Prior to the video signal of the various video sources being transmitted to the video projector, the format of each signal should be converted to the signal format (native resolution) of the video projector.

k. VIDEO SWITCHING AND ROUTING: A video switcher is used to select the desired video source and route the signal to the video projector.

l. VIDEO ENHANCEMENT: The video signal may be enhanced to improve the quality of the image. Standard techniques include:

1) Video Scaler

m. HIGH-DEFINITION: While the majority of current projectors are capable of reproducing true high-definition signals, the image can only be true high-definition if the source signal and all other components in the video signal chain are high-definition capable.

n. SERVICE AND WARRANTY: The video projector and its associated video processing equipment compose a complex, technical system that will require routine maintenance. Video projectors are pushed to their limits to produce high brightness and it is likely that the projector will require quarterly maintenance each year of operation. The total cost of ownership of the projector should be based upon the reliability of the projector and the quality of the warranty. Some manufacturers provide next day air replacement of the video projector in the event that it fails. The customer should consider the value of the quality of the warranty when reviewing the cost and in selecting the projector.

4. FLAT PANEL DISPLAYS

a. LCD's

Liquid Crystal Displays use a florescent backlight to send light through its liquid crystal molecules and a polarizing substrate. LCD's work passively, with red, green and blue pixels. By applying voltage to the pixels using a matrix of wires, the pixels can be darkened to prevent the backlight from showing through.

LCD's typically exhibit very good color reproduction, and they are very thin and usually more lightweight than plasmas. Other LCD attributes include long lifespan, energy efficiency and lack of screen burn-in. They also exhibit perfect sharpness when displaying source material that is at the screen's native resolution.

LCD's do have some drawbacks, including: fixed resolution, a "screen door" effect on low cost models, and weak or stuck pixels. Also LCD's typically have lower contrast ratios than plasmas, and more difficulty producing deep blacks due to their backlight. In addition, LCD's may have slightly slower refresh rates than plasmas, reducing smoothness during fast action viewing like sports.

b. NATIVE RESOLUTION

Flat panel screens display their image using a precise rectangular matrix of pixels that are aligned in horizontal rows and vertical columns which is described as the panel's "native resolution". The quality of the scaling algorithm determines the accuracy of the converted image.

c. HIGH DEFINITION

While the majority of current flat panel displays are capable of reproducing true high-definition signals, the image can only be true high-definition if the source signal and all other components in the video signal chain are high-definition capable.

5. CONTROL OF AUDIO, VIDEO, AND LIGHTING SYSTEMS

The control of audio, video, and lighting systems has completely changed with the introduction of computers, touch sensitive display screens, data networks, wireless connectivity, and the internet. Prior to these technologies being adapted to the control of A/V/L systems, the control and operation of A/V/L systems were "manual". An operator would manually turn a knob, slide a fader, or push a button. These actions changed the volume or level of the sound, video, and lighting we heard and viewed. The pressing of buttons and movement of knobs and sliders turned systems on and off, routed signals to outputs, and controlled the actions and motions of recording and playback devices such as video recorders and DVD players.

All the capabilities of manual control consoles are now available through the use of computers.

a. COMPUTER CONTROL

Virtually all audio, video, and lighting equipment manufactured today has a "control port" which allows a computer to control the functions and operation of the device. Originally, connection from the computer to the control port was by industry standard RS232 or RS485

control protocols and infrared transmission, however most new equipment is being controlled over Cat 5 wiring using Ethernet and TCP/IP computer data communication.

Computer control has the following features and benefits:

1) CONTROL OVER COMPUTER NETWORK: All A/V/L devices that are connected to a computer data network can be controlled by any computer on the same network. The network can extend around the world via the Internet.

2) UNLIMITED CONTROL OF EQUIPMENT: Virtually all A/V/L electronic equipment plus all types of auxiliary equipment such as curtains, stage lifts, acoustical panels, and fog machines are easily controlled.

