State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER	PAGE
DBSM108117	1

ADDRESS CORRESPONDENCE TO ATTENTION OF:

SHELLY MURRAY
304-558-8801

VENDOR

*419115500   865-273-1960
PERSONAL COMPUTER SYSTEMS INC
PO BOX 69

LOUISVILLE TN   37777

SHIP TO

SCHOOL FOR THE DEAF & BLIND
RECEIVING DEPARTMENT

301 EAST MAIN STREET
ROMNEY, WV
    26757-1894   304-822-4810

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
06/16/2010				

BID OPENING DATE:	07/22/2010	BID OPENING TIME	01:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
				THE WEST VIRGINIA PURCHASING DIVISION FOR THE AGENCY, THE WEST VIRGINIA SCHOOLS FOR THE DEAF AND BLIND, IS SOLICITING BIDS FOR VIDEO CONFERENCEING EQUIPMENT PER THE ATTACHED SPECIFICATIONS.		
				TECHNICAL QUESTIONS MUST BE SUBMITTED IN WRITING TO SHELLY MURRAY IN THE WEST VIRGINIA PURCHASING DIVISION VIA MAIL AT THE ADDRESS SHOWN AT THE TOP OF THIS RFQ, VIA FAX AT 304-558-4115, OR VIA EMAIL AT SHELLY.L.MURRAY@WV.GOV. DEADLINE FOR ALL TECHNICAL QUESTIONS IS 07/08/2010 AT THE CLOSE OF BUSINESS. ALL TECHNICAL QUESTIONS RECEIVED, IF ANY, WILL BE ADDRESSED BY ADDENDUM AFTER THE DEADLINE.		
0001	1	LS		725-55-01-001		
				TELEPHONE OR VIDEO CONFERENCE EQUIPMENT		
				THE MODEL/BRAND/SPECIFICATIONS NAMED HEREIN ESTABLISH THE ACCEPTABLE LEVEL OF QUALITY ONLY AND ARE NOT INTENDED TO REFLECT A PREFERENCE OR FAVOR ANY PARTICULAR BRAND OR VENDOR. VENDORS WHO ARE BIDDING ALTERNATES SHOULD SO STATE AND INCLUDE PERTINENT LITERATURE AND SPECIFICATIONS. FAILURE TO PROVIDE INFORMATION FOR ANY ALTERNATES MAY BE GROUNDS FOR REJECTION OF THE BID. THE STATE RESERVES THE RIGHT TO WAIVE MINOR IRREGULARITIES IN BIDS OR SPECIFICATIONS IN ACCORDANCE WITH SECTION 148-1-4(F) OF THE WEST VIRGINIA LEGISLATIVE RULES AND REGULATIONS.		

RECEIVED

2010 JUL 22 A 10: 13

PURCHASING DIVISION
STATE OF WV

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE _Jimmy Wall_   TELEPHONE 877-690-5999   DATE 07/21/2010

TITLE _President_   FEIN 62-1651382   ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

GENERAL TERMS & CONDITIONS
REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)

1. Awards will be made in the best interest of the State of West Virginia.

2. The State may accept or reject in part, or in whole, any bid.

3. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required $125 fee.

4. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods this Purchase Order/Contract becomes void and of no effect after June 30.

5. Payment may only be made after the delivery and acceptance of goods or services.

6. Interest may be paid for late payment in accordance with the *West Virginia Code*.

7. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.

8. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.

9. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.

10. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern the purchasing process.

11. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.

12. BANKRUPTCY: In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order.

13. HIPAA BUSINESS ASSOCIATE ADDENDUM: The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, is available online at **www.state.wv.us/admin/purchase/vrc/hipaa.htm** and is hereby made part of the agreement. Provided that the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.

14. CONFIDENTIALITY: The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in http://www.state.wv.us/admin/purchase/privacy/noticeConfidentiality.pdf.

15. LICENSING: Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, and the West Virginia Insurance Commission. The vendor must provide all necessary releases to obtain information to enable the director or spending unit to verify that the vendor is licensed and in good standing with the above entities.

16. ANTITRUST: In submitting a bid to any agency for the State of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the State of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder.

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, or person or entity submitting a bid for the same material, supplies, equipment or services and is in all respects fair and without collusion or Fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division. Complete all sections of the quotation form.

2. Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.

3. Unit prices shall prevail in case of discrepancy. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.

4. All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130

5. Communication during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited (W.Va. C.S.R. §148-1-6.6).

State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
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ADDRESS CORRESPONDENCE TO ATTENTION OF:
SHELLY MURRAY
304-558-8801

VENDOR
*419115500   865-273-1960
PERSONAL COMPUTER SYSTEMS INC
PO BOX 69

LOUISVILLE TN   37777

SHIP TO
SCHOOL FOR THE DEAF & BLIND
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301 EAST MAIN STREET
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   26757-1894   304-822-4810

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EXHIBIT 5

WEST VIRGINIA CODE 21-1D-5 PROVIDES THAT: ANY SOLICITA-
TION FOR A PUBLIC IMPROVEMENT CONSTRUCTION CONTRACT
REQUIRES EACH VENDOR THAT SUBMITS A BID FOR THE WORK TO
SUBMIT AT THE SAME TIME AN AFFIDAVIT OF COMPLIANCE WIT
THE BID. THE ENCLOSED DRUG-FREE WORKPLACE AFFIDAVIT
MUST BE SIGNED AND SUBMITTED WITH THE BID AS EVIDENCE
OF THE VENDOR'S COMPLIANCE WITH THE PROVISIONS OF ARTI-
CLE 1D, CHAPTER 21 OF THE WEST VIRGINIA CODE. FAILURE
TO SUBMIT THE SIGNED DRUG-FREE WORKPLACE AFFIDAVIT WITH
THE BID SHALL RESULT IN DISQUALIFICATION OF SUCH BID.

NOTICE TO PROCEED: THIS CONTRACT IS TO BE PERFORMED
WITHIN 60 CALENDAR DAYS AFTER THE NOTICE TO PROCEED
IS RECEIVED.   UNLESS OTHERWISE SPECIFIED, THE FULLY
EXECUTED PURCHASE ORDER WILL BE CONSIDERED NOTICE TO
PROCEED.

CANCELLATION: THE DIRECTOR OF PURCHASING RESERVES THE
RIGHT TO CANCEL THIS CONTRACT IMMEDIATELY UPON WRITTEN
NOTICE TO THE VENDOR IF THE MATERIALS OR WORKMANSHIP
SUPPLIED ARE OF AN INFERIOR QUALITY OR DO NOT CONFORM
WITH THE SPECIFICATIONS OF THE BID AND CONTRACT
HERE IN.

WAGE RATES: THE CONTRACTOR OR SUBCONTRACTOR SHALL PAY
THE HIGHER OF THE U.S. DEPARTMENT OF LABOR MINIMUM WAGE
RATES AS ESTABLISHED FOR HAMPSHIRE, ROANE, AND GRANT
COUNTIES, PURSUANT TO WEST VIRGINIA CODE 21-5A, ET,
SEQ. (PREVAILING WAGE RATES APPLY TO THIS PROJECT)

ARBITRATION: ANY REFERENCES MADE TO ARBITRATION OR
INTEREST FOR PAYMENTS DUE (EXCEPT FOR ANY INTEREST
REQUIRED BY STATE LAW) CONTAINED IN THIS CONTRACT
OR IN ANY AMERICAN INSTITUTE OF ARCHITECTS DOCUMENTS

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE _Jimmy Wall_   TELEPHONE 877-690-5999   DATE 07/21/2010

TITLE _President_   FEIN 62-1651382   ADDRESS CHANGES TO BE NOTED ABOVE

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Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
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SHELLY MURRAY
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PERSONAL COMPUTER SYSTEMS INC
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PERTAINING TO THIS CONTRACT ARE HEREBY DELETED.

WORKERS' COMPENSATION: VENDOR IS REQUIRED TO PROVIDE
A CERTIFICATE FROM WORKERS' COMPENSATION IF SUCCESSFUL.

ALL OF THE ITEMS CHECKED BELOW WILL BE A REQUIREMENT
OF THIS CONTRACT:

(XX) INSURANCE: SUCCESSFUL VENDOR SHALL FURNISH PROOF
OF COMMERCIAL GENERAL LIABILITY INSURANCE PRIOR TO
ISSUANCE OF CONTRACT. UNLESS OTHERWISE SPECIFIED IN
THE BID DOCUMENTS, THE MINIMUM AMOUNT OF INSURANCE
COVERAGE REQUIRED IS $250,000.

( ) BUILDERS RISK INSURANCE: SUCCESSFUL VENDOR SHALL
FURNISH PROOF OF BUILDERS RISK - ALL RISK INSURANCE IN
AN AMOUNT EQUAL TO 100% OF THE AMOUNT OF THE CONTRACT.

(XX) BONDS: FIVE PERCENT (5%) OF THE TOTAL AMOUNT OF
THE BID PAYABLE TO THE STATE OF WEST VIRGINIA, SHALL BE
SUBMITTED WITH EACH BID AS A BID BOND. THE SUCCESSFUL
BIDDER SHALL ALSO FURNISH A PERFORMANCE BOND AND LABOR/
MATERIAL BOND FOR 100% OF THE AMOUNT OF THE CONTRACT.
BONDS MAY BE PROVIDED IN THE FORM OF A CERTIFIED CHECK
IRREVOCABLE LETTER OF CREDIT, OR BOND FURNISHED BY A
SOLVENT SURETY COMPANY AUTHORIZED TO DO BUSINESS IN THE
STATE OF WEST VIRGINIA. A LETTER OF CREDIT SUBMITTED
IN LIEU OF A BOND WILL ONLY BE ALLOWED FOR PROJECTS
UNDER $100,000. PERSONAL OR BUSINESS CHECKS ARE NOT
ACCECPTABLE IN LIEU OF THE 5% BID BOND, PERFORMANCE
BOND, OR LABOR AND MATERIAL BOND.

( ) MAINTENANCE BOND: A TWO (2) YEAR MAINTENANCE BOND
COVERING THE ROOFING SYSTEM WILL BE A REQUIREMENT OF
THE SUCCESSFUL VENDOR.

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE *Jimmy Wall*	TELEPHONE 877-690-5999	DATE 07/21/2010
TITLE *President*	FEIN 62-1651382	ADDRESS CHANGES TO BE NOTED ABOVE

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ADDRESS CORRESPONDENCE TO ATTENTION OF:

SHELLY MURRAY
304-558-8801

VENDOR	SHIP TO
*419115500 865-273-1960 PERSONAL COMPUTER SYSTEMS INC PO BOX 69 LOUISVILLE TN 37777	SCHOOL FOR THE DEAF & BLIND RECEIVING DEPARTMENT 301 EAST MAIN STREET ROMNEY, WV 26757-1894 304-822-4810

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REV. 11/00

EXHIBIT 7

DOMESTIC ALUMINUM, GLASS & STEEL IN PUBLIC WORKS
PROJECTS

IN ACCORDANCE WITH WEST VIRGINIA CODE 5-19-1 ET.,
SEQ., EVERY CONTRACT FOR CONSTRUCTION, RECONSTRUCTION,
ALTERATION, REPAIR, IMPROVEMENT OR MAINTENANCE OF
PUBLIC WORKS, WHERE THE COST IS MORE THAN $50,000 AND,
IN THE CASE OF STEEL ONLY, WHERE THE COST OF STEEL IS
MORE THAN $50,000 OR WHERE MORE THAN 10,000 POUNDS OF
STEEL ARE REQUIRED, THE STATE WILL ACCEPT ONLY ALUMINUM
GLASS, OR STEEL PRODUCTS PRODUCED IN THE UNITED STATES.
IN ADDITION, ITEMS OF MACHINERY OR EQUIPMENT PURCHASED
FOR USE AT THE SITE OF PUBLIC WORKS SHALL BE MADE OF
DOMESTIC ALUMINUM, GLASS OR STEEL, UNLESS THE COST OF
THE PRODUCT IS LESS THAN $50,000 OR LESS THAN 10,000
POUNDS OF STEEL ARE USED IN PUBLIC WORKS PROJECTS.

FOREIGN MADE ALUMINUM, GLASS OR STEEL PRODUCTS MAY BE
ACCEPTED ONLY IF THE COST OF DOMESTIC PRODUCTS IS FOUN
TO BE UNREASONABLE. SUCH COST IS UNREASONABLE IF IT IS
20% OR MORE HIGHER THAN THE BID PRICE FOR FOREIGN MADE
PRODUCTS. IF THE DOMESTIC ALUMINUM, GLASS OR STEEL
PRODUCTS TO BE SUPPLIED OR PRODUCED IN A "SUBSTANTIAL
LABOR SURPLUS AREA", AS DEFINED BY THE UNITED STATES
DEPARTMENT OF LABOR, FOREIGN PRODUCTS MAY BE SUPPLIED
ONLY IF DOMESTIC PRODUCTS ARE 30% OR MORE HIGHER IN
PRICE THAN THE FOREIGN MADE PRODUCTS.

IF, PRIOR TO THE AWARD OF A CONTRACT UNDER THE ABOVE
PROVISIONS, THE SPENDING OFFICER OF THE SPENDING UNIT
DETERMINES THAT THERE EXISTS A BID FOR LIKE FOREIGN

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE 877-690-5999	DATE 07/21/2010
TITLE _President_	FEIN 62-1451382	ADDRESS CHANGES TO BE NOTED ABOVE

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SHELLY MURRAY
304-558-8801

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PERSONAL COMPUTER SYSTEMS INC
PO BOX 69

LOUISVILLE TN   37777
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ALUMINUM, GLASS OR STEEL THAT IS REASONABLE AND LOWER
THAN THE LOWEST BID DOMESTIC PRODUCTS, THE SPENDING
OFFICE MAY REQUEST, IN WRITING, A REEVALUATION AND
REDUCTION IN THE LOWEST BID FOR SUCH DOMESTIC PRODUCTS.
ALL VENDORS MUST INDICATE IN THEIR BID IF THEY ARE
SUPPLYING FOREIGN ALUMINUM, GLASS OR STEEL.

REV. 3/88

EXHIBIT 9

NOTICE FOR ISSUANCE & ACKNOWLEDGEMENT OF CONSTRUCTION
PROJECT ADDENDA

THE ARCHITECT/ENGINEER AND/OR AGENCY SHALL BE REQUIRED
TO ABIDE BY THE FOLLOWING SCHEDULE IN ISSUING
CONSTRUCTION PROJECT ADDENDA FOR STATE AGENCIES:

(1)   THE ARCHITECT/ENGINEER SHALL PREPARE THE ADDENDUM
AND A LIST OF ALL PARTIES THAT HAVE PROCURED DRAWINGS
AND SPECIFICATIONS FOR THE PROJECT.   THE ADDENDUM
AND LIST SHALL BE FORWARDED TO THE BUYER IN THE STATE
PURCHASING DIVISION.   THE ARCHITECT/ENGINEER SHALL ALS
SEND A COPY OF THE ADDENDUM TO THE STATE AGENCY FOR
WHICH THE CONTRACT IS ISSUED.

(2)   THE BUYER SHALL SEND THE ADDENDUM TO ALL
INTERESTED PARTIES AND, IF NECESSARY, EXTEND THE BID
OPENING DATE.   ANY ADDENDUM SHOULD BE RECEIVED BY THE
BUYER WITHIN FOURTEEN (14) DAYS PRIOR TO THE BID
OPENING DATE.

(3)   ALL ADDENDA SHOULD BE FORMALLY ACKNOWLEDGED BY ALL
BIDDERS   AND   SUBMITTED   TO   THE   STATE   PURCHASING
DIVISION.   THE   SAME   RULES   AND   REGULATIONS

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE _Jimmy Wells_	TELEPHONE 877-690-5999	DATE 07/21/2010
TITLE _President_	FEIN 62-1651382	ADDRESS CHANGES TO BE NOTED ABOVE

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THAT APPLY TO THE ORIGINAL BIDDING DOCUMENT
SHALL ALSO APPLY TO AN ADDENDUM DOCUMENT. THE ONLY
EXCEPTION MAY BE FOR AN ADDENDUM THAT IS ISSUED FOR THE
SOLE PURPOSE OF CHANGING A BID OPENING TIME AND/OR
DATE.

REV. 11/96

EXHIBIT 10

ADDENDUM ACKNOWLEDGEMENT

I HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING CHECKED
ADDENDUM(S) AND HAVE MADE THE NECESSARY REVISIONS TO
MY PROPOSAL, PLANS AND/OR SPECIFICATION, ETC.

ADDENDUM NOS.:

NO. 1   .....|.....|....

NO. 2   .....|.....|....

NO. 3   .....|.....|....

NO. 4   .....|.....|....

NO. 5   .....|.....|....

I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF TH
ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF THE BIDS.

VENDOR MUST CLEARLY UNDERSTAND THAT ANY VERBAL
REPRESENTATION MADE OR ASSUMED TO BE MADE DURING ANY
ORAL DISCUSSION HELD BETWEEN VENDOR'S REPRESENTATIVES
AND ANY STATE PERSONNEL IS NOT BINDING. ONLY THE

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SIGNATURE _Jimmy Watts_   TELEPHONE 877-690-5999   DATE 07/21/2010

TITLE President   FEIN 62-1651382   ADDRESS CHANGES TO BE NOTED ABOVE

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INFORMATION ISSUED IN WRITING AND ADDED TO THE
SPECIFICATIONS BY AN OFFICIAL ADDENDUM IS BINDING.

....SIGNATURE

....COMPANY

....DATE

REV. 11/96

             CONTRACTORS LICENSE

WEST VIRGINIA STATE CODE 21-11-2 REQUIRES THAT ALL
PERSONS DESIRING TO PERFORM CONTRACTING WORK IN THIS
STATE MUST BE LICENSED. THE WEST VIRGINIA CONTRACTORS
LICENSING BOARD IS EMPOWERED TO ISSUE THE CONTRACTORS
LICENSE. APPLICATIONS FOR A CONTRACTORS LICENSE MAY BE
MADE BY CONTACTING THE WEST VIRGINIA DIVISION OF LABOR
CAPITOL COMPLEX, BUILDING 3, ROOM 319, CHARLESTON, WV
25305. TELEPHONE: (304) 558-7890.