3) STANDARD COMPUTER HARDWARE: The user interface to control the equipment uses standard computer equipment including the keyboard, mouse, and display screen.

4) TOUCH CONTROL SCREEN: Advanced user interfaces include computer "touch screens" that allow the user to use their finger or a stylus to touch the screen and change settings and operation. The touch screen can be designed using colorful graphics that are customized for the customer. "Virtual" buttons and other types of controls are graphically drawn on the screen. Multiple screens can be accessed with each screen being designed to control specific functions such as sound, video, or lighting.

5) WIRELESS: Many computer control systems are wireless enabled which permits the user to be mobile. This is especially effective when managing "live" presentations and being able to move about an auditorium, classroom, church, or conference room without the restriction of being attached to a cable.

6) PRESETS: Computer control systems have memory where multiple settings ("Presets") can be stored and recalled and enacted at a later date. This allows a complex system to be setup for a special activity and the same setup be recalled at a later date when the activity or a similar activity is held. In the event that the system is misadjusted by another user, the original system configuration may be recalled and the system will be set to its original setup.

7) PROGRAMMABLE AND CUSTOMIZED: The control system is "software based" and custom programmed for the specific operation of the customer's system. In the event that the customer desires the control system to be changed, the software may be reprogrammed to the new requirements. This flexibility extends the useful life and viability of the complete system.

8) EASE OF SERVICE: With the control system being accessible via a computer network or the internet, service and maintenance is simplified and efficient. Service personnel can "trouble shoot", monitor, and make changes to the system remotely without having to travel the customer's location.

J. ACCEPTANCE

1. The Customer's personnel will be notified by Ford AV upon completion of the installation.

2. Demonstration of system performance will be during the training session.

3. Participants at the performance demonstration shall include personnel representing Ford AV and personnel representing the City of Broken Arrow who are authorized to accept the system as complete and make final payment.

This proposal shall not be deemed as accepted by Ford AV until the executed contract is returned to Ford AV's credit department for final review and acceptance. If a purchase order is required by the Customer, it must be transmitted with the signed install agreement for review and acceptance.

This proposal contains confidential pricing, design, engineering, and installation information that is proprietary to Ford AV. It is provided for your private use, and is not to be disclosed, in part or in whole, without the express, written authorization of Ford AV.

We appreciate the opportunity to work with you on this project. If you have any questions or need additional information, please contact me at 918-664-2420.

Sincerely,

FORD AUDIO-VIDEO SYSTEMS, LLC

James Mitchell, CTS
Senior Account Manager

Voice: 918-664-2420
E-mail: mitcj@fordav.com
Website: www.fordav.com

SYSTEM INSTALLATION AGREEMENT

Between

THE CITY OF BROKEN ARROW

and

FORD AUDIO-VIDEO SYSTEMS, LLC

This is to signify that the City of Broken Arrow and Ford Audio-Video Systems, LLC have entered into a contract, in the amount listed below, for the purchase and installation of equipment and services described in the attached proposal.

PROPOSED TOTAL: $32,850.00

_____
Customer Accepts

PREVENTATIVE MAINTENANCE: $750.00

_____
Customer Accepts

The City of Broken Arrow and Ford Audio-Video Systems, LLC, by and through their respective signatories to the agreement, each represent to the other that they are authorized to enter into this agreement.

We do both agree to abide by the terms and conditions of this agreement.

FORD AUDIO-VIDEO SYSTEMS, LLC	THE CITY OF BROKEN ARROW
James Mitchell, CTS Senior Account Manager	Authorized Signature
Bryan Burdick Vice President	Printed Name and Title
5/04/2016	
Date	Date