WEST VIRGINIA STATE CODE 21-11-11 REQUIRES ANY
PROSPECTIVE BIDDER TO INCLUDE THE CONTRACTORS
LICENSE NUMBER ON THEIR BID.

BIDDER TO COMPLETE:

CONTRACTORS NAME: ....

CONTRACTORS LICENSE NO.:   ....

THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FURNISH A
COPY OF THEIR CONTRACTORS LICENSE PRIOR TO ISSUANCE OF

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A PURCHASE ORDER/CONTRACT

APPLICABLE LAW

THE WEST VIRGINIA STATE CODE, PURCHASING DIVISION RULES
AND REGULATIONS, AND THE INFORMATION PROVIDED IN
THE "REQUEST FOR QUOTATION" ISSUED BY THE PURCHASING
DIVISION IS THE SOLE AUTHORITY GOVERNING THIS
PROCUREMENT.

ANY INFORMATION PROVIDED IN SPECIFICATION MANUALS, OR
ANY OTHER SOURCE, VERBAL OR WRITTEN, WHICH CONTRADICTS
OR ALTERS THE INFORMATION PROVIDED FROM THE SOURCES AS
DESCRIBED IN THE ABOVE PARAGRAPH IS VOID AND OF NO
EFFECT.

BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES
FOR BANKRUPTCY PROTECTION, THE STATE MAY DEEM THE
CONTRACT NULL AND VOID, AND TERMINATE SUCH CONTRACT
WITHOUT FURTHER ORDER.

REV. 5/2009

                     NOTICE

A SIGNED BID MUST BE SUBMITTED TO:

     DEPARTMENT OF ADMINISTRATION
     PURCHASING DIVISION
     BUILDING 15
     2019 WASHINGTON STREET, EAST
     CHARLESTON, WV 25305-0130

THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE _Jimmy Wall_   TELEPHONE 877-690-5999 DATE 07/21/2010

TITLE _President_   FEIN _62-1651382_   ADDRESS CHANGES TO BE NOTED ABOVE

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THE ENVELOPE OR THE BID MAY NOT BE CONSIDERED:

SEALED BID

BUYER: SHELLY MURRAY

REQ. NO.:   DBSM108117

BID OPENING DATE: 07/22/2010

BID OPENING TIME: 1:30 PM

PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY
TO CONTACT YOU REGARDING YOUR BID:
_____ 865-273-1961 _____

PLEASE PRINT OR TYPE NAME OF PERSON TO CONTACT
CONCERNING THIS QUOTE:
_____ Mike Asbury _____

****** THIS IS THE END OF RFQ DBSM108117 ****** TOTAL: $317,435.80

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE Jeremy Wall   TELEPHONE 877-690-5999   DATE 07/21/2010
TITLE President   FEIN 62-1651382   ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

DBSM108117
REQUEST FOR QUOTATION
West Virginia Schools for the Deaf and Blind (WVSDB)
Videoconferencing Equipment

PURPOSE:
WVSDB is soliciting a Request for Quotation from qualified vendors to provide videoconferencing equipment to WVSDB and 5 other schools that are partners in this project.

SPECIFICATIONS:

Background:
The West Virginia Schools for the Deaf and Blind want to install a state of the art videoconference system in order to participate in projects with our 5 partners across the state. This will allow our students to participate in numerous 21st century educational activities.

Scope of Work:
The majority of the videoconferencing equipment will be installed on the campus of WVSDB. Each of our partners will be receiving items 24, 25, 26, 28, 29, 31 and 32 on the list of equipment. This includes the Tandberg Edge 95 or equal, the Natural Presenter package, on-site installation/configuration and the 1 year warranty. These units will be installed at the following locations:

Petersburg Elementary School
333 Rig Street
Petersburg, WV 26847

Spencer Elementary School
85 Clay Road
Spencer, WV 25276

Geary Elementary Middle School
9538 Clay Road
Left Hand, WV 25251

Spencer Middle School
102 Chapman Avenue
Spencer, WV 25276

Walton Elementary/Middle School
90 School Drive
Walton, WV 25286

Item #	Qty.	Part #	Description	Sell (each)	Sell (total)
1	1	1163401	VCS Control Application - 10 Calls	$ 12,083.50	$ 12,083.50
2	1	1163401V01D	VCS 1 Yr Core Service	$ 3,217.50	$ 3,217.50
3	1	1163402	VCS Expressway - 5 traversal calls	$ 12,727.00	$ 12,727.00
4	1	1163402V01D	VCS Expressway 1 Yr Core Service	$ 3,217.50	$ 3,217.50
5	1	1153601	Content server - 5 recording ports 2 live output	$ 26,169.00	$ 26,169.00
6	1	1153601V01D	Content server 1 Yr Core Service	$ 4,573.80	$ 4,573.80
7	1	1158001	TMS Server Appliance - 25 system license	$ 10,367.50	$ 10,367.50
8	1	1158001V01D	TMS Server 1 Yr Core Service	$ 3,425.40	$ 3,425.40
9	1	194205A	MCU-4205 - 12 port	$ 30,101.50	$ 30,101.50
10	1	194205AV01D	MCU-4205 1 Yr Core Service	$ 5,553.90	$ 5,553.90
11	1		MCU-4205 12-Port Installation	$ 4,536.00	$ 4,536.00
12	1	115860	3000 MXP 42" with HD camera	$ 16,863.00	$ 16,863.00
13	1	113821NPP	3000 MXP NPP	$ 1,201.20	$ 1,201.20
14	1	117333	Wheel base option for 3000 MXP	$ 947.10	$ 947.10
15	1		3000 MXP Installation	$ 1,664.00	$ 1,664.00
16	1	115860V01D	3000 MXP 1 Yr Core Service	$ 2,821.50	$ 2,821.50
17	1	115920	HD 6000 MXP Integrator package	$ 17,710.00	$ 17,710.00
18	1	115920V01D	HD 6000 MXP 1Yr Core Service	$ 2,405.70	$ 2,405.70
19	1	113816NPP	HD 6000 MXP NPP	$ 1,201.20	$ 1,201.20
20	1		6000 MXP Installation	$ 1,664.00	$ 1,664.00
21	1	112688	Wave II Camera	$ 3,212.00	$ 3,212.00
22	1	112688V01D	Wave II Camera 1 Yr Core Service	$ 312.40	$ 312.40
23	1	113704V40	T4 Complete Program	$ 4,180.00	$ 4,180.00
23r	1	PCS-TRN-3D	PCS 3D Distance Learning Training (Recommended Substitute)	$ 4,000.00	$ 4,000.00
24	5	115600	Edge 95 MXP with HD Camera, NPP, and MS (bundle)	$ 8,778.00	$ 43,890.00
25	5		Edge 95 Natural Presenters Package	Incl	Incl
26	5	115600V01D-3	Edge 95 MXP 3Yr Core Service	$ 3,688.30	$ 18,441.50
27	1		Misc. Cables for WSDB equipment	$ 1,100.00	$ 1,100.00
28	1		Misc. Cables for partner equipment	$ 1,100.00	$ 1,100.00
29	5		Installation, Configuration, and Training of all Equipment at Partner Locations	$ 1,200.00	$ 6,000.00
30	2		Cisco 52" LCD TV and mount	$ 4,983.00	$ 9,966.00
30r	2		Infocus 55" LCD TV and mount (Recommended Substitute)	$ 2,241.80	$ 4,483.60
31	5		Cisco 40" LCD TV and mount	$ 2,427.70	$ 12,138.50
31r	5		Infocus 42" LCD TV and mount (Recommended Substitute)	$ 1,255.10	$ 6,275.50
32	5		VFI Equipment carts	$ 1,650.00	$ 8,250.00
33	2		VFI Equipment carts	$ 1,650.00	$ 3,300.00
34	1		Complete Installation, Configuration, and Training at WVSDB	$ 9,536.00	$ 9,536.00
					$ 317,435.80

Pricing provided by:
Mike Asbury
Director of Sales & Business Development
Personal Computer Systems, Inc.
1720 Topside Road
Louisville, TN 37777
Tel: 877.690.5999
Fax: 865.237.1961
Email: masbury@pcsknox.com

Time Frame:
The scope of work shall be completed within 60 days after contract is awarded and notice to proceed is given. __

Mandatory Qualifications:
By submitting a bid, the vendor adheres to the following:

1. The vendor verifies that they have completed at least 3 projects of the same nature in the past five years.

2. The vendor must be certified on the proposed installed equipment

3. The vendor must be registered as a Vendor with the State of West Virginia prior to award.

TANDBERG VCS Control Application
Item #1

* Single box must support gatekeeping functionality using the industry standard of H323 and SIP proxy functionality using the industry standard of SIP
* System must be capable of interworking H.323 and SIP without user intervention
* Flash memory and hard drive
* Must provide PBX functionality to end points such as call hold, call transfer and conferencing without the need for an embedded MCU in the endpoints
* Support for IP Version 4 support and support for IP Version 6 support
* H.323 v5 Annex O for DNS dialing support
* ITU-T H.323 v5 complaint and ITU-T H.225 v4 complaint
* Single box solution must support SIP based presence
* Solution must support clustering and up to 10,000 users in a cluster and up to 2,000 simultaneous calls in a cluster

TANDBERG VCS Expressway Application
Item #3

* Single box solution must support H.460 firewall traversal with multiplexed media technology without the use of external or add-on devices
* Single box solution must support SIP based firewall traversal technology without the use of external or add-on devices
* Solution must support clustering and up to 10,000 users in a cluster
* Solution must support clustering and up to 2,000 simultaneous calls in a cluster
* Must support ICE (interactive connectivity establishment)
* Support for Registration of traversal-enabled endpoints
* SIP based STUN Discover y and STUN Relay services

- H.460.18/.19 complaint and H.460.18 client proxy support
- Instant restart and boot – under 90 seconds

TANDBERG Content Server
Item #5

- A single box solution must support a minimum of 5 simultaneous accesses
- The system must support RSS feeds and portable device downloads
- The system must support Flash, Windows Media Player, Quicktime, and Real
- The system must support native Multicast without the use of external equipment
- The system must integrate direction with Apple ITunes and Apple Podcast Producer
- The system must provide build in Streaming Server based on Windows Media Server
- The system must provide SIP support to allow SIP end points to record and stream

TMS Server Appliance
Item #7

- The management system must be able to manage both newer and legacy Tandberg and Polycom endpoints, along with the network infrastructure chosen. This includes MCUs, Firewall Traversal Solutions, Streaming systems, Call Control systems, Gatekeepers and others.
- The management software must provide diagnostic capabilities, billing capabilities as well as graphical reports
- The management software must provide H.350 support (import and export) Active Directory support
- The management software must provide Centrally-managed server phone books creation of one or multiple phone books with the ability to search unlimited entries
- The management software must provide Automatic directory import from gatekeeper, ILS and LDAP (single or multiple source)
- The management software must provide Automatic MCU, gateway and network selection
- The management software must provide Support for SIP enabled endpoints and dialing
- The management software must provide battery status on remote controls, diagnostic messages and solution suggestions system status, gatekeeper status, SNMP configuration, ISDN/IP configuration and information
- The management software must Manage calls made on multiple protocols (IP using H.323 and SIP, ISDN and mixed calls)
- The management software must provide for System Upgrades – Able to upgrade either pre-scheduled or ad-hoc software updates to endpoints

MCU-4205 12 Port Multisite Bridge
Item #9

- There must be NO reduction of ports for features. This includes individual transcoding, encryption, and others. It must be conveyed that the capacity of the system IS the capacity of the system regardless of features being used
- The system must support standards based H.264 (no proprietary algorithms will be permitted) and standards based AAC for audio (no proprietary algorithms will be permitted)
- Content or data sharing channel must support 30 FPS
- The system must provide easy to use software clients
- Dimensions not to exceed 1 rack unit (U)

TANDBERG 3000 MXP Profile-Single 42"
Item #12

- The system must support standards based H.264 for high definition video (no proprietary algorithms will be permitted)
- The system must support standards based AAC for high definition audio (no proprietary algorithms will be permitted)
- Content or data sharing channel must support 30 FPS
- The codec must support 16 x 9 native (not stretched) at all bandwidths including 128k, 256k, 384k, 512k, and 768k.
- The system must support H.239 for data collaboration using H.323 (no proprietary algorithms will be permitted)
- The system must support BFCP for data collaboration using SIP (no proprietary algorithms will be permitted)
- The system must support H.460.18/19 multiplexed media for firewall traversal using H.323 (no proprietary algorithms will be permitted)
- The system must support STUN/ICE multiplexed media for firewall traversal using SIP (no proprietary algorithms will be permitted)
- The system must allow for real-time address books (not updated on a schedule)

TANDBERG 3000 MXP Natural Presenters Package
Item # 13

- Software option that allows two video streams at one time, allows students to view instructor and interpreter simultaneously
- Allows users to incorporate computers, laptops, document camera into the video presentation

Wheel Base Option for 3000 MXP Profile 42"
Item # 14

- Wheel base for equipment that allows the unit to be portable

HD 6000 MXP Integrator Package
Item #17

- 6000 MXP codec
- Precision HD camera
- Camera cable set (2m, 5m and 19.5m cable extension kit),
- 2 table microphones
- 2 trackers

HD Integrator 6000 MXP Natural Presenter Package
Item #19

- Software option that allows two video streams at one time, allows students to view instructor and interpreter simultaneously
- Allows users to incorporate computers, laptops, document camera into the video presentation

W.A.V.E. II Camera
Item #21

- 13CCD Color Camera PAL or NTSC
- 10 x zoom
- 1/4" CCD
- 96° total vertical field of view and 77° horizontal field of view
- 267° total horizontal field of view
- 460 (PAL) / 470 (NTSC) horizontal TV lines
- Min. illumination 2 Lux (F1.8)
- Auto or manual focus, brightness and white balance
- Far end camera control w/ 15 near and far-end camera pre-sets
- Voice-activated camera positioning
- Daisy chain support for up to 4 cameras
- VISCA camera support.

T4 Complete Program
Item # 23

- Complete training program for teachers.
- Includes 10 hours of training for classroom teachers on the following:

  - 4.5 hours of video conferencing basics includes basic operation of equipment, methods of engaging students, using administrative applications

o 2.5 hours of how to best utilize peripheral equipment as part of the video conferencing experience

o 1.5 hours of instruction on preparing lesson plans for delivery over video

o 1.5 hours of review, wrap up and practice of previous sessions.

Edge 95
Item #24

- The system must be able to connect up to 4 video sites and 3 audio sites with embedded Multi Site functionality
- The system must support up to 2 Mbps H.323/2 Mbps SIP/512 kbps H.3202/2.3 Mbps total MultiSite
- The system must be wireless capable
- The system must allow for viewers to view presentations and presenters simultaneously with Duo Video and H.239 Dual Stream
- The system must incorporate H.264 standard for superior video quality

Edge 95 Natural Presenter Package
Item #25

- Software option that allows two video streams at one time, allows students to view instructor and interpreter simultaneously
- Allows users to incorporate computers, laptops, document camera into the video presentation

Misc. Cable
Item #27 and 28

- RCA Female To BNC Male Adapter
- DVI To VGA Display Adapter
- 6ft Outlet Saver Power Extension Cord Black
- Audio Y-Adapter Cable
- 3.5mm Stereo Male To 3.5mm Stereo Female Y-Cable
- Panel-Mount VGA F-F Coupler Gender Changer
- Box of 20 Raceway White ¾" X1/2" X 8'
- Straight Through Modular In-line Coupler RJ45
- HDMI Gold Digital Video Cable 50ft
- 25ft 3.5mm M/M Stereo
- 25ft Grey Cat5e Patch Cable Molded Snag less
- 50ft Male to Male Premium SVGA VGA cable DB15M to DB15M
- Single Gang Surface Mount Box WHITE
- One-Piece Deep Low Voltage Junction Box w/Adhesive
- Essential 7 Outlet Surge Suppressor
- 6 Outlet Surge Suppressor 6x Receptacles 1 x power cable – 16.4 ft

- VGA VIDEO SPLITTER/EXTENDER 2- 2 PORT HDMI SPLITTER
- Any other cable needed to connect, attach equipment quoted but not listed here

Cisco 52" LCD TV monitors and mounts
Item #30

- Commercial grade LCD monitor
- Must have 1080p resolution with HDMI input
- Must have a PC input-RGB/VGA 15 pin that supports 1080p resolution
- 3 year manufacturers warranty included

Cisco 42" LCD TV monitors and mounts
Item #31

- Commercial grade LCD monitor
- Must have 1080p resolution with HDMI input
- Must have a PC input-RGB/VGA 15 pin that supports 1080p resolution
- 3 year manufacturers warranty included

Monitor Carts
Item # 32 and 33

- Cart must be capable of holding securely the LCD monitor and all Videoconferencing equipment necessary to complete the unit.
- Cart must be capable of locking to secure equipment

Installation, Configuration and Training
Item # 34

- Price must be all inclusive to provide a turnkey project.
- All equipment will be installed at the locations listed
- Equipment will be tested for complete functionality
- Must be installed by certified installers
- Training will be given at all sites

State of West Virginia
DRUG FREE WORKPLACE CONFORMANCE AFFIDAVIT
West Virginia Code §21-1D-5

STATE OF _Tennessee_

COUNTY OF _Blount_ , **TO-WIT:**

I, _Jeremy Waldroop_ , after being first duly sworn, depose and state as follows:

1. I am an employee of _Personal Computer Systems, Inc._ and,
    (Company Name)

2. I do hereby attest that _Personal Computer Systems, Inc_
    (Company Name)

maintains a valid written drug free workplace policy and that such policy is in compliance with *West Virginia Code* §21-1D-5.

The above statements are sworn to under the penalty of perjury.

Personal Computer Systems, Inc.
(Company Name)

By: _Jeremy Wall_

Title: _President_

Date: _07 | 21 | 2010_
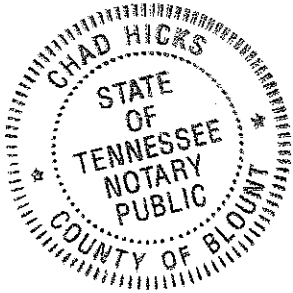
Taken, subscribed and sworn to before me this _21_ day of _July_ .

By Commission expires _9/23/12_

(Seal)

_____
(Notary Public)

THIS AFFIDAVIT MUST BE SUBMITTED WITH THE BID IN ORDER TO COMPLY WITH WV CODE PROVISIONS. FAILURE TO INCLUDE THE AFFIDAVIT WITH THE BID SHALL RESULT IN DISQUALIFICATION OF THE BID.

Rev March 2009

RFQ No. DBSM108117

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

West Virginia Code §5A-3-10a states: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

EXCEPTION: The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

Under penalty of law for false swearing (**West Virginia Code** §61-5-3), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated.

WITNESS THE FOLLOWING SIGNATURE

Vendor's Name: _Personal Computer Systems, Inc._

Authorized Signature: _Jimmy Wall_ Date: _07/21/2010_
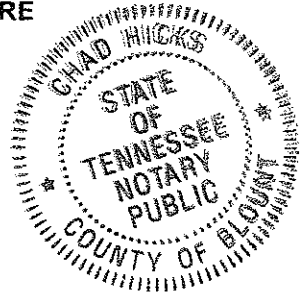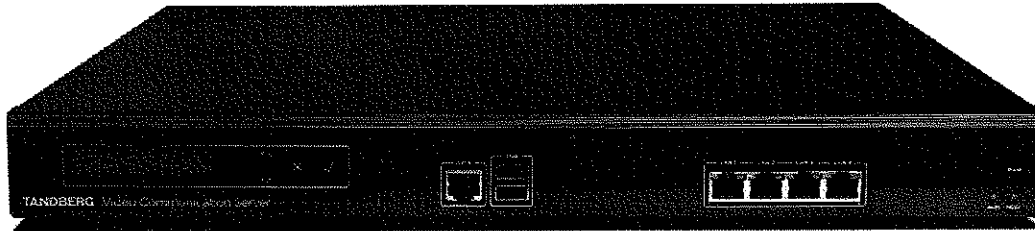
State of _TN_

County of _Blount_ , to-wit:

Taken, subscribed, and sworn to before me this _21_ day of _July_ , 20_10_.

My Commission expires _9/23_ , 20_12_.

AFFIX SEAL HERE

CHAD HICKS
STATE OF TENNESSEE
NOTARY PUBLIC
COUNTY OF BLOUNT

NOTARY PUBLIC _Chad H_

Purchasing Affidavit (Revised 12/15/09)

TANDBERG
Video Communication Server
Control

The **TANDBERG Video Communication Server (VCS) Control Application** provides SIP proxy and call control as well as H.323 gatekeeper services. VCS is the center of the intelligent video communication network, connecting all infrastructure, management and endpoint devices and is key to interoperability with Unified Communications and IP Telephony networks and VoIP devices.
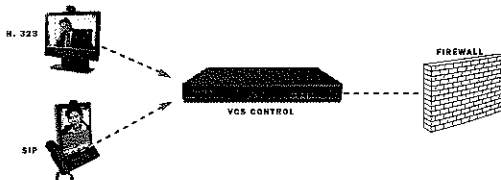
DESIGN FEATURES
- Designed to work with any standards based H.323 or SIP device
- Appliance-based architecture enables easy deployment and high reliability
- Full multi-vendor support
- Secure and reliable
- 1U rack mountable

APPLICATION FEATURES
- Flexible zone configuration with named zones and default zone
- Supports inter- and intrazone bandwidth control
- Provides IPv4/v6 Translation Services
- Policy Engine for processing calls
- URI and ENUM dialing
- Device authentication using H.235 and SIP digest authentication
- Embedded setup wizard for easy installation
- SIP Presence Server and User Agent
- TANDBERG FindMe™
- Multiway™

PERFORMANCE FEATURES
- Supports up to 2,500 registered devices and 100 concurrent traversal calls
- Up to 1000 neighboring zones (traversal zones included)
- HTTPS, SSH and SCP for secure management
- Uses compact flash for critical storage and a hard drive for other functions
- Supports clustering of up to six VCS increasing capacity and redundancy

H. 323

SIP

VCS CONTROL

FIREWALL

www.TANDBERG.com

TANDBERG
See: performance

TANDBERG VCS CAPACITY
Up to 2,500 registrations
Up to 500 non-traversal calls
Up to 100 traversal calls
Up to 1000 neighbor zones
Up to 1000 sub-zones

TANDBERG VCS CONTROL APPLICATION FEATURES
H.323 gatekeeper
SIP Proxy/Registrar

TANDBERG VCS EXPRESSWAY™ APPLICATION FEATURES
NAT Traversal functionality enabling secure traversal
  of any NAT firewall
Registration of traversal-enabled endpoints
Standards based TURN Server and supports firewall traversal
  for ICE enabled devices

TANDBERG VCS MAIN FEATURES (CONTROL AND EXPRESSWAY™ APPLICATIONS)
SIP and H.323 support, including SIP/H.323 gateway
  for locally registered endpoints
IPv4 and IPv6 support, including IPv4/IPv6 interworking
SIP and H.323 interworking for non-registered endpoints
Bandwidth management on both a per-call and a total usage
  basis, configurable separately for calls within the local
  subzones and to neighboring systems and zones
URI and ENUM dialing via DNS, enabling global connectivity
Automatic downspeeding option for calls that exceed the
  available bandwidth
Flexible zone configuration with prefix, suffix and regular
  expression support
Can function as a standalone VCS or be neighbored with other
  systems such as VCS, Border Controllers, Gatekeepers and
  SIP proxies
Can be clustered with up to 6 other VCS peers for capacity
  and redundancy purposes
Name clusters for ease of management and deployment
Optional endpoint authentication
Control over which endpoints are allowed to register
Administrator Policy including support for CPL
Embedded setup wizard via a serial port for initial configuration
System administration via a web interface or RS-232, Telnet,
  SSH and HTTPS
Static NAT Support* (requires Dual Network Interface Option)

OPTIONAL FEATURES
TANDBERG FindMe™ (User Policy)
 – Supports enterprise authentication
 – Efficient large scale provisioning of user FindMe accounts
   utilizing LDAP
SIP/H.323 interworking for non-registered endpoints
Dual Network Interface
Multiway™
TMS Agent

ARCHITECTURE
Secure appliance-based architecture
Flash memory and hard drive
ITU-T H.323 v6 compliant
ITU-T H.225 v6 compliant
TANDBERG Expressway Technology
H.460.18/.19 compliant
H.460.18 client proxy support
Supports H.460.19 multiplexed media

RELIABILITY
Registrations survive system restart
Fast start-up time
Configuration Replication for Clusters
Expressway process recycling within seconds
H.225 Alternate Gatekeeper Support

SUPPORTED RFCS
RFC 2543, RFC 3261, RFC 3264, RFC 1889, RFC 3265, RFC 3325,
  RFC 3515, RFC 3891, RFC 3892, RFC 2327, RFC4566

SECURITY
Secure Management with HTTPS, SSH and SCP
 – Secure File Transfer
 – Inactivity Timeout
Can lock-down IP services
Authentication required on HTTP(S), Telnet, SSH, SCP
  and serial port
Compatible with H.235 v2 and v3 enabled H.323 devices
H.235 Authentication support
TLS for SIP signaling
Roles based password protected GUI user access
Ability to enforce strict passwords
Ability to disable root access over Telnet of SSH

MANAGEMENT
Supports industry standards such as RS-232, Telnet, HTTP(S),
  XML, SNMP, SCP and SSH
Embedded setup wizard on serial port for initial configuration
Advanced management support and configuration with
  TANDBERG Management Suite 12.0 or newer
Call logging and diagnostics
Support for logging to a syslog server
Local time zone aware
Port usage tool

CALL CONTROL AND REGISTRATIONS
Supports manual registration of H.323 and SIP endpoints and
  API call control
Supports H.225/Q.931, H.245 call control routed mode
  and non call routed mode
Supports H.323-SIP Interworking Encryption
Supports H.323-SIP Interworking DuoVideo
Registration of H.323 ID, E.164 aliases and services
Supports Unicode (UTF-8) registration for global implementation
Disconnect H.323 calls from the API interface
URI Dialing
Up to 100 traversal calls
Up to 100 services for a single device
Up to 2500 registered Expressway Devices
Direct call signaling between neighbored VCSs, border
  controllers and gatekeepers
Call Policy Management (RFC 3880) including Call Policy
  and User Policy (FindMe)
Conference hunting for MCU cluster support
Call Routed Mode
Call Loop Detection Mode

ZONE CONTROL
Supports Remote Zone monitoring
Supports Remote Zone redundancy
Supports up to 200 neighbor zones (including VCSs,
  Border Controllers, gatekeepers and SIP proxies)
Supports sub-zone area definition for bandwidth management
Flexible zone configuration with named zones and default zone
Supports forwarding of requests to neighbor zones (including
  VCSs, border controllers, gatekeepers and SIP proxies)
Registration Control (open, specifically allow, specifically deny)
Cisco Unified Communication Manager zone profile available
  for efficient interoperability configuration

BANDWIDTH MANAGEMENT
Interzone — definable call-by-call
 – Max bandwidth per call
 – Max aggregate bandwidth for all neighboring zones
Intrazone — definable call-by-call
 – Max bandwidth per call
 – Max aggregate bandwidth
Auto-downspeeding if call exceeds per-call maximum
Gateway load balancing
Automatic network failover
Provides capacity warnings for users and administrators

INTERFACES
4x 10/100/1000 Base-TX Ethernet ports (RJ-45) (front)
1x RS232 console port (RJ-45)2 (front)

POWER
Auto-sensing 250W (Max) 580 BTU/hr power supply
90–264V AC full range @ 47–63Hz

COOLING SYSTEM
Six 40 mm fans for system cooling

SYSTEM CONTROL AND INDICATIONS
1x Power LED
1x Alarm LED
1x Power on/off switch (rear)
4x Act/Link/10/100/1000 LEDs on Ethernet Ports

NETWORK
Supports DNS Addressing
Supports IPv4 and IPv6 simultaneously
Provides IPv4/IPv6 Translation Services

APPROVALS
Directive 73/23/EEC (Low Voltage Directive)
 – Standard EN 60950
Directive 89/336/EEC (EMC Directive)
 – Standard EN 55022, Class A
 – Standard EN 55024
 – Standard EN 61000-3-2/-3-3
Approved according to UL 60950 and
  CAN/CSA C22.2 No. 60950
Complies with FCC15B Class A

DIMENSIONS
426(W) x 457.2(D) x 43.5(H) mm (16.8" x 9" x 1.72")
1U rack-mount chassis

ENVIRONMENT
Operating temperatures: 0° C to 40° C (32° F to 104° F)
Storage temperatures: -20° C to 80° C (-4° F to 140° F)
Relative humidity: 10% to 90% (Non-condensing)

CERTIFICATION
LVD 73/23/EC
EMC 89/366/ECC

VCS Version X1 is ICSA Labs Certified

AWARDS

ENTERPRISE LAN/WAN

TANDBERG
Video
Communication Server
Control

TANDBERG
See: performance

TANDBERG
Video Communication Server
Expressway™

The TANDBERG Video Communication Server (VCS), deployed with Expressway™ opens the world outside the firewall to organizations using video communications. Expressway enables business to business communications, empowers remote and home based workers, and gives service providers the ability to provide video communications to customers. Expressway provides standards-based and secure firewall traversal for SIP and H.323 devices and VCS enables communication with the outside world regardless of SIP or H.323 protocol.
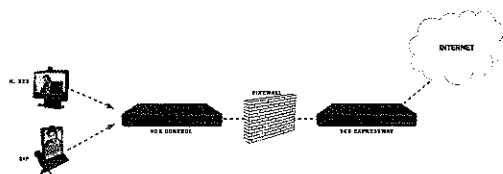
DESIGN FEATURES

- Designed to work with any H.323 or SIP device
- Appliance-based architecture enables easy deployment and high reliability
- Designed to work with any firewall
- Full multi-vendor support
- Secure and reliable
- 1U rack mountable
- Dual Network Interface option available

APPLICATION FEATURES

- Firewall Traversal H.460.18/19 Compliant including support for Multiplexed Media
- Firewall Traversal STUN Compliant
- Traverse any number of firewalls
- Policy Engine for processing calls
- URI and ENUM dialing
- Device authentication using H.235
- Embedded setup wizard for easy installation
- SIP Presence Server and User Agent

PERFORMANCE FEATURES

- Supports up to 2,500 registered devices and 100 concurrent traversal calls
- Enables URI dialing for massive scalability
- HTTPS, SSH and SCP for secure management
- Uses compact flash for critical storage and a hard drive for other functions
- Supports clustering of up to six VCS increases capacity and redundancy
- Standards based TURN server, supporting providing ICE enabled devices with Firewall and NAT traversal

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TANDBERG'S PORTFOLIO OF CONSTANT CARE SERVICES.
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TANDBERG VCS CAPACITY
Up to 2,500 registrations
Up to 500 non-traversal calls
Up to 100 traversal calls
Up to 1000 sub-zones
Up to 1000 neighbor zones

TANDBERG VCS CONTROL APPLICATION FEATURES
H.323 gatekeeper
SIP Proxy/Registrar

TANDBERG VCS EXPRESSWAY™ APPLICATION FEATURES
NAT Traversal functionality enabling secure traversal
  of any NAT firewall
Registration of traversal-enabled endpoints
STUN discovery and STUN Relay services

TANDBERG VCS MAIN FEATURES (CONTROL AND EXPRESSWAY™ APPLICATIONS)
SIP and H.323 support, including SIP/H.323 gateway
  for locally registered endpoints
IPv4 and IPv6 support, including IPv4/IPv6 Interworking
SIP and H.323 interworking for non-registered endpoints
Bandwidth management on both a per-call and a total usage
  basis, configurable separately for calls within the local
  subzones and to neighboring systems and zones
URI and ENUM dialing via DNS, enabling global connectivity
Automatic downspeeding option for calls that exceed the
  available bandwidth
Flexible zone configuration with prefix, suffix and regular
  expression support
Can function as a standalone VCS or be neighbored with other
  systems such as VCS, Border Controllers, Gatekeepers and
  SIP proxies
Can be clustered with up to 5 other VCS peers for capacity and
  redundancy purposes
Name clusters for ease of management and deployment
Optional endpoint authentication
Control over which endpoints are allowed to register
Administrator Policy including support for CPL
Embedded setup wizard via a serial port for initial configuration
System administration via a web interface or RS-232, Telnet,
  SSH and HTTPS
Static NAT Support* (requires Dual Network Interface Option)

OPTIONAL FEATURES
TANDBERG FindMe™ (User Policy)
SIP/H.323 interworking for non-registered endpoints
Dual Network Interface
Multiway™
TMS Agent

ARCHITECTURE
Secure appliance-based architecture
Flash memory and hard drive
ITU-T H.323 v6 compliant
ITU-T H.225 v6 compliant
TANDBERG Expressway Technology
H.460.18/.19 compliant
H.460.18 client proxy support
Supports H.460.19 multiplexed media

RELIABILITY
Registrations survive system restart
Fast start-up time
Configuration Replication for Clusters
Expressway process recycling within seconds
H.225 Alternate Gatekeeper Support

SUPPORTED RFCS
RFC 2543, RFC 3261, RFC 3264, RFC 1889, RFC 3265, RFC 3325,
  RFC 3515, RFC 3891, RFC 3892, RFC 2327, RFC4566

SECURITY
Secure Management with HTTPS, SSH and SCP
  – Secure File Transfer
  – Inactivity Timeout
Can lock-down IP services
Authentication required on HTTP(S), Telnet, SSH, SCP
  and serial port
Compatible with H.235 v2 and v3 enabled H.323 devices
H.235 Authentication support
TLS for SIP signaling
Roles based password protected GUI user access
Ability to enforce strict passwords
Ability to disable root access over Telnet of SSH

MANAGEMENT
Supports industry standards such as RS-232, Telnet, HTTP(S),
  XML, SNMP, SCP and SSH
Embedded setup wizard on serial port for initial configuration
Advanced management support and configuration with
  TANDBERG Management Suite 12.0 or newer
Call logging and diagnostics
Support for logging to a syslog server
Local time zone aware
Port usage tool

CALL CONTROL AND REGISTRATIONS
Supports manual registration of H.323 and SIP endpoints and
  API call control
Supports H.225/Q.931, H.245 call control routed mode
  and non call routed mode
Supports H.323-SIP Interworking Encryption
Supports H.323-SIP Interworking DuoVideo
Registration of H.323 ID, E.164 aliases and services
Supports Unicode (UTF-8) registration for global implementation
Disconnect H.323 calls from the API interface
URI Dialing
Up to 100 traversal calls
Up to 100 services for a single device
Up to 2500 registered Expressway Devices
Direct call signaling between neighbored VCSs, border
  controllers and gatekeepers
Call Policy Management (RFC 3880) including Call Policy
  and User Policy (FindMe)
Conference hunting for MCU cluster support
Call Routed Mode
Call Loop Detection Mode

ZONE CONTROL
Supports Remote Zone monitoring
Supports Remote Zone redundancy
Supports up to 200 neighbor zones (including VCSs,
  Border Controllers, gatekeepers and SIP proxies)
Supports sub-zone area definition for bandwidth management
Flexible zone configuration with named zones and default zone
Supports forwarding of requests to neighbor zones (including
  VCSs, border controllers, gatekeepers and SIP proxies)
Registration Control (open, specifically allow, specifically deny)

BANDWIDTH MANAGEMENT
Interzone — definable call-by-call
  – Max bandwidth per call
  – Max aggregate bandwidth for all neighboring zones
Intrazone — definable call-by-call
  – Max bandwidth per call
  – Max aggregate bandwidth
Auto-downspeeding if call exceeds per-call maximum
Gateway load balancing
Automatic network failover
Provides capacity warnings for users and administrators

INTERFACES
4x 10/100/1000 Base-TX Ethernet ports (RJ-45) (front)
1x RS232 console port (RJ-45)2 (front)