Broken Arrow Police Department

INVOICE

Unit	Part Number	Description	Unit Price	Extended Price
1.00EA	CRES.MPB20BT	PANE,BUTTON,MEDIA PRESENTATION	295.00	295.00
1.00EA	SAMS.UN22F5000A	DISP.LCD,21.5"LED HDTV; 1080P	238.00	238.00
1.00EA	CHIE.K1C110B	MOUNT,CLMN,MNT,SINGLE DISPLAY	149.00	149.00
12.00EA	JBL.CONTROL14CT	SPEA,4",2WAY,IN-CEILING,WH	83.00	996.00
1.00EA	MIDD.PD-915R	POWE,15,AMP,MOUNT,POWER,STRIP	84.00	84.00
1.00EA	TRIP.SMART1500L	UPS,RACK/TOWER 120V W/LCD DISP	207.00	207.00
500FT	WEST.25225B	WIRE,2C,16G,PLENUM,GRAY	0.19	95.00
1.00EA	FAV.MISC1	CRIMPS, TIES & FASTENERS	50.00	50.00
16.00EA	FAV.MISC2	CABLES & CONNECTORS	7.50	120.00
1.00EA	FAV.MISC3	RACK HARDWARE/POWER/PANELS	200.00	200.00
1.00EA	FAV.MISC4	MISC. SUPPORT HARDWARE	150.00	150.00
1.00EA	CRES.CNX-B6B	ACCE,WALLPANL,SPKR,BLKTEMP,6BU	212.00	212.00
1.00EA	FAV.MISC25	CUSTOM PODIUM ALLOWANCE	2,350.00	2,350.00
1.00EA	CRES.GLSPARTCN	CRESNET PARTITION SENSOR	413.00	413.00
1.00EA	JBL.CSA2120Z	AMP, 2 CHANNEL/120 W / 70 V	496.00	496.00
1.00EA	C2G.39710	PANE,HDMI,DECORA,PIGTAIL,WHITE	19.00	19.00
1.00EA	C2G.37091	HD15 + 3.5MM WAL PLATE-WHITE	10.00	10.00
1.00EA	C2G.41192	35FT HDMI HIGH SPEED PLENUM	108.00	108.00
1.00EA	C2G.40177	35FT PLENUM VGA+3.5MM CABLE	94.00	94.00
1.00EA	RADI.TX-J2	AV,UNBAL.INPUT TRANSFORMER	56.00	56.00
2.00EA	DALI.37575LS	CONTOUR,130D 69X110 HCMW	1,035.00	2,070.00
1.00EA	MIDD.UD3	RACK,3 SP (5 1/4") UTLTY DRWR	101.00	101.00
250FT	WEST.254246F-BK	WIRE, 4PR 23G SHLD CAT6 CMP	0.80	200.00

Merchandise:	$ 8,713.00
Labor:	$ 9,135.00
Total:	$17,848.00

fordAV

BAOKBRO3

P# JM68491C

Flat Classroom

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Line Items: 13,15,16,17,18,22,23,24,26,27,28,29,31,32,33,34,35,36,37,38,39,40,41,42 (on the anita quote)

Broken Arrow Fire Department

INVOICE

Unit	Part Number	Description	Unit Price	Extended Price
3.00 EA	NEC.NP-P502WL	PROJ, WXGA DLP, 5,000 LUMENS	3,387.00	10,161.00
2.00 EA	CHIE.RPMAU	MOUN, UNIVERSAL RPMA W/Q-LOCK	160.00	320.00
2.00 EA	CHIE.CMA440	MOUN, SUSP,CEILING PLATE,8"X2"	84.00	168.00
2.00 EA	CHIE.CMS012	MOUN, FIXED PIPE 12"	23.00	46.00
1.00 EA	EXTR.60-1081-01	SWIT, HDCP,COMP,SCAL,PRES,SWITC	1,410.00	1,410.00
2.00 EA	EXTR.60-1271-12	TRAN, HDMI TWISTED PAIR TX	277.00	554.00
2.00 EA	EXTR.60-1271-13	RECE, HDMI TWISTED PAIR RX	277.00	554.00
1.00 EA	CRES.HDDA24KE	VIDE,1X2,4K, HDMI,DISTRO AMP	177.00	177.00
1.00 EA	SAMS.BD-E5700	BLUERAY PLAYER,WIFI	132.00	132.00
1.00 EA	CRES.CP3	CONTROL SYSTEM, OVER NETWORK	1,062.00	1,062.00
1.00 EA	CRES.CENSWPOE5	DATA, SWITCH ETHERNET,POE	236.00	236.00
1.00 EA	EXTR.60-1098-02	BOX ,LOW PROFILE SRFC MNT,BLK	112.00	112.00
1,000 FT	WEST.25291B	2, COND,22,7X30,BARE,SHLD,CMP	0.07	70.00