POWER
Auto-sensing 250W (Max) 580 BTU/hr power supply
90–264V AC full range @ 47–63Hz

COOLING SYSTEM
Six 40 mm fans for system cooling

SYSTEM CONTROL AND INDICATIONS
1x Power LED
1x Alarm LED
1x Power on/off switch (rear)
4x Act/Link/10/100/1000 LEDs on Ethernet Ports

NETWORK
Supports DNS Addressing
Supports IPv4 and IPv6 simultaneously
Provides IPv4/IPv6 Translation Services

APPROVALS
Directive 73/23/EEC (Low Voltage Directive)
  – Standard EN 60950
Directive 89/336/EEC (EMC Directive)
  – Standard EN 55022, Class A
  – Standard EN 55024
  – Standard EN 61000-3-2/-3-3
Approved according to UL 60950 and
  CAN/CSA C22.2 No. 60950
Complies with FCC15B Class A

DIMENSIONS
426(W) x 457.2(D) x 43.5(H) mm (16.8" x 9" x 1.72")
1U rack-mount chassis

ENVIRONMENT
Operating temperatures: 0° C to 40° C (32° F to 104° F)
Storage temperatures: -20° C to 80° C (-4° F to 140° F)
Relative humidity: 10% to 90% (Non-condensing)

CERTIFICATION
LVD 73/23/EC
EMC 89/366/ECC

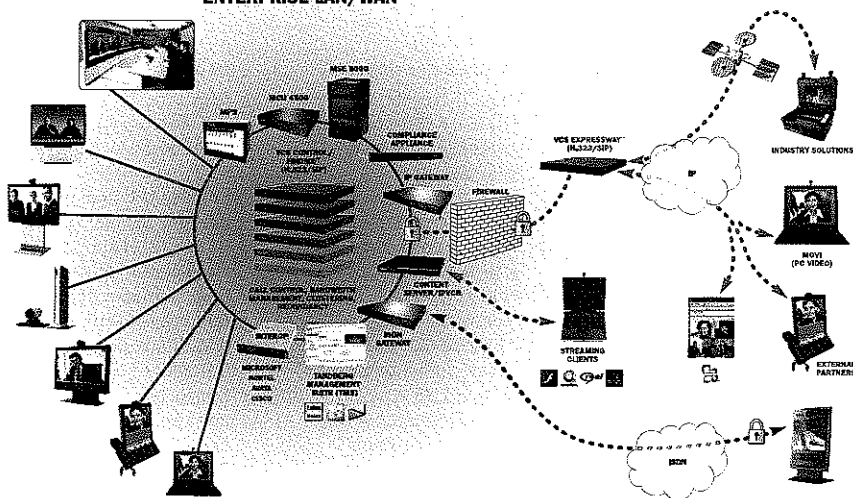VCS Version X1 is ICSA Labs Certified

AWARDS

ENTERPRISE LAN/WAN

TANDBERG
Video Communication Server Expressway™

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Leadership Training

- Problem Solving
- Planning
- Delegation
- Meeting Management
- Managing Yourself
- "Leading" Versus "Managing"
- New Paradigm in Management

TANDBERG
Content Server

With the TANDBERG Content Server, organizations can share knowledge and enhance communication by recording video conferences. Access live and on-demand presentations, distance education classes and corporate training sessions — anywhere, anytime. Distribute live or recorded content to any computer, download to your favorite portable media device or share through iTunes U.
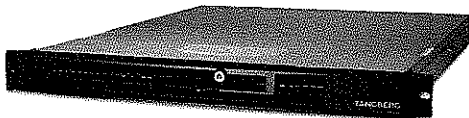
DESIGN FEATURES

- Appliance-based architecture for easy deployment and high reliability
- 1U rack mountable
- Built-in, easy-to-use, Web-based management interface
- Built-in Web-based content library
- Interoperates with a range of complimentary multivendor products

APPLICATION FEATURES

- Live and on-demand streaming
- Scheduled and ad hoc call support with dial-in and dial-out capabilities
- Record and stream video and H.239 dual-stream presentations from any H.323 or SIP video-conferencing unit
- Content creation from anywhere using TANDBERG Expressway™
- Compatible with all major streaming formats, including Windows Media®, Flash® and QuickTime®
- Support for major distribution servers and corporate web portals
- Editing and library features for simple content creation and retrieval
- Supports download of content to PC, MAC and portable media devices

PERFORMANCE FEATURES

- Support for five concurrent calls, up to two of which can be streamed live
- Video-conference bandwidth up to 2 Mbps
- Synchronized streaming of video and presentation in live and on-demand modes
- Unicast and multicast streaming support
- Internal and external storage capabilities
- Support for Active Directory authentication via LDAP
- Call configuration and access rights management
- Cluster up to 10 Content Servers
- Support for SQL Server 2008 with TCS clusters
- Export and import conferences from one Content Server to another

GET THE MOST FROM YOUR INVESTMENT. WITH
PROFESSIONAL SERVICES, TANDBERG EXPERTS SUPPORT
CONTENT SERVER DEPLOYMENT AND TRAINING.
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SYSTEM MANAGEMENT AND SCHEDULING

Easy configuration using serial port management console
Total management via embedded Web server
API for customized integration
One click to record scheduled conferences with TANDBERG
  Management Suite and TANDBERG Scheduler
Simple addition of audio-only outputs for recording
  of scheduled conferences with Microsoft® Outlook®
  or IBM Lotus Notes®
Utilize TANDBERG Management Suite to monitor TCS status,
  such as free disk space
Allows Administrators to set maximum streaming bandwidth
  limits to fit their network rules

RECORDING

Pre-defined template-based recording options
Full flexibility through built-in Web-based Template Editor
Personal and System Recording Aliases for ultimate flexibility
Record presentations or video from live dual stream
  (H.239 or DuoVideo)
Supports H.323 endpoints, MCUs, Gateways and SIP
Record up to (5) simultaneous H.323 or SIP video calls
Calls can be received at up to 2Mbps, up to 720P HD
  resolution for main camera and 1024x768 for H.239 source
Calls may include main video/audio and H.239/Duo
Recorded calls are transcoded into streaming and
  downloadable file formats, including Windows Media,
  Flash, MPEG4 and Real Media formats
Every call is recorded directly to disk for "off-line"
  transcoding after the call completes
Optional record start countdown
Personal sandbox for safe working on recorded content
  before publishing
Optional automated email notifications to content owners
  on completion of recording
Recording indicator on TANDBERG Codian MCU calls

LIVE AND ON-DEMAND STREAMING

Up to 2 calls (of the total 5) can be streamed live
  in a single format and size
Embedded Native Windows Media Streaming Server
Support for streaming Flash* content when integrated with
  customer-provided Wowza Media Server
Support for streaming MPEG4 content when integrated
  with customer-provided Apple Quicktime or Darwin
  Streaming Servers
Support for streaming Real Media content when integrated
  with customer provided Real Networks Helix Servers
Flash, MPEG4 and Real Media content can be viewed as a
  progressive download without external streaming servers
requires Flash Player 9 Update 3 or higher

STREAMING

Live (unicast and multicast)
On-demand (unicast)
Native support for streaming Microsoft Windows Media™
  via an embedded Windows Media™ server
Support for external streaming servers (Microsoft Windows
  Media™ Server, Wowza Media Server, Apple QuickTime™
  Streaming Server, and Real Networks Helix)

PORTABLE DEVICES

Support for Apple iPod and Microsoft Zune

DISTRIBUTION SERVER

Support for Apple's Podcast Producer
Support for iTunes U

CONTENT LIBRARY

Thumbnail images
Download options
RSS feed subscription to provide alternate access
  to Content Library
Searchable content library Web interface
Conference categories for easy content management
Conference access and metadata can be pre-configured
  through the use of Recording Aliases
Share conference link enables users to easily identify
  and share recordings
View live and recorded content through Content Viewer
  Web interface
Create content by dialing out from the interface
Editable index
Content Editor enables trimming and joining conferences
Supports major Web browsers (Internet Explorer,
  Mozilla Firefox, Safari)
Context-sensitive help in the interface
Simplified graphical Template Editor for easy creation
  of new recording templates
Automatic bandwidth detection gives the user the best
  viewing experience for their Internet connection
Play Options allows the user to manually select their preferred
  bandwidth option for the media

CONTENT VIEWER

Intuitive Content Viewer with support for Windows Media
  Player™, Adobe® Flash® Player, Microsoft Silverlight™ (Mac
  only), QuickTime™ and RealPlayer™
Multiple video layouts are supported, including:
  Switching layout
  Joined layout
  Picture out of Picture video layout
Dual stream or still image content presented
  alongside main video
Layout button in the content viewer enables switching
  through available layouts (Only for Picture out of Picture)
Video, audio and content fully synchronized
Pause and seek for recorded content

NETWORK INTERFACES

2 x Ethernet (10/100/1000 Mbps) (1 for future use)

BANDWIDTH

H.323 and SIP up to 2 Mbps

VIDEO STANDARDS

H.261, H.263, H.263+, H.264

LIVE VIDEO RESOLUTIONS

QCIF (176x144 pixels)
CIF (352x288 pixels)
VGA (640x480)
4CIF (704x576)
SVGA (800x600)
XGA (1024x768)
448p (576x448)
w288p (512x288)
w448p (768x448)
w576p (1024x576)
720p (1280x720) — supported for H.264 only

AUDIO STANDARDS

G.711, G.722, G.722.1, AAC-LD

FRAME RATES

Up to 30 frames per second

FIREWALL TRAVERSAL

TANDBERG Expressway™ Technology
Auto NAT
H.460.18, H.460.19 Firewall Traversal

STORAGE

Large capacity internal storage (500 GB hard disk)
Support for external network storage using NAS

QUALITY OF SERVICE

Dynamic jitter buffering
Packet loss concealment

SECURITY FEATURES

Secure management via HTTPS
Integration with Active Directory via LDAP for access
Password protected conferences
Full access control lists on all content library items

APPROVALS

CE Declaration to EU Low Voltage Directive 2006/95/EC (Europe
  – EN60950-1)
Directive 89/336/EEC (EMC Directive)
  – Standard EN 55022, Class A
  – Standard EN 55024
  – Standard EN 61000-3-2/-3-3
Approved according to UL 60950-1
  and CAN/CSA C22.2 No. 60950-1-03
Complies with FCC15B Class A

ENVIRONMENTAL DATA

Operating temperature: +10º C to 30º C (50º F to 86º F)
Relative humidity: 10% to 90%
Storage and transport temperature: -20º C to 80º C
  (-4º F to 140º F) non-condensing

POWER

100–240VAC, 50–60Hz, 350W max.

PHYSICAL DIMENSIONS

Height: 1.7" (44mm)
Width: 16.9" (430mm)
Depth: 20" (508mm)
19" rack mountable, 1U height, includes rack rails

ENTERPRISE LAN/WAN

TANDBERG
Content
Server

Systems Management

Monitoring, Diagnostics & Reporting

Personal Video Communications

Scheduling

TANDBERG

Management Suite

One management platform for all your visual communication needs. TANDBERG Management Suite (TMS) provides complete visibility and control for on-site and remote video networks. It's scalable, easy-to-use and integrates with existing applications and third-party vendors to increase ROI.

The TANDBERG Management Suite is available as a software application or as a pre-installed server, enabling customers to choose a solution that best meets their network and scalability needs.

TMS Server

MANAGEMENT

- Complete management of on-site and remote video systems, including statistics, directories, booking and software updates
- Intuitive Web-based interface
- Manages network and video equipment from multiple vendors
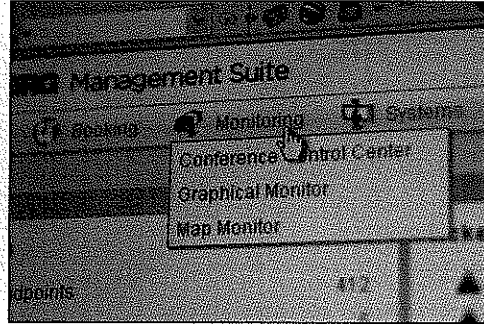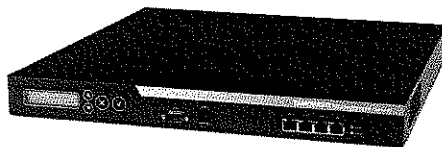- Manages calls made on multiple protocols (IP using H.323 and SIP, ISDN, V.35 and mixed calls)
- Manages endpoints, MCUs, network infrastructure, and gateways directly
- Supports automatic creation of phone books, including Active Directory and H.350
- Implements and manages automated software upgrades for video devices
- Easy mass configuration of systems

MONITORING/DIAGNOSTICS

- Detailed system and conference records
- Intelligent diagnostics enabling rapid response
- System summary page for fast access to most-used information
- Consolidated list of open tickets with links to recommended fixes
- Integrated Network Monitoring Support — Integrates with HP OpenView, IBM Tivoli®, NetCool® and any SNMP network monitoring tool
- Event notification prevents and minimizes negative service level

REPORTING

- Track all system usage and identify trends — packet loss, bandwidth usage, system auditing
- Call Detail Records and Statistics (CDRs)

SCHEDULING

- Scheduling or ad-hoc calling for video, audio, Web and data conferences
- Schedule conferences, book rooms and invite participants using Microsoft Outlook,® or IBM Lotus Notes®*

* requires software option

TANDBERG

See: performance

MANAGEMENT

CONFERENCE CONTROL CENTER
Complete conference overview on one screen
Conference and participant connection control
Conference-by-conference and system-by-system
  management and information
SYSTEM UPGRADES
Automatic download of new software and corresponding
  release keys
Release key import and export
SYSTEM CONTROL
Phonebook access
Monitoring and reporting
Software upgrades
Initiate, extend and terminate conferences
Change video layouts
Volume control and audio mute/unmute
Microphone on/off
Edit local phone books
Send messages to systems
Detect illegal system configurations
Gateway CDRs from MPS
REMOTE SYSTEM SUPPORT
Phone book access
Software Upgrades
Statistics

LANGUAGE

English (US)
Russian
French
Korean
Japanese
Chinese (Simplified)
Supports over 22 languages for booking and scheduling

INTELLIGENT TICKET HANDLING

Automated ticket handling (open/close)
Ticket priority customization
Proactive system check-up prior to engaging scheduled meetings
Intelligent Trouble Ticketing Handling
Diagnostic messages and solution suggestions
System status, gatekeeper status, SNMP configuration,
  ISDN/IP configuration and information

INTEGRATED NETWORK MONITORING SUPPORT

Integrates with HP OpenView, IBM Tivoli®, NetCool® and any
  SNMP network monitoring tool

TMS AGENT

Supports TMS Agent option for large scale provisioning
  of TANDBERG Movi and TANDBERG E20

PHONE BOOK SERVICES

Corporate directory enables multiple phone books and
  folders, browsing and searching from the endpoint
Supports server based TANDBERG, Polycom phone books,
  and H.350 white pages
Centrally-managed server phone books
Creation of one or multiple phone books
Search unlimited entries
Supports hierarchical phonebook structure for easy look-ups
Automatic directory import from gatekeeper, ILS and LDAP
  (single or multiple source)
Supports over 10 methods of automatic creation of phone
  books, including Active Directory and H.350
Create, edit, import and export phone books
Automatic application of national and international dialing rules
Automatic identification of ISDN/IP numbers
Automatic insertion of gateway (GW) prefix, area codes
  and country codes

ACCOUNT MANAGEMENT, SECURITY AND PERMISSIONS

FTP audit log from TANDBERG endpoints and MCUs
Flexibility to limit access to TMS features and limit
  access to endpoints
Definition and management of user profiles
Multiple security permissions
Single sign-on authentication of users using
Windows® authentication

TEMPLATES/PROVISIONING

Customized template creation, management and
  distribution to systems
Selectable audio, video, network and bandwidth settings
Mass Deployment with automatic configuration from TMS
Ability to create persistent setting templates that can
  be proactively enforced on systems
Supports efficient and easy deployment of FindMe URI
  addresses to users

BACKUP

Capability to perform daily configuration restores, ensuring
  systems begin the day with the proper configuration
Backup system settings
Restore lost settings

MONITORING

GRAPHICAL MONITORING
Map monitor with graphic display
Customizable background images
Graphical display of call and system status

EVENT NOTIFICATION

Event Notification can be integrated into any SNMP Network
  Management system (e.g., HP Openview and IBM Tivoli)
E-mail notification to individuals or groups
Event logging including boot, link down/up, connect error,
  call connected/disconnected, lost response/got response,
  Downspeeding, upgrade start/finish scheduling, gatekeeper
  registration, low battery, wrong password alert

BILLING INFORMATION

Flexibility to use billing and account codes
Full call detail records including billing or account codes
  for cost analysis or accounting

CALL DETAIL RECORDS (CDR) AND STATISTICS

Supports CDR capturing from Endpoints, MCUs, Gatekeepers
  and Gateways
Call detail records on screen or in native Excel format
Graphical display of call detail data
Support for multiple reporting formats: Onscreen, PDF or HTML
Number of incoming and outgoing calls
ROI Calculator
Call date and duration
Bandwidth usage
Network type
Number/address called
Statistics in data, graph and chart format
Number of scheduled conferences per person
Network, gatekeeper and ISDN interface
Authentication failure
Error statistics
Battery status

CALL ROUTING

Ability to support Best Impression Cascading and Least
  Cost Cascading
Automatic call routing on IP and ISDN
Least cost call routing on IP and ISDN
Automatic MCU, gateway and network selection
Supports MCU cascading, V.35, SIP, H.323, and H.320

SCHEDULING AND BOOKING*

SYSTEM BOOKING
Book system and meeting room simultaneously
Book recurring meetings and video resources
Create, password protect, edit or delete booked conferences
Add Web or data conference to meetings
Add/remove participants from reservation or
  connect/disconnect participants during conferences
Connect conferences ad-hoc or pre-schedule connection
Reserve resources for dial-in participants
  (telephone or video on ISDN or IP v.4 or IP v.6)
Schedule point-to-point conferences or bridged meetings
Lock conference, preventing new participants from joining
Invite participants by e-mail
Customize meeting names

SCHEDULE OVERVIEW

Overview of scheduled meetings, resources and participants
Real-time over view of meeting status

WEB AND DATA CONFERENCING

Integrated scheduling of WebEx conferences with video
  system booking
Create a data conference for participants to share applications
  and edit documents (Supports WebEx, Microsoft Live Meeting
  and TANDBERG See & Share)
An e-mail invitation is generated, enabling conference
  participants to link to the Web conference

INTEGRATION WITH MICROSOFT

EXCHANGE SERVER
Ability to schedule conferences, book rooms and invite
  participants using Microsoft Outlook
Requires Microsoft Exchange Server 2003 or 2007

INTEGRATION WITH IBM LOTUS DOMINO® SERVER

Ability to schedule conferences, book rooms and invite
  participants using IBM Lotus Notes and Lotus Sametime
Requires IBM Lotus Domino Server V6.x running on
  Microsoft Windows®

REDUNDANCY SUPPORT

Application Redundancy
Database Clustering

REQUIREMENTS

TMS SERVER (MINIMUM REQUIREMENTS)
1 GB RAM
Pentium 2 Ghz or higher Pentium compatible CPU
Microsoft Windows 2003 Server running the latest Service
  Packs with Internet Information Services, Microsoft Windows
  2008 Server (32 bit) running the latest Service Packs with
  Internet Information Services, Microsoft .Net Framework
  version 3.5
TMS CLIENT REQUIREMENTS
Internet Explorer 6.0 or later, Firefox 2.0 or later, Java Virtual
  Machine Runtime Engine (JRE) 1.5.0 or later
*SEE&SHARE SERVER REQUIREMENTS (IF INSTALLING
SEE&SHARE OPTION)*
Pentium I 500 MHz
Microsoft Windows 2003 Server or Micorsoft Windows XP
256 MB RAM
20 MB of available disk space for services
SEE&SHARE CLIENT REQUIREMENTS
Internet Explorer 6.0 or higher

SOFTWARE OPTIONS

Microsoft Exchange Package
IBM Lotus Sametime Package
IBM Lotus Domino Package
3rd party booking API for customized integration
Network Integration Package (supports Cisco® IP/VC 3540,
  Polycom® MGC (Accord) MCU, RADVISION viaIP MCU
  and others)

* TMS includes TANDBERG Scheduler

*All specifications subject to change without notice,
system specifics may vary.*

*All images in these materials are for representational
purposes only, actual products may differ.*

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of TANDBERG in the U.S. and other countries.*

All other trademarks are property of their respective owners.