Total: $15002.00

fordAV

BAOKBRO3

P# JM68491C

Flat Classroom

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Line Items: 2,3,4,5,6,7,8,9,10,11,12,14,25 (on the anita quote)

State of Oklahoma - Office of Management and Enterprise Services (OMES)
Contract # SW1021 - Audio Video Equipment Purchase, Installation, & Maintenance

Ford Audio Video Systems, LLC - Contract # SW1021 Discount Pricelist - Effective 10-15-15

Manufacturer	Discount % from MSRP	Manufacturer	Discount % from MSRP	Manufacturer	Discount % from MSRP
Ace Backstage	29%	Clock Audio	29%	Juice Goose	24%
AJA	12%	Communication Specialties	14%	JVC Professional	18%
AKG	38%	Community	33%	Key West	7%
Allen & Heath	17%	Compix	6%	Kramer	37%
Altinex	18%	Contemporary Research	22%	Lectrosonics	21%
Altman	16%	Countryman	35%	Leprecon	20%
AMX	41%	Covid	37%	Leviton	26%
Analog Way	18%	Crest Audio	29%	LG	17%
Anchor Audio	28%	Crestron	41%	LifeSize	18%
Ashley	33%	Crown	41%	Listen Technologies	22%
Atlas Sound	39%	Da-Lite	29%	Lowell Manufacturing	47%
ATM-Flyware	29%	DBX Professional	30%	Lutron	35%
Audio Technica	41%	Digidesign	17%	Mackie Designs	26%
Audix	35%	Digital Factory	35%	Magenta Research	20%
Auralex Acoustics	34%	Digital Projection	19%	Marshall Electronics	15%
Avitech	18%	Display Devices	19%	McCauley Sound	35%
Avteq	36%	Display Werks	26%	Meyer Sound Labs	29%
Bag End	24%	DPA Microphones	6%	Microboards	20%
Barco	23%	Draper	33%	Middle Atlantic	41%
Beyerdynamic	26%	D'San	6%	Miranda	31%
Biamp	38%	Dukane	38%	Mitsubishi	21%
Bittree	16%	DWI	19%	Mystery Electronics	35%
Blackmagic Design	6%	Enseo Inc.	20%	Navitar	19%
Blonder Tongue	8%	Epson	16%	NEC Display	12%
Bogen Communications	52%	ETC Lighting	25%	Newline Interactive	6%
Bogen Imaging	14%	Evertz	10%	Niles	48%
Bosch	25%	Extron	41%	Omni-Mount	35%
Bretford	29%	FSR	19%	Oxmoor	18%
Brightline	18%	Fulcrum Acoustic	29%	Panasonic	19%
BSS Audio	29%	Furman	39%	Peavey	24%
BTX	23%	Galaxy Audio	38%	Peerless	43%
Cables To Go	46%	Gepco	36%	Planar	8%
Canare Cable	10%	Hall Research	27%	ProCo Sound	52%
Canon	23%	Harris Broadcast	5%	QSC	28%
Chauvet Lighting	29%	Hitachi America	28%	Radio Design Labs	30%
Chief	35%	Hosa	60%	Rane	28%
Christie	23%	IED	19%	Rapco	31%
Cisco	29%	Ikegami Electronics	17%	Raxxess	46%
Cisco EZ Care Support	13%	JBL Professional	29%	RCI Systems Inc.	26%
Clear-Com	16%	Jensen Transformers	21%	Renkus-Heinz	30%