TANDBERG MANAGEMENT SERVER

PROCESSOR & MEMORY
Intel® Pentium® 4 LGA775 CPU (Max. Intel® Pentium®
4 LGA775 CPU (Max. 3.6GHz with 800MHz FSB
and 1MB Cache)
240-pin DIMM x 2, support Max. 2GB DRRII 400/533 memory

BIOS
Award System BIOS
Support Console redirection
Support Power on after power fail as the BIOS option
By-pass enable/disable as the BIOS option

PCI EXPANSION
On-board 32bit/33MHz Mini PCI Socket x1 (Master)

STORAGE
IDE 3.5" HDD x 1 (Stand Type) or IDE 3.5" HDD x 2 (Slim Type)
SATA 3.5" HDD x1 (Stand Type) or SATA 3.5" HDD x2 (Slim Type)
On-board Compact Flash Socket (Primary Channel)

COOLING SYSTEM
On-board 40 x 40 mm fan x 2
System 40 x 40 mm fan x 2 at Rear

ETHERNET
Marvell 8053 x 4 (PCI Express x 1) & #28; Copper (Base T,
RJ45 with LED) GbE port x 4 (1, 2, 3, 4) & #28; LAN 1 & 2
support by-pass function

SYSTEM CONTROL AND INDICATOR
Power LED x 1 at Front
HDD Active LED x 1 at Front
AT Power Switch x 1 at Rear

SYSTEM I/O INTERFACE
COM port x 2 (Front x 1, Rear x 1)
USB 2.0 port x 4 (Front x 2, Rear x 2)
GPIO: 4 in 4 out
Optional 16 x 2 characters LCD Module with keypads
  through PIO Interface

ENVIRONMENTAL DATA
Operating temperature: 0°C to 40°C (32°F to 104°F)
Relative humidity: 10% to 90%
Storage and space in transport temperature: -20°C to 80°C
(-4°F to 140°F) non-condensing

POWER
100-240 VAC, 50-60 Hz, 250W max

PHYSICAL DIMENSIONS
Height: 1.7" (44mm)
Width: 16.8" (426mm)
Depth: 16.4" (419mm)
19" rack-mountable,
  1U height

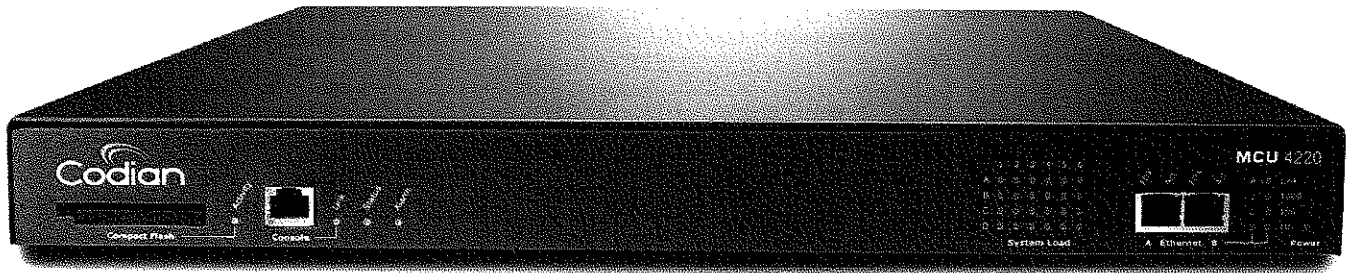---

TANDBERG

Management Suite

TANDBERG
See: performance

TANDBERG
Codian MCU
4200 Series

The TANDBERG Codian MCU 4200 Series is the industry's leading standard-definition, multimedia conferencing bridge. It delivers high-quality voice and video with an easy-to-use, versatile management interface. Compatible with all major vendors' endpoints, each model maintains its capacity and performance in every configuration, delivering an excellent experience for each participant, every time.
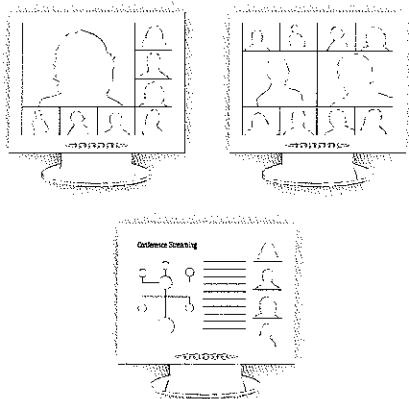
DESIGN FEATURES

- Standards-based and compatible with all major vendors' endpoints
- Easy-to-use, versatile, management interface
- Up to 40 video plus 40 voice ports
- Over 50 custom layouts
- Comprehensive wideband audio support
- Support for both SIP and H.323 endpoints
- Compact size: 1U tall and 19" rack mountable

APPLICATION FEATURES

- TANDBERG Codian ConferenceMe™ for multipoint desktop video
- Integrated with TANDBERG Management Suite (TMS)
- Offers full interoperability with ISDN networks using standalone TANDBERG Codian or third party ISDN gateways
- Compatible with Microsoft Office Communication Server
- Fully integrated, with built-in gatekeeper and streaming server
- PacketSafe™ technology minimizes effects of network packet loss
- Multiway™

PERFORMANCE FEATURES

- TANDBERG Codian Universal Port™ technology ensures each participant receives an excellent experience
- Constant high capacity
- Bandwidth per site up to 4 Mbps
- Video resolutions: 720p at up to 15fps, 480p at up to 30fps
- Standard Definition Continuous Presence

GET THE MOST FROM YOUR INVESTMENT. WITH PROFESSIONAL SERVICES, TANDBERG EXPERTS SUPPORT TANDBERG CODIAN MCU 4200 SERIES DEPLOYMENT AND TRAINING. VISIT WWW.TANDBERG.COM

MODEL	VIDEO PARTICIPANTS	ADDITIONAL VOICE PARTICIPANTS	VIDEO STREAMING UNICAST*/MULTICAST
MCU 4203	6	6	24/unlimited
MCU 4205	12	12	24/unlimited
MCU 4210	20	20	40/unlimited
MCU 4215	30	30	60/unlimited
MCU 4220	40	40	80/unlimited

VFO-4203/VFO-4205/VFO-4200 — Video Firewall Option — enables second Ethernet connection to additional networks (e.g. Internet)

HRO-4205/HRO-4210/HRO-4215/HRO-4220 — High Resolution Option — for resolutions above CIF and up to 720p at 15 fps and 480p at 30 fps

WCO-4203/WCO-4205/WCO-4210/WCO-4215/WCO-4220 — Web Conferencing Option — includes TANDBERG Codian ConferenceMe™ for multipoint desktop video†; alternatively provides content streaming, annotation and chat capabilities

Using high bandwidth or resolution, H.264 or advanced continuous presence does not reduce the number of sites or conferences supported
Maximum number of unicast streams is dependent on network topology. When using the WCO feature, the maximum number of unicast streams supported by the 4215 and 4220 is 50
†Allows up to 12 simultaneous ConferenceMe™ connections. On MCU 4203 allows up to 6 simultaneous ConferenceMe™ connections

HIGH PERFORMANCE
720p up to 15 fps H.263 continuous presence; 480p up to 30 fps
Comprehensive HD audio

VIDEO STANDARDS
H.261, H.263, H.263+, H.263++, H.264

VIDEO RESOLUTION
From QCIF to 480p at up to 30 fps and 720p (1280 x 720) at up to 15 fps, including interlaced iCIF and iSIF
4:3 and 16:9 aspect ratios

FRAME RATES
Up to 30 frames or 60 fields per second

AUDIO STANDARDS
G.711, G.722, G.722.1, G.723.1, G.728, G.729, MPEG-4 AAC-LC, MPEG-4 AAC-LD, Polycom® Siren14™/G.722.1 Annex C

PROTOCOLS
H.323, SIP, H.235 (AES), SRTP, TLS, H.239 (dual video), VNC™, BFCP, H.243 (chair control), FTP, RTP, RTSP, HTTP, HTTPS, DHCP, SNMP, NTP, NTLM (authentication)

BANDWIDTH
H.263 up to 4 Mbps, H.264 up to 2 Mbps for each site in all conference modes including advanced (symmetric) continuous presence

UNIVERSAL TRANSCODING AND TRANSRATING
Automatic audio/video transcoding and transrating on all calls
Any bandwidth, any resolution, any video or audio codec can be used on any video call within the same conference
Each participant has their own personal encode

STREAMING VIDEO
Built-in streaming server
View using Windows Media Player,™ RealPlayer™ or QuickTime™
Streaming of slides (H.239 and VNC™)
Text chat
Unicast and multicast
UDP, TCP or HTTP
Independent choice of bandwidth and codec

LOCALIZATION AND CUSTOMIZATION
Custom IVR/auto attendant audio prompts and graphics
Uploadable multi language support

BUILT-IN GATEKEEPER
Resolution of E.164 numbers
Registration of conferences, endpoints and gateways
Up to 25 devices can register

BUILT-IN WEB SERVER
Complete configuration, control and monitoring of the system and conferences

MCU FEATURES
H.323 dial in, or dial out from Web server
Standalone or using gatekeeper
Configurable audio and video auto attendant
Advanced continuous presence as standard on all ports
Automatic selection of best layout
Individual layout selection using remote control or Web pages
Over 50 custom layouts
Widescreen (16:9) support
Active speaker selection using remote control or voice activated
Floor assignment through Web page or management application
Far end camera control tunneling using remote control or Web
Text identification of sites
On-screen text messaging to individual or all sites
Built-in conference scheduling and reservation
On-demand and ad hoc conferences
Dual video using H.239
Presentation mode: add slides from PC using VNC™
Preview of conference and individual camera on Web pages
Web Conferencing Option — those without endpoints can still interact
Uploadable bitmaps for audio participants
Video association for IP and traditional PBXs
Automatic connection to audio conferences
Multiway™ — enables TANDBERG video endpoints to initiate ad hoc multiparty calls

TANDBERG CODIAN CONFERENCEME™
Content Sharing
  Multiple layouts
  Firewall friendly
Independent transcode per participant
Up to 12 simultaneous connections
Client computer requirements:
  Refer to the list of verified PCs and Webcams under the support section of the TANDBERG website

SYSTEM MANAGEMENT
XML management API
Management via built-in Web server
RS-232 for local control and diagnostics
Syslog for diagnostics
Configurable event logs and full H.323 and SIP decoding
Configuration backup to network
Secure upgrades through Ethernet or CompactFlash
Call Detail Records
SNMP

NETWORK RESILIENCE
Codian Packet Safe™ technology provides intelligent downspeeding, packet pacing and packet loss concealment to ensure optimum video and audio quality
Dynamic jitter buffering
Alternate gatekeepers

AUDIO FEATURES
Wideband audio mixing
Built-in and uploadable auto attendant voice prompts
Automatic gain control, adjustable gain, power indication, individual audio mute using Web pages

QUALITY OF SERVICE
Configurable DSCP or TOS/IP precedence

SECURITY FEATURES
Seven levels of access rights and privileges for users
Strong password policy
Pin-protected conferences
Conference locking
Secure non-PC hardware and operating system
AES encryption, 128 bit key, H.235
SIP encryption
TLS certificate verification
VFO — second Ethernet port
Audit log

INTERFACES
RJ45 Ethernet, 10/100/1000 Mbps full/half duplex, manual or auto sensing
RJ45 serial port
CompactFlash socket
39 status LEDs

ENVIRONMENTAL DATA
Operating temperature 0°C to 35°C ambient
Relative humidity below 95% (non-condensing)

PHYSICAL DIMENSIONS
Height 1.73″, 44 mm (1U)
Width 17.2″, 437 mm
Depth 12.3″, 312 mm
Weight 9 lbs, 4kg
19″ rack mountable (kit supplied) or standalone
Power 100–240 VAC, 50/60Hz110W max power consumption

APPROVALS AND COMPLIANCE
European safety: EN 60950-1:2001
USA safety: UL 60950-1 First Edition
Canada safety: CSA 60950-1-03
CB Scheme certificate, CE Marked
EMC: EN55022 class A, EN61000-3-2, EN61000-3-3, EN55024: EN61000-4-2,-3,-4,-5,-6,-11, FCC Part 15 class A, VCCI class A, AS/NZS 3548 (C-Tick), CCC Approved: GB4943-2001, GB9254-1998, YD/T993-1998
NAL Certificate (China)
RoHS compliant

All specifications subject to change without notice, system specifics may vary.

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ENTERPRISE LAN/WAN
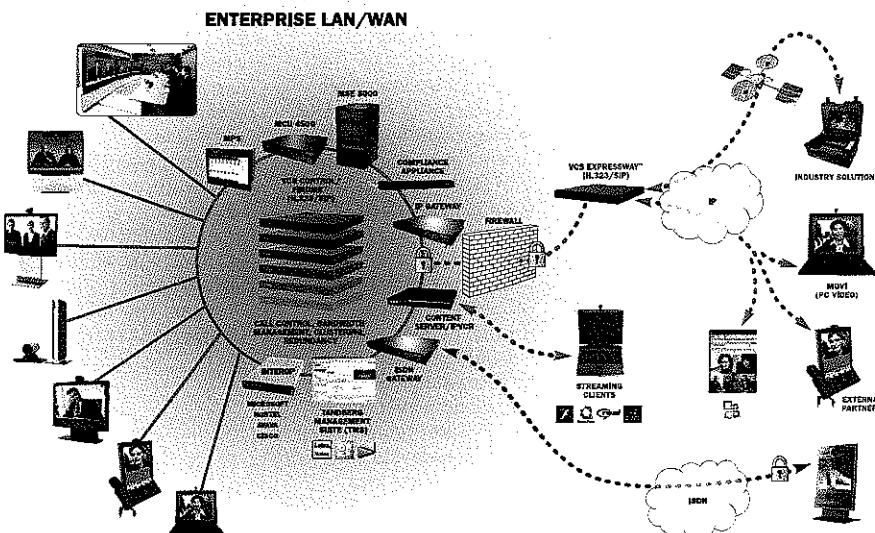
TANDBERG
Codian MCU
4200 Series
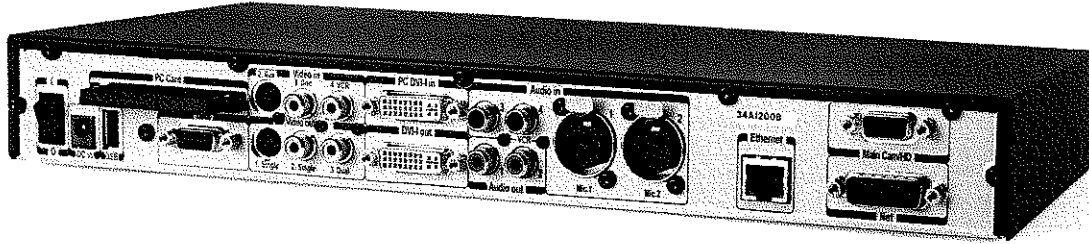
TANDBERG
3000 MXP
Codec

The TANDBERG 3000 MXP Codec is the integrator's codec of choice. Its small physical size combined with the performance of the TANDBERG 3000 MXP system makes it ideal for a wide range of applications.
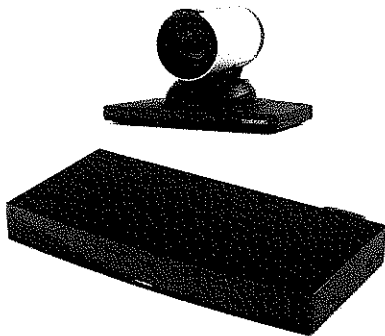
A 3000 MXP Integrator Package is available and provides all the necessary components needed to simplify integration

PROTECT YOUR TECHNOLOGY INVESTMENT WITH TANDBERG'S PORTFOLIO OF CONSTANT CARE SERVICES. VISIT WWW.TANDBERG.NET

DESIGN FEATURES
- Designed for custom integrations
- All the power and functionality of the TANDBERG 3000 MXP videoconferencing system
- Expandability for future applications
- DVI/XGA with VESA Power Management
- Total management via serial port, embedded web server, SNMP Telnet, SSH, XML, HTTP/HTTPS, FTP and on screen menu
- Integrator Package available that includes: 3000 MXP Codec, PrecisionHD Camera, microphone, tracker and cables

APPLICATION FEATURES
- Join up to 4 video and 3 audio sites with optional embedded MultiSite functionality
- Best possible call for each MultiSite participant with rate matching and transcoding
- Powerful live presentations through one-step PC plug-in or LAN connection
- View presentations and presenter simultaneously with DuoVideo and H.239 Dual Stream
- TANDBERG Expressway™ Technology
- URI Dialing

PERFORMANCE FEATURES
- Choice of Network: up to 512 kbps ISDN or V.35/ 2 Mbps IP (H.323 or SIP)
- Superior video quality incorporating the H.264 standard
- Highest level of embedded encryption as well as IEEE 802.1x and H.235 authentication for security
- True CD-quality audio
- Protection against network interruptions in point-to-point and multipoint calls with automatic Downspeeding and IPLR

TANDBERG

UNIT DELIVERED COMPLETE WITH
Videoconferencing codec, wireless remote control
Cable for non-WAVE camera

BANDWIDTH
H.320 up to 512 kbps
H.323 up to 2 Mbps
SIP up to 2 Mbps

FIREWALL TRAVERSAL
TANDBERG Expressway Technology™
Auto NAT
H.460.18, H.460.19 Firewall Traversal

VIDEO STANDARDS
H.261, H.263, H.263+, H.263++ (Natural Video), H.264

VIDEO FEATURES
Native 16:9 Widescreen
Advanced Screen Layouts
Picture in Picture (PIP)
Picture outside Picture (POP) & Large POP
Side by Side
PC Zoom
Intelligent Video Management
Simultaneous videoconference & local PC mode
Local Auto Layout

VIDEO INPUTS (5 INPUTS)
1 x 9 Pin DSUB:HD Main camera or S-video & control
   main camera
1 x MiniDin, S-video: auxiliary/document camera
1 x RCA/Phono, composite: document camera/aux
1 x RCA/Phono, composite: VCR
1 x DVI-I: PC
Input: 800x600 (@ 60, 72, 75, 85 Hz), 1024x768 (@ 60, 70, 75 Hz),
   1280x720 (HD720P) (@ 50, 60 Hz), 1280x1024 @ 60 Hz
Extended Display Identification Data (EDID)

VIDEO OUTPUTS (4 OUTPUTS)
1 x MiniDin, S-video: main monitor
1 x RCA/Phono, composite: main monitor or VCR
1 x RCA/Phono, composite: dual monitor or VCR
1 x DVI/XGA: main or second monitor
XGA Output
800 x 600 @ 75 Hz, 1024 x 768 @ 60 Hz, 1280 x 768
   (WXGA) @ 60 Hz, 1280 x 720 (HD720p) @ 60 Hz
VESA Monitor Power Management

VIDEO FORMAT
NTSC, PAL, VGA, SVGA, XGA, W-XGA, SXGA and HD720p

LIVE VIDEO RESOLUTIONS
NATIVE NTSC:
400p (528 x 400 pixels)
4SIF (704 x 480 pixels), Digital Clarity
Interlaced SIF (iSIF 352 x 480 pixels), Natural Video
SIF (352 x 240 pixels)
NATIVE PAL:
448p (576 x 448 pixels)
4CIF (704 x 576 pixels), Digital Clarity
Interlaced CIF (iCIF 352 x 576 pixels), Natural Video
CIF (352 x 288 pixels)
QCIF (176 x 144 pixels)
SQCIF (128 x 96 pixels) decode only
NATIVE PC RESOLUTIONS:
XGA (1024 x 768 pixels)
SVGA (800 x 600 pixels)
VGA (640 x 480 pixels)
WIDE RESOLUTIONS:
w288p (512 x 288 pixels)
w448p (768 x 448 pixels)
w576p (1024 x 576 pixels)
w720p (1280 x 720 pixels)

STILL IMAGE TRANSFER
CIF, SIF, 4CIF (H.261 Annex D), 4SIF, VGA, SVGA, XGA

AUDIO STANDARDS
G.711, G.722, G.722.1, G.728, 64 bit & 128 bit MPEG4 AAC-LD

AUDIO FEATURES
CD-Quality 20KHz Mono and Stereo
Telephone add-on via MultiSite
Two separate acoustic echo cancellers
Audio mixer
Automatic Gain Control (AGC)
Automatic Noise Reduction
Audio level meters
VCR ducking
Packet loss management
Active lip synchronization
GSM/Blackberry interference audio feature

AUDIO INPUTS (4 INPUTS)
2 x microphone, 24V phantom powered, XLR connector
1 x RCA/Phono, Line Level: auxiliary (or VCR Stereo L)
1 x RCA/Phono, Line Level: VCR/DVD (Stereo R)

AUDIO OUTPUTS (2 OUTPUTS)
1 x RCA/Phono, S/PDIF (mono/stereo) or Analogue Line
   Level: main audio or Analogue Stereo L
1 x RCA/Phono, Line Level: VCR or Analogue Stereo R

FRAME RATES
30 frames per second @ 168 kbps and above
60 fields per second @ 336 kbps and above (Point-to-point)

DUAL STREAM
DuoVideo
H.239 dual stream
Dynamic bandwidth adjustment (H.323)
Available on H.323 & H.320
Available in MultiSite from any site

NETWORK FEATURES
Auto H.320/H.323 dialing
SIP
Downspeeding
Programmable network profiles
Intelligent Call Management
Maximum call length timer
Automatic SPID and line number configuration
   (National ISDN, GR-2941-CORE)
Soft*Mux*
H.331 Broadcast Mode
NATO standard KG194/KIV-7 encryptor support**
URI Dialing

MULTISITE FEATURES
H.323/H.320/SIP/Telephony/VoIP in the same conference
Audio and Video Transcoding
Video rate matching from 56 kbps — maximum conference rate
CP4 and Voice Switched
Best Impression (Automatic CP Layouts)
H.264, Encryption, Digital Clarity
Dual Stream from any site
ISDN & IP Downspeeding and IPLR
MultiSite (H.243) Cascading on H.320 & H.323
Unicode H.243 Terminal Names
Dial in/Dial out
Chair control for host system
Snapshot of ongoing conference (JPEG)
Snapshot of ongoing DuoVideo/H.239 presentation (JPEG)
Separate welcome page for encrypted conferences
Conference rates up to 2.3 Mbps with optional bandwidth
   upgrade (1.5 Mbps is standard conference rate)
Up to 4 video and 3 audio sites
4 sites @ 768 kbps (+telephone calls)
Mix ISDN-BRI and IP up to maximum conference rate

EMBEDDED ENCRYPTION
H.320 and H.323 point-to-point and multipoint calls
Standards-based: H.233, H.234, H.235 v2&v3, DES and AES
NIST-validated AES
NIST-validated DES
Automatic key generation and exchange
Supported in Dual Stream & MultiSite

IP NETWORK FEATURES
IEEE 802.1x/EAP Network Authentication
H.235 Gatekeeper Authentication
DNS lookup for service configuration
Differentiated Services (DiffServ)
Resource Reservation Protocol (RSVP)
IP precedence
IP type of service (ToS)
IP adaptive bandwidth management (including flow control)
Auto gatekeeper discovery
Dynamic playout and lip-sync buffering
Intelligent Packet Loss Recovery (IPLR)
H.245 DTMF tones in H.323
Cisco CallManager integration using ECS
IP Address Conflict Warning
Date and Time support via NTP
Call Services

IPv6 NETWORK SUPPORT
Dual Stack IPv4 and IPv6 simultaneous support
Net service support on IPv6: Telnet, SSH, HTTP, HTTPS,
   ftp, SNMP, DNS, NTP, DHCP
Media support on IPv6: H.323, SIP, Streaming

SECURITY FEATURES
Management via HTTPS and SSH
IP Administration Password
Menu Administration Password
Dialing Access code
Streaming password
H.243 MCU Password
VNC password
SNMP security alerts
Disable IP services
MD-5 Challenge
Network Settings protection
SIP Authentication via NTLM
SIP Authentication via Digest

NETWORK INTERFACES
4 x ISDN BRI (RJ-45), S-interface
1 x LAN/Ethernet (RJ-45) 10/100 Mbit (LAN/DSL/cable modem)
1 x PC card slot (PCMCIA) for wireless LAN
1 x X.21/V.35/RS-449 with RS-366 dialing, RS-366 Adtran
   IMUX, Leased Line, Data Triggered, and Manual**
1 x USB for future usage

WIRELESS LAN SUPPORT
Compliant with IEEE 802.11b, up to 11 Mbit
Support for 64/128 bit encryption (WEP)
Infrastructure or ad-hoc mode

ETHERNET/INTERNET/INTRANET CONNECTIVITY
TCP/IP, DHCP, ARP, FTP, Telnet, HTTP, HTTPS, SOAP and XML,
   MD-5 Challenge
SNMP Enterprise Management
Internal web server
Internal streaming server

OTHER MAJOR STANDARDS SUPPORTED
H.231, H.233, H.234, H.235 v2&v3, H.239, H.241, H.243,
   H.281, BONDING (ISO 13871), H.320, H.323, H.331
RFC 2621, RFC 2237, RFC 3264, RC 3311, RFC 3550, RFC
   2032, RFC 2190, RFC 2429, RFC 3407

PRECISIONHD CAMERA
7 x zoom 1/3" CMOS +10°/-20° tilt +/- 90° pan
42° vertical field of view
72° total vertical field of view
70° horizontal field of view
250° total horizontal field of view
Focus distance 0.3m–infinity
1280 x 720 pixels progressive @ 30fps
Automatic or manual focus/brightness/whitebalance
Far-end camera control
15 near and far-end camera presets
Voice-activated camera positioning
Daisy-chain support (Visca protocol camera)

CLOSED CAPTIONING/TEXT CHAT
T.140 text chat, available from RS-232, Telnet or Web

PRESENTATIONS AND COLLABORATION
Natural Presenter Package including:
PC Presenter (DVI-I, SXGA In)
PC *SoftPresenter*
Digital Clarity & Native Formats
Advanced Video Layouts
Streaming compatible with Cisco IP/TV,
   Apple QuickTime⁹, RealPlayer⁹ v8 etc.

SYSTEM MANAGEMENT
Support for the TANDBERG Management Suite
Total management via embedded web server, SNMP,
   Telnet, SSH, FTP and SOAP
Remote software upload: via web server, ftp server or ISDN
1 x RS-232 local control and diagnostics
Remote control and on-screen menu system
External Services from TMS

DIRECTORY SERVICES
Support for Local directories (My Contacts), Corporate
   Directory and Global Directory
Unlimited entries using Server directory* supporting
   LDAP and H.350
Unlimited number for Corporate directory (through by TMS)
400 number global directory
200 number local directory
16 dedicated MultiSite entries
Received Calls with Date and Time
Directories in Local Languages
Placed Calls with Date and Time
Missed Calls with Date and Time

16 SELECTABLE MENU LANGUAGES
Arabic, Simplified Chinese, Traditional Chinese, English,
   French, German, Italian, Japanese, Korean, Norwegian,
   Portuguese, Russian, Spanish, Suomi, Swedish and Thai
Chinese, Korean and Japanese Input Method Editor
Import Custom Language through TMS

CUSTOMIZED WELCOME SCREEN AND COMPANY LOGO
Picture JPEG (logo.jpg): Recommended maximum size
   is 704x576 for Welcome Screen and 352x288 for
   Encryption Required Screen

POWER
100–250 VAC, 50–60 Hz 52 watts max. for codec
   and main camera 500 watts max. per monitor

OPERATING TEMPERATURE AND HUMIDITY
0° C to 35° C (32° F to 95° F) ambient temperature
10% to 90% Relative Humidity (RH)

STORAGE AND TRANSPORT TEMPERATURE
-20° C to 60° C (-4° F to 140° F) at RH 10–90% (non-condensing)

DIRECTORY SERVICES
Directive 73/23/EEC (Low Voltage Directive)
   – Standard EN 60950
Directive 89/336/EEC (EMC Directive)
   – Standard EN 55022, Class B
   – Standard EN 55024
   – Standard EN 61000-3-2/-3-3
Directive 1999/5/EEC (R&TTE Directive)
   – Standard TBR3Call History
Approved according to UL 60950
   and CAN/CSA C22.2 No. 60950
Complies with FCC15B Class B

DIMENSIONS
Length: 15"/36,8 cm
Height: 1,8"/4,4 cm
Depth: 7"/17,8 cm
Weight: 1 lbs/2,20 kg

** *Optional equipment, must be specified at the time
   of order. Serial Port replaces ISDN BRI*

* *Requires TANDBERG Management Suite 9 or newer*

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*MTBF PRODUCT RELIABILITY/MTBF
The predicted reliability is expressed in the expected
random Mean Time Between Failures (MTBF) for the
electronic components based on the Power On Hours:
Power On Hours (POH) > 69 000 hours
Useful Life Cycle > 6 years
ISO 9001 certificate is available upon request*

TANDBERG
3000 MXP
Codec

TANDBERG
SOLUTIONS

Natural Presenter Package

Live PC images
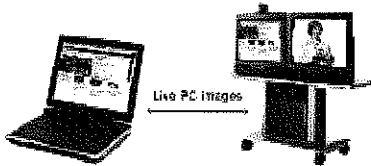
The TANDBERG Natural Presenter Package (NPP) allows you to bring your presentations to life using PCs, document cameras, streaming and video.

NPP provides the most comprehensive, user-friendly suite of presentation features in the visual communications industry.

Common Uses
- in a video meeting when you want to see a live PC presentation and the presenter simultaneously
- during a debate when you want to see the panel and the audience at the same time
- during a demonstration when you want to see the person doing the demonstration and the product at the same time
- in a meeting when you want to see the speaker and a document or object at the same time

Four key features work together to ensure a true to life, interactive meeting environment:

DuoVideo
DuoVideo means that the video system can send and receive two pictures at the same time; one picture on one monitor, and one picture on the other. With two pictures, you'll feel like all the people in the meeting are in the same room. You can view two different angles of the same person, two different shots of people at the other sites, or slides, objects and people at the same time.

PC Presenter
With the PC Presenter you can connect a portable PC to the video system in one easy step. You can show live images and information from the PC monitor to the video monitor at the same time that you discuss the content: just plug and present (using the VGA-input) like you do with a multi-media projector.

The PC Presenter is useful when you want to share a presentation, internet site or any other type of data. The PC Presenter supports all file types including Word, Powerpoint and Excel. When used in combination with Duo Video, it is the ideal way to see the presenter and the presentation simultaneously.

PC SoftPresenter
Connect a PC to the video system using VNC (Virtual Network Computing) technology over the LAN. There is no need for any additional hardware and the required VNC server software is free, takes little disk space and is easily downloaded from the internet.

Digital Clarity
Whether you are in a point-to-point or multi-point call, Digital Clarity ensures clear, crisp images that make it easy to see fine details and print. Digital Clarity allows you to simultaneously transmit and receive PC and live video images in their own native resolution format. It also provides resolution that is over seven times (XGA) higher than standard video systems.

TANDBERG

INDUSTRY:
EDUCATION

The T⁴ Program provides educational institutions with the necessary training for the successful implementation and adoption of TANDBERG visual communication solutions for the classroom.

Training is key. Perhaps the area that most impacts the success of interactive distance learning is an organization's willingness and commitment to train those who will use the technology for teaching. Providing initial and follow-up training for personnel is imperative, but many organizations tend to under-invest in this area despite the fact that the adoption of this technology relies on educators' skill and interest.

The TANDBERG Teachers Training Teachers Program (T⁴) enables schools and universities to optimize the use of video communication technology in the classroom. Designed by teachers, for teachers, the T⁴ Professional Services package provides educators with the knowledge and skills necessary for successfully implementing a distance learning program. Expert trainers work with your school personnel to ensure the training meets your specific needs.

BENEFITS OF THE T⁴ PROGRAM

- Cost-effective program for training a large number of educators at both local and dispersed location levels
- Maximizes adoption and ease-of-use by providing core training on TANDBERG's video communication solutions
- Provides framework, guidelines and hands-on activities for developing distance learning programs and classroom applications
- Tips for planning interactive distance learning content and delivery to achieve the greatest impact
- An individualized program, designed for the participants based on their needs, levels of experience, goals and availabiltiy

TEACHERS HAVE SAID:

"This training opened my eyes to the resources available outside my classroom."

"I didn't know we had so many high-quality teachers in our organization. The possibilities for sharing content and library tools are amazing."

"We just needed someone to show us what we could do and how to do it."

TANDBERG
See: performance

> "Educators must learn how to develop and present content via video in order to achieve the greatest impact for interactive distance learning programs."
>
> **LANCE FORD, LEAD TRAINER FOR T⁴ PROGRAM**

T⁴ PROGRAM MODULE OVERVIEW

Module 1 — 4.5 hours

Participants will receive an overview of visual communication technology and will be given direct classroom implementation suggestions. Participants will also learn video basics such as how to connect and disconnect calls, camera positioning and switching between input sources (i.e., document cameras, VCRs, etc.). In addition, module 1 will cover basic applications such as:

- Recommendations on creating a "blended model" of delivery, incorporating present online course management systems
- Methods for engaging students at a distance
- Administrative applications

Module 2 — 2.5 hours

Participants will learn how to utilize peripheral equipment as a part of their videoconferencing experience. Each participating site should have access to:

- Document Camera
- VCR and/or DVD Player
- Internet
- Interactive Whiteboard

Participants will discuss the basics of a distance education environment. They will learn how to replace verbal instruction with visual instruction, manage the classroom setting with the technology and how to set up the content staging area. Participants will also work in small groups to formulate ideas for classroom videoconferencing projects and present the ideas to the entire group. Guidelines will be provided for preparing a lesson to be delivered over video in module 3.

Module 3 — 1.5 hours

In this module, participants will deliver a lesson of their choice over video, using appropriate peripherals as necessary. Participants will deliver their lessons either individually or with a partner, to another small group and then switch roles. Both groups will provide immediate feedback to each other. The trainers will record the lessons for an in-depth review and group discussion.

Module 4 — 1.5 hours

This module is evaluative in nature. Parts of module 3 lessons will be played back for participants with feedback from the trainers. Discussions will focus on how the participants can improve the content and delivery in order to produce the most impact for students and other educators. This last session wraps up with a discussion of "next steps" for the participants and a plan for going forward.

To learn more about the T⁴ Program and to register your site for the T⁴ training package, please contact Lance Ford at 918.839.3946 or lance.ford@tandberg.com

TANDBERG
See: performance
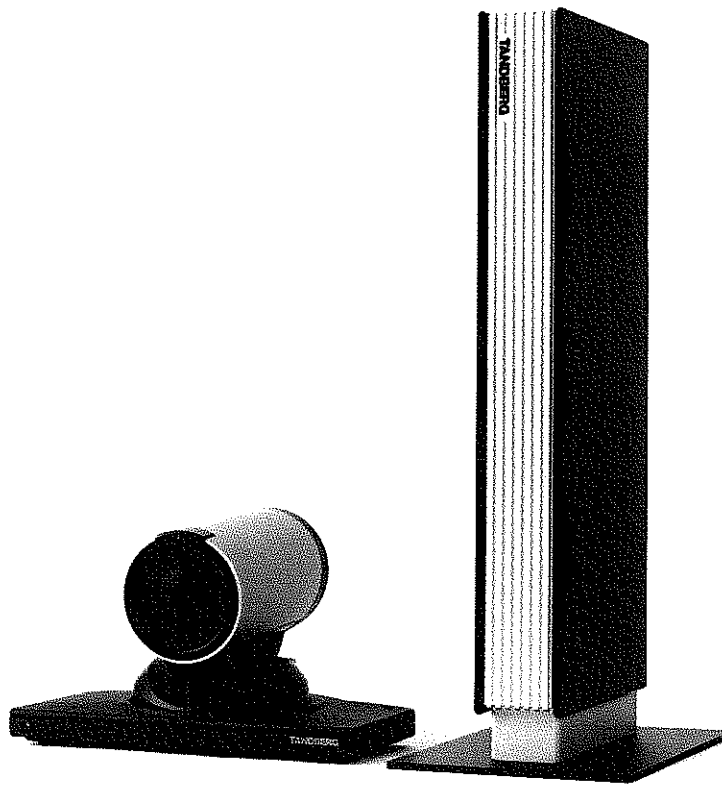
TANDBERG
Edge
95/85/75
MXP

Connect team members for more productive meetings with the TANDBERG Edge MXP Series. These easy-to-install units turn a meeting room with a flat screen into an interactive situation room for improved teamwork and accelerated decision-making.
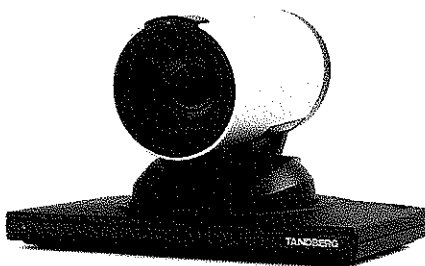
PROTECT YOUR TECHNOLOGY INVESTMENT WITH TANDBERG'S PORTFOLIO OF CONSTANT CARE SERVICES. VISIT WWW.TANDBERG.COM

DESIGN FEATURES
- Designed for medium to small meeting rooms
- Transforms a flat panel display into a high definition, interactive meeting space
- TANDBERG PrecisionHD Camera

APPLICATION FEATURES
- Join up to 4 video and 3 audio sites with optional embedded MultiSite functionality
- Best possible call for each MultiSite participant with rate matching and transcoding
- Powerful live presentations through one-step PC plug-in or LAN connection
- View presentations and presenter simultaneously with DuoVideo and H.239 Dual Stream
- TANDBERG Expressway™ Technology
- URI Dialing

PERFORMANCE FEATURES
- Choice of Network: up to 512 kbps ISDN (H.320)/2 Mbps IP (H.323 or SIP)
- PC card slot for wireless LAN connection
- Highest level of embedded encryption as well as H.235 and IEEE 802.1x authentication
- True CD-quality audio
- Protection against network interruptions in point-to-point and multipoint calls with automatic Down-speeding and IPLR
- Superior video quality incorporating the H.264 standard

TANDBERG
See: performance

UNIT DELIVERED COMPLETE WITH:
Wireless remote control, TANDBERG PrecisionHD Camera, microphone and cables

BANDWIDTH
95 MXP:
H.320 up to 512 kbps
H.323 & SIP up to 2 Mbps
85 MXP:
H.320 up to 384 kbps
H.323 & SIP up to 1.1 Mbps
75 MXP:
H.320 up to 128 kbps
H.323 & SIP up to 768 kbps

FIREWALL TRAVERSAL
TANDBERG Expressway™ Technology
Auto NAT
H.460.18, H.460.19 Firewall Traversal

VIDEO STANDARDS
H.261, H.263, H.263+, H.263++ (Natural Video), H.264

VIDEO FEATURES
Native 16:9 Widescreen
Advanced Screen Layouts
Picture in Picture (PIP)
Picture outside Picture & Large POP
Side by Side
PC Zoom
Intelligent Video Management
Simultaneous videoconference & local PC mode
Local Auto Layout

VIDEO INPUTS (5 INPUTS)
1 x 9 PinDSUB: HD Main Camera
1 x MiniDin, S-video: auxiliary/document camera
1 x RCA/Phono, composite: document camera/aux
1 x RCA/Phono, composite: VCR
1 x DVI-I: PC
Input: 800 x 600 (@ 60, 72, 75, 85 Hz), 1024 x 768 (@ 60, 70, 75 Hz), 1280 x 720 (HD720P) (@ 50, 60 Hz), 1280 x 1024 @ 60 Hz
Extended Display Identification Data (EDID)

VIDEO OUTPUTS (4 OUTPUTS)
1 x MiniDin, S-video: main monitor
1 x RCA/Phono, composite: main monitor or VCR
1 x RCA/Phono, composite: dual monitor or VCR
1 x DVI-I/XGA: main or second monitor
XGA Output
800 x 600 @ 75 Hz, 1024 x 768 @ 60 Hz, 1280 x 768 (WXGA) @ 60 Hz, 1280 x 720 (HD720p) @ 60 Hz
VESA Monitor Power Management

VIDEO FORMAT
NTSC, PAL, VGA, SVGA, XGA, W-XGA, SXGA and HD720p

LIVE VIDEO RESOLUTIONS
NATIVE NTSC:
400p (528 x 400 pixels)
4SIF (704 x 480 pixels), Digital Clarity
Interlaced SIF (iSIF 352 x 480 pixels), Natural Video
SIF (352 x 240 pixels)
NATIVE PAL:
448p (576 x 448 pixels)
4CIF (704 x 576 pixels), Digital Clarity
Interlaced CIF (iCIF 352 x 576 pixels), Natural Video
CIF (352 x 288 pixels)
QCIF (176 x 144 pixels)
SQCIF (128 x 96 pixels) decode only
NATIVE PC RESOLUTIONS:
XGA (1024 x 768)
SVGA (800 x 600 pixels)
VGA (640 x 480 pixels)
WIDE RESOLUTIONS:
w288p (512 x 288 pixels)
w448p (768 x 448 pixels)
w576p (1024 x 576 pixels)
w720p (1280 x 720 pixels)

STILL IMAGE TRANSFER
CIF, SIF, 4CIF (H.261 Annex D), 4SIF, VGA, SVGA, XGA

AUDIO STANDARDS
G.711, G.722, G.722.1, G.728, 64 bit & 128 bit MPEG4AAC-LD

AUDIO FEATURES
CD-Quality 20KHz Mono and Stereo
Telephone add-on via MultiSite
Two separate acoustic echo cancellers
Audio mixer
Automatic Gain Control (AGC)
Automatic Noise Reduction
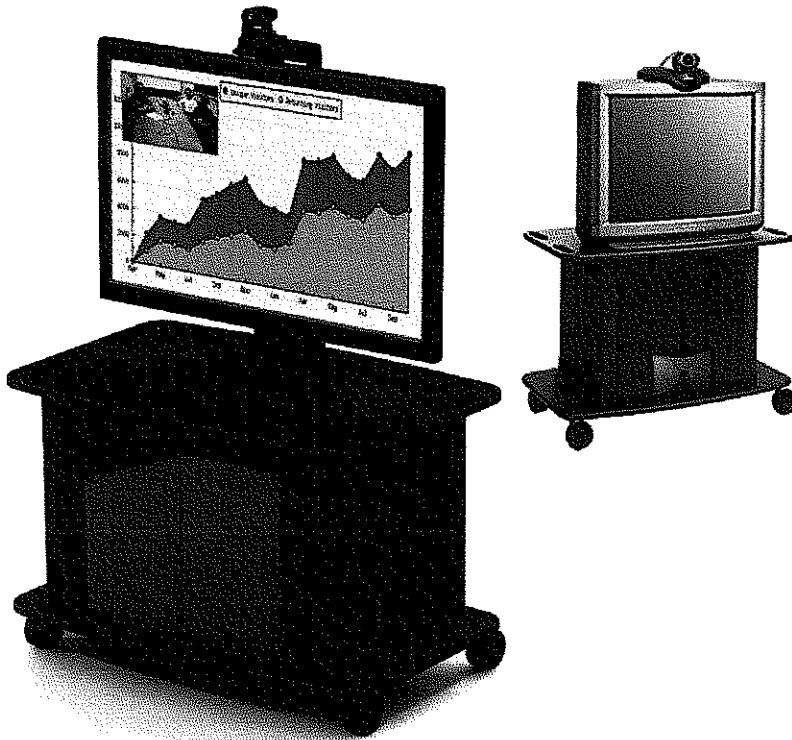Audio level meters
VCR ducking
Optional Stereo Package
Packet loss management
Active lip synchronization
GSM/Blackberry interference audio feature

AUDIO INPUTS (4 INPUTS)
2 x microphone, 24V phantom powered, XLR connector
1 x RCA/Phono, Line Level: auxiliary (or VCR Stereo L)
1 x RCA/Phono, Line Level: VCR/DVD (Stereo R)

AUDIO OUTPUTS (2 OUTPUTS)
1 x RCA/Phono, S/PDIF (mono/stereo) or Analogue Line Level: main audio or Analogue Stereo L
1 x RCA/Phono, Line Level: VCR or Analogue Stereo R

FRAME RATES
30 frames per second @ 168 kbps and above
60 fields per second @ 336 kbps and above (Point-to-point)

DUAL STREAM
DuoVideo
H.239 dual stream
Dynamic bandwidth adjustment (H.323)
Available on H.323 & H.320
Available in MultiSite from any site (95 & 85 MXP only)

NETWORK FEATURES
Auto H.320/H.323 dialing
SIP
Downspeeding
Programmable network profiles
Intelligent Call Management
Maximum call length timer
Automatic SPID and line number configuration (National ISDN, GR-2941-CORE)
SoftMux
H.331 Broadcast Mode
NATO standard KG194/KIV-7 encryptor support**
URI Dialing

MULTISITE FEATURES (95 & 85 MXP ONLY)
H.323/H.320/SIP/Telephony/VoIP in the same conference
Audio and Video Transcoding
Video rate matching from 56 kbps — maximum conference rate
CP4 and Voice Switched
Best Impression (Automatic CP Layouts)
H.264, Encryption, Digital Clarity
Dual Stream from any site
ISDN & IP Downspeeding and IPLR
MultiSite (H.243) Cascading on H.320 & H.323
Unicode H.243 Terminal Names
Dial in/Dial out
Chair control for host system
Snapshot of ongoing conference (JPEG)
Snapshot of ongoing DuoVideo/H.239 presentation (JPEG)
Separate welcome page for encrypted conferences
Conference rates up to 2.3 Mbps with optional bandwidth upgrade (1.5 Mbps is standard conference rate)
Up to 4 video and 3 audio sites
4 sites @ 768 kbps (+telephone calls)
Mix ISDN-BRI and IP up to maximum conference rate

EMBEDDED ENCRYPTION
H.320 and H.323 point-to-point and multipoint calls
Standards-based: H.233, H.234, H.235 v2&v3, DES and AES
NIST-validated AES
NIST-validated DES
Automatic key generation and exchange
Supported in Dual Stream & MultiSite

IP NETWORK FEATURES
IEEE 802.1x/EAP Network Authentication
H.235 Gatekeeper Authentication
DNS lookup for service configuration
Differentiated Services (DiffServ)
Resource Reservation Protocol (RSVP)
IP precedence
IP type of service (ToS)
IP adaptive bandwidth management (including flow control)
Auto gatekeeper discovery
Dynamic playout and lip-sync buffering
Intelligent Packet Loss Recovery (IPLR)
H.245 DTMF tones in H.323
Cisco CallManager integration using ECS
IP Address Conflict Warning
Date and Time support via NTP
Call Services

IPv6 NETWORK SUPPORT
Dual Stack IPv4 and IPv6 simultaneous support
Net service support on IPv6: Telnet, SSH, HTTP, HTTPS, ftp, SNMP, DNS, NTP, DHCP"
Media support on IPv6: H.323, SIP, Streaming

SECURITY FEATURES
Management via HTTPS and SSH
IP Administration Password
Menu Administration Password
Dialing Access code
Streaming password
H.243 MCU Password
VNC password
SNMP security alerts
Disable IP services
MD-5 Challenge
Network Settings protection
SIP Authentication via NTLM
SIP Authentication via Digest

NETWORK INTERFACES
4 x ISDN BRI (RJ-45), S-interface
1 x LAN/Ethernet (RJ-45) 10/100 Mbit (LAN/DSL/cable modem)
1 x PC card slot (PCMCIA) for wireless LAN
1 x USB for future usage

WIRELESS LAN SUPPORT
Compliant with IEEE 802.11b, up to 11 Mbit
Support for 64/128 bit encryption (WEP)
Infrastructure or ad-hoc mode

ETHERNET/INTERNET/INTRANET CONNECTIVITY
TCP/IP, DHCP, ARP, FTP, Telnet, HTTP, HTTPS, SOAP and XML, MD-5 Challenge
SNMP Enterprise Management
Internal web server
Internal streaming server

OTHER MAJOR STANDARDS SUPPORTED
H.231, H.233, H.234, H.235 v2&v3, H.239, H.241, H.243, H.281, BONDING (ISO 13871), H.320, H.323, H.331
RFC 3261, RFC 2237, RFC 3264, RC 3311, RFC 3550, RFC 2032, RFC 2190, RFC 2429, RFC 3407

PRECISIONHD CAMERA
7 x zoom 1/3" CMOS +10°/-20° tilt +/- 90° pan
42° vertical field of view
72° total vertical field of view
70° horizontal field of view
250° total horizontal field of view
Focus distance 0.3m–infinity
1280 x 720 pixels progressive @ 30fps
Automatic or manual focus/brightness/whitebalance
Far-end camera control
15 near and far-end camera presets
Voice-activated camera positioning
Daisy-chain support (Visca protocol camera)

CLOSED CAPTIONING/TEXT CHAT
T.140 text chat available from Telnet, Web and User Interface

PRESENTATIONS AND COLLABORATION
Natural Presenter Package including:
PC Presenter (DVI-I, SXGA In)
PC SoftPresenter
Digital Clarity & Native Formats
Advanced Video Layouts
Streaming compatible with Cisco IP/TV, Apple QuickTime®, RealPlayer® v8 etc.

SYSTEM MANAGEMENT
Support for the TANDBERG Management Suite
Total management via embedded web server, SNMP, Telnet, SSH, FTP and SOAP
Remote software upload: via web server, ftp server or ISDN
1 x RS-232 local control and diagnostics
Remote control and on-screen menu system
External Services from TMS

DIRECTORY SERVICES
Support for Local directories (My Contacts), Corporate Directory and Global Directory
Unlimited entries using Server directory* supporting LDAP and H.350
Unlimited number for Corporate directory (through TMS)
400 number global directory
200 number local directory
16 dedicated MultiSite entries
Received Calls with Date and Time
Directories in Local Languages
Placed Calls with Date and Time
Missed Calls with Date and Time

16 SELECTABLE MENU LANGUAGES
Arabic, Simplified Chinese, Traditional Chinese, English, French, German, Italian, Japanese, Korean, Norwegian, Portuguese, Russian, Spanish, Suomi, Swedish and Thai
Chinese, Korean and Japanese Input Method Editor
Import Custom Language through TMS

CUSTOMIZED WELCOME SCREEN AND COMPANY LOGO
Picture JPEG (logo.jpg): Recommended maximum size is 704x576 for Welcome Screen and 352x288 for Encryption Required Screen.

POWER
Auto-sensing power supply
100–250 VAC, 50–60 Hz
40 watts max.

OPERATING TEMPERATURE AND HUMIDITY
0° C to 35° C (32° F to 95° F) ambient temperature
10% to 90% Relative Humidity (RH)

STORAGE AND TRANSPORT TEMPERATURE
-20° C to 60° C (-4° F to 140° F) at RH 10–90% (non-condensing)

APPROVALS
Directive 73/23/EEC (Low Voltage Directive)
 – Standard EN 60950
Directive 89/336/EEC (EMC Directive)
 – Standard EN 55022, Class B
 – Standard EN 55024
 – Standard EN 61000-3-2/-3-3
Directive 1999/5/EEC (R&TTE Directive)
 – Standard TBR3
Approved according to UL 60950 and CAN/CSA C22.2 No.60950
Complies with FCC15B Class B

UNIT DIMENSIONS
Height: 16.9"/42.9cm
Width (including footstand): 5.7"/14.5cm
Depth (including footstand): 9.0"/22.8cm
Weight: 7.7 lbs/3.5 kg

* Requires TANDBERG Management Suite 9 or newer

** Optional equipment, must be specified at the time of order. Serial Port replaces ISDN BRI

All specifications subject to change without notice, system specifics may vary.

All images in these materials are for representational purposes only, actual products may differ.

TANDBERG and Expressway are registered trademarks or trademarks of TANDBERG in the U.S. and other countries.

All other trademarks are property of their respective owners.

MTBF PRODUCT RELIABILITY/MTBF
The predicted reliability is expressed in the expected random Mean Time Between Failures (MTBF) for the electronic components based on the Power On Hours:
Power On Hours (POH) > 69 000 hours
Useful Life Cycle > 6 years
ISO 9001 certificate is available upon request

TANDBERG
See: performance

VIDEO FURNITURE INTERNATIONAL
Furniture Designs That Communicate.

C2736, Plasma/LCD Stand

Model C2736
Tech Series Single

The VFI Tech Series monitor stand is truly an all in 1 stand that will accommodate everything from 27" tube monitors, up to 60" plasma displays. Tech Series stands have built in handles for easy maneuvering and a super wide wheel base that provides an extra measure of safety for heavy or oversized monitors. The large interior compartment is vented to accommodate any PC, Codec or other interior electronics. The rear door allows easy wiring access to your equipment. Addition of the VSX door kit creates the solution for housing the VSX7000 system. The kit provides custom doors and a speaker capture for the VSX sub-woofer.

Standard Features Include:
- "Fortress" scratch resistant paint.
- Built in handles for easy maneuvering.
- Rear door for easy access.
- Two rear panel cable access slots.
- Capable of supporting 500 lbs (225 kg)
- Heavy duty casters for easy maneuvering.
- Tinted tempered glass doors.
- Ships fully assembled.
- Permanent construction process.

Options
- VSX Door Kit for VSX system sub-woofer.
- Security package for front and rear doors.
- RMT 12 space rack mount kit.
- CAM (Camera Mount)
- Adjustable interior shelf.
- Six outlet power bar with 10ft cord.
- PM-S Single plasma mount
- PM-D Dual plasma mount
- PM-XL Large plasma mount
- Cooling fan

Specifications:

MODEL	WIDTH	DEPTH	HEIGHT
C2736	46"	29"	30"

BLACK

VFI can build or modify stock configurations to suit customer specifications. Please contact us to discuss how this service can help meet your needs. Some quantity restrictions may apply.

* Specification subject to change without notice.

* Computers, cameras, monitors, etc. are shown to illustrate product usage and are not included unless otherwise noted.

Cisco LCD 110 PRO 52S

Product Overview

The Cisco® LCD 110 PRO 52S is a 52-inch professional display that complements the Cisco Digital Media Suite. It is certified as compatible with Cisco Digital Media Players; you can manage the application centrally from the Digital Media Manager platform, giving you a single-vendor solution for your DMS deployment. Using industry-best technology, the Cisco LCD 110 PRO 52S offers cutting-edge features along with visual appeal to emphasize your customer-facing communications.

Features

Features of the Cisco LCD 110 PRO 52S follow; Table 1 lists the benefits of this new product.

- Full-HD 1080p native resolution
- High brightness and high built-in contrast ratio
- Landscape and portrait modes support
- High-Definition Multimedia Interface (HDMI) inputs for real full-HD content rendering
- Built-in speakers for advanced audio applications
- Central management through the Cisco Digital Media Manager

Table 1.   Benefits of Cisco LCD 110 PRO 52S

Benefit	
Integrated with DMS	Certified and tested to work with DMS suite of products
Low total cost of ownership (TCO)	Single vendor for all requirements to reduce costs and save time and long-term operating expenses
Cisco Services (Cisco SMARTnet® Next Business Day [NBD] replacement)	Exceptional, dependable, and proven service from industry-renowned Cisco support organization
Cisco Capital^{SM} leasing and financing options	Easy availability of financing options

Product Specifications

Table 2 lists the product specifications.

Table 2.   Product Specifications

Feature	Specification
Diagonal size	52 inches
Native resolution	1080p (1920x1080)
Resolutions supported	1080p, 1080i, and 720p
Brightness (typical)	700 cd/m2
Contrast ratio (typical)	2000:1
Viewing angle (H/V)	178/178 degrees
Response time (G-to-G)	8 ms
Pixel pitch	0.6 x 0.6
Horizontal frequency	50–70 KHz
Vertical frequency	50–85 Hz

Inputs	CVBS, component, HDMI, VGA, DVI, and BNC
Speaker	Two 10W
Power consumption (maximum)	370W
Power consumption at standby (maximum)	2W
Power supply	100–240VAC ~ (+/– 10%), 50/60 Hz
VESA mount	800 x 400 mm
Weight (set/package)	36.8/47 kg
Dimensions (H x W x D)	713 x 1211 x 137.1
Bezel width	22 mm
Operating temperature	0–40℃
Humidity	10–80%
Mean time between failure (MTBF)	50,000 hours
Inbuilt TV Tuner	No
Special features	• Lamp error detection • Temperature sensor • Built-in fan • BNC in and out • RS-232C

System Requirements

The Cisco LCD 110 PRO 52s requires a corresponding mount (not sold through Cisco) for suitable installation, depending on your deployment location and situation.

Ordering Information

You can order the Cisco LCD 110 PRO 52s as part of the overall DMS product suite or independently. Table 3 gives ordering information.

Table 3. Ordering Information

Product Name	Part Number
Cisco LCD 52" Display, 1080p Bezel S, With Remote Control	LCD-110-PRO-52S

Service and Support

Using the Cisco Lifecycle Services approach, Cisco and our partners provide a broad portfolio of end-to-end services and support that can help increase the business value and return on investment of your Digital Media System. Specifically for Cisco LCD products, you can buy standard Cisco SMARTnet Next Business Day (NBD) replacement service and 24-hour phone support from Cisco Technical Assistance Center (TAC) worldwide.

For More Information

For more information about the Cisco LCD 110 PRO 52S, visit: http://www.cisco.com/go/dms or contact your local Cisco account representative.

Cisco LCD 100 PRO 40N

Product Overview

The Cisco® LCD 100 PRO 40N is a 40-inch professional LCD display that complements the Cisco Digital Media Suite. It is certified as compatible with Cisco Digital Media Players; you can manage the application centrally from the Cisco Digital Media Manager platform, giving you a single-vendor solution for your DMS deployment. Using industry-best technology, the Cisco LCD 100 PRO 40N offers cutting-edge features along with visual appeal to emphasize your customer-facing communications.

Features

Features of the Cisco LCD 100 PRO 40N follow; Table 1 lists the benefits of this new product.

- Full-HD 1080p native resolution
- High brightness and high built-in contrast ratio
- Landscape and portrait modes support
- High-Definition Multimedia Interface (HDMI) inputs for real full-HD content rendering
- Built-in speakers for advanced audio applications
- Central management through the Cisco Digital Media Manager

Table 1. Benefits of Cisco LCD 100 PRO 40N

Feature	Benefit
Integrated with DMS	Tested to work with DMS suite of products
Low total cost of ownership (TCO)	Single vendor for all requirements to reduce costs and save time and long-term operating expenses
Cisco Services (Cisco SMARTnet® Next Business Day [NBD] replacement)	Exceptional, dependable, and proven service from industry-renowned Cisco support organization
Cisco Capital^{SM} leasing and financing options	Easy availability of financing options

Product Specifications

Table 2 lists the product specifications.

Table 2. Product Specifications

Feature	Specification
Diagonal size	40 inches
Native resolution	1080p (1920x1080)
Resolutions supported	1080p, 1080i, and 720p
Brightness (typical)	470 cd/m2
Contrast ratio (typical)	3000:1
Viewing angle (H/V)	178/178 degrees
Response time (G-to-G)	8 ms
Pixel pitch	0.461 x 0.461

Horizontal frequency	50–70 kHz
Vertical frequency	50–85 Hz
Inputs	HDMI, VGA, and DVI
Speaker	Two 10W
Power consumption (maximum)	230W
Power consumption at standby (maximum)	2W
Power supply	100–240VAC ~ (+/– 10 %), 50/60 Hz
VESA mount	600 x 400 mm
Weight (set/package)	19.0/22.5 kg
Dimensions (H x W x D)	582.0 x 971 x 118.5
Bezel width	40 mm
Operating temperature	10–40℃
Humidity	10–80%
Mean time between failure (MTBF)	40,000 hours
Inbuilt TV Tuner	No
Special features	• Lamp error detection • Temperature sensor • Built-in fan • Video wall • RS-232C

System Requirements

The Cisco LCD 100 PRO 40N requires a corresponding mount (not sold through Cisco) for suitable installation, depending on your deployment location and situation.

Ordering Information

You can order the Cisco LCD 100 PRO 40N as part of the overall DMS product suite or independently. Table 3 gives ordering information.

Table 3.   Ordering Information

Product Name	Part Number
Cisco LCD 40" Display, 1080p Bezel N, With Remote Control	LCD-100-PRO-40N

Service and Support

Using the Cisco Lifecycle Services approach, Cisco and our partners provide a broad portfolio of end-to-end services and support that can help increase the business value and return on investment of your Digital Media System. Specifically for Cisco LCD products, you can buy standard Cisco SMARTnet Next Business Day (NBD) replacement service and 24-hour phone support from Cisco Technical Assistance Center (TAC) worldwide.

For More Information

For more information about the Cisco LCD 100 PRO 40N, visit: http://www.cisco.com/go/dms or contact your local Cisco account representative.

Built for business

Not just LCD panels. These are productivity panels.

We've designed-in more than 20 years of experience, innovation and leadership in digital projectors to create a line of LCD panels designed for collaboration, presentations, demonstrations, web meetings and video conferencing. InFocus flat panel displays provide the benefits and performance you need in the meeting room and can't find in consumer TVs.

InFocus large format LCD panels deliver gorgeous images and video – at prices that fit your lean budget. They connect easily and automatically with the computer and video sources you use in your business.

Everything you need in a business-class display
Available in three sizes, InFocus productivity panels deliver full 1080p native resolution and handle computer resolutions up to WUXGA (1920 × 1200) as well as standard and High Definition video signals.

RS232 port allows InFocus productivity panels to integrate easily with Crestron and AMX digital media and room control systems that handle an array of AV sources, computer inputs and lighting controls.

Amplified speakers provide full audio-video support.

The SplitScreen™ feature allows you to display two full-size images or video simultaneously. Focus on the critical content. Easily switch, shrink and enlarge side by side images for emphasis.

INF Series panels include an anti burn-in feature that eliminates image burn-in even if the panel is on all day.

Your investment is protected:
O Designed for commercial use with durable metal housings and commercial grade power supplies
O Easily upgradable with firmware
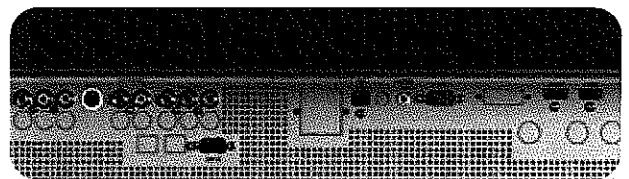O Protected with a 3-year warranty

We did leave one thing out... a high price.
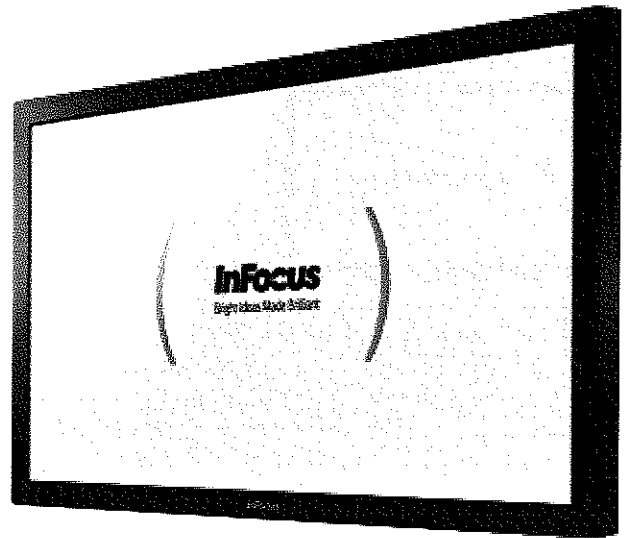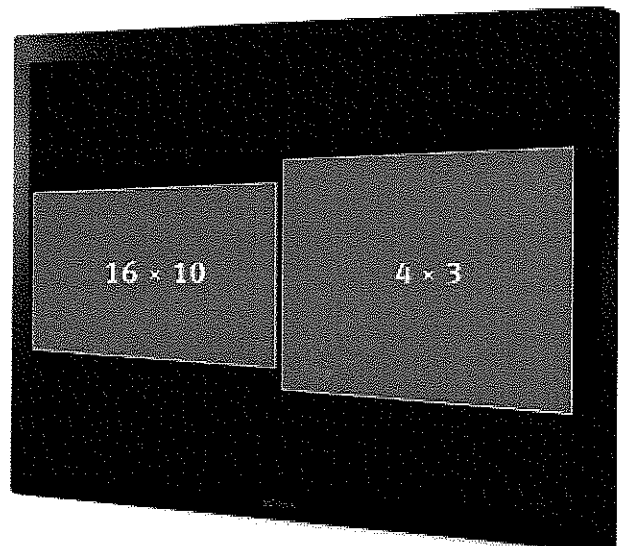
INF4201 — 42" DISPLAY   INF5501 — 55" DISPLAY   INF6501 — 65" DISPLAY
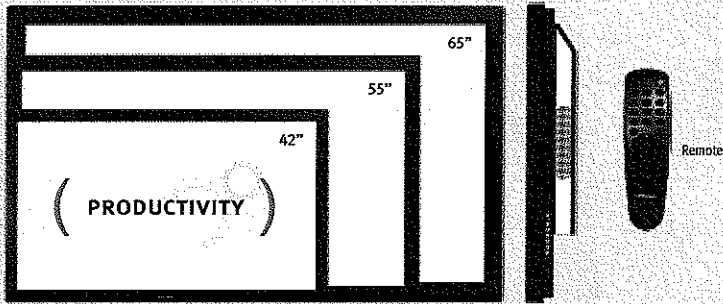
INF5501 Connectivity Options

Connectivity options

VGA (HD15)	HDMI	RS232
Component Video	Composite Video	S-Video
3.5 mm audio in	Audio out	Monitor out

16 × 10   4 × 3

InFocus Dynamic SplitScreen Feature

THIN DISPLAYS

(PRODUCTIVITY)

65"
55"
42"
Remote

|	INF4201	INF5501	INF6501
Width	40.2" / 1021 mm	51.5" / 1308 mm	61.7" / 1567 mm
Depth	4.9" / 125 mm	5.3" / 135 mm	6.1" / 155 mm
Height	24.2" / 615 mm	30.6" / 777 mm	37.1" / 942 mm

Optional Accessories
Wall Mount (SP-INF-WALLMNT)
LiteShow II Wireless Adapter (INLITESHOW2)
Cables & Adapters

INF Series do not ship standard with a mount or stand. They do utilize standard VESA patterns.

LiteShow II™
Eliminate cables and speed set-up time with LiteShow II wireless adapter. Switch presenters in seconds and transmit data, audio, and video over a 300' (95 m) range.

For more information, please visit:
www.infocus.com/Accessories.aspx
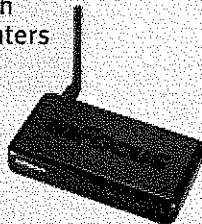
3-Year Warranty
All InFocus flat panel displays are backed with a 3-year limited factory warranty. Protect your investment for the long haul with our extended warranty.

For more information, please visit:
www.infocus.com/Support/Warranty.aspx

LiteShow II

3 YEAR PARTS
3 YEAR
InFocus
LIMITED WARRANTY
3 YEAR LABOR

Specifications*

INF4201 INF5501 INF6501

Diagonal Size (Viewable)	INF4201 – 42" LCD with Anti-Glare Coating
	INF5501 – 55" LCD with Anti-Glare Coating
	INF6501 – 65" LCD with Anti-Reflective Coating
Panel Technology	a-si TFT Active Matrix LCD
Surface Treatment	Anti-Glare Coating
Brightness	450 cd/m²
Native Resolution	1920 × 1080
Contrast Ratio	5000:1 Native
Pixel Pitch	INF4201 – 0.019" / .48 mm
	INF5501 – 0.025" / .63 mm
	INF6501 – 0.026" / .65 mm
Display Colors	INF4201 – 16.7 M 24-bit TrueColor
	INF5501 – 1.07 G 30-bit TrueColor
	INF6501 – 1.07 G 30-bit TrueColor
Viewing Angle (H / V)	INF4201 & INF5501 – 176° / 176°
	INF6501 – 178° / 178°
Active Area (H × W)	INF4201 – 36.6" × 20.6" / 930 mm × 523 mm
	INF5501 – 47.6" × 26.8" / 1209 mm × 681 mm
	INF6501 – 56.2" × 31.6" / 1428 mm × 803 mm
Power Supply	110 – 240 V AC
Audio	10 W × 2
Input Sources	VGA (HD15) × 1, S-Video × 1,
	Composite Video × 1, Component × 1,
	HDMI 1.3 × 2, Audio (3.5 mm Stereo × 1, RCA Stereo × 1)
Output	Audio (S-PDIG Digital Audio Output) × 1,
Control	RS232
VESA Standard	INF4201 – 15.7" × 7.9" / 400 mm × 200 mm
	INF6501 & INF5501 – 23.6" × 15.7" / 600 mm × 400 mm
Product Color	InFocus Black
Product Weight (without stand)	INF4201 – 48.5 lbs / 22 kg
	INF5501 – 96.5 lbs / 43.8 kg
	INF6501 – 147.7 lbs / 67 kg
Shipping Weight	INF4201 – 61.7 lbs / 28 kg
	INF5501 – 119 lbs / 54 kg
	INF6501 – 196.2 lbs / 89 kg
Product Dimensions - W×D×H	INF4201 – 40.2" × 4.9" × 24.2" / 1021 mm × 125 mm × 615 mm
(without stand)	INF5501 – 51.5" × 5.3" × 30.6" / 