Ford Audio Video Systems, LLC - Contract # SW1021 Discount Pricelist - Effective 10-15-15

(Continued)

Manufacturer	Discount % from MSRP	Manufacturer	Discount % from MSRP	Manufacturer	Discount % from MSRP
RGB Spectrum	18%	Soundcraft	26%	TV One	21%
Rose	11%	SoundTube	31%	Ultimate Support	50%
Ross Video	12%	Stewart Film Screen	27%	Vaddio	21%
Samsung	15%	SurgeX	21%	Video Furniture	38%
Sanyo	31%	Symetrix	28%	Vinten	14%
Screen Innovations	28%	Tannoy	39%	West Penn Wire	36%
Sennheiser	18%	Teac	30%	Whirlwind	27%
Sharp	29%	Technomad	16%	Williams Sound	35%
Shure	29%	TOA	33%	Winsted	15%
Smart Technologies	14%	Toner Cable	26%	Wireless Computing	17%
Sonance	15%	Tote Vision	28%	Wolfvision	17%
Sony Professional	16%	Tripp Lite	44%	Yamaha	29%

Polycom	Video Telepresence Systems:	
Video Group 1 - DC8	CX5000 Series Systems for Microsoft, CX7000 Series Systems for Microsoft, CX8000 Series Systems for Microsoft	13%
Video Group 2 - DC10	HDX 7000 Series , HDX 6000 Series, RealPresence Group 300 & 310	19%
Video Group 3 - DC12	HDX Executive Collection Series, HDX 9000 Series, HDX 9000 Series Cameras, HDX 8000 Series, HDX 8000 Media Center Series, HDX 7000 Media Center Series, HDX 6000 Media Center Series, EagleEye Director Bundle, HDX 4500 Series, HDX 4002 Series, RealPresence Group 500, RealPresence Group 700	25%
Video Group 4 - DC14	VVX 1500 Media Phone Series Systems	31%

Polycom	Voice Solution Systems:	
Voice Group 1 - DC8	VoiceStation Series Conference Phones, Communicator USB Speakerphones, 3000 Conference Phone, CX Desktop Phones for Microsoft	13%
Voice Group 2 - DC12	SoundStructure Series, Vortex Series Systems	25%
Voice Group 3 - DC14	SoundStation IP 7000, SoundStation IP 5000, SoundStation Duo, SoundStation2, SoundStation2W, CX Desktop, VVX 300 Series, VVX 400 Series, , VVX 500 Series, , VVX 6500 Series, VVX 1500 Series, SoundPoint IP	31%
Voice Group 4 - DC16	SoundStation VTX 1000 Conference Phones	36%

Polycom	Total Coverage Branded Services:	
Installation - DC13	Onsite OUI Installation Service	10%
Maintenance - DC13	Total Coverage One Year & Total Coverage Three Year Maintenance Service	10%

Ford Audio Video Systems, LLC - Contract # SW1021 Discount Pricelist - Effective 10-15-15

(Continued)

Category Two - Installation and Training

Hourly Rates:

Engineering	$110.00
Field Engineering	$98.00
Project Management	$110.00
Field Management	$86.00
Installation Technicians	$64.00
Shop Fabrication	$52.00
Training	$86.00

Category Three - Maintenance/Service

Service Rates Per Hour:

In-Shop Bench Rate	$75.00
Standard Field Rate	$115.00
Emergency Field Rate	$150.00

Response Time Frame:

Standard: 8am - 5pm, 4 Hour + Travel Time
Emergency: 8am - 5pm, 2 Hour + Travel Time

Technicians originate from Oklahoma City and Tulsa
Field service rate charges begin when technician leaves our facility and stop when they return to our facility. No travel time is added for service calls located within the Oklahoma City and Tulsa metro areas.

Polycom and Cisco require that the buyer purchase a service agreement with the purchase of their hardware products. The discounts offered for Polycom and Cisco service are for factory direct service, and not from a 3rd party service organization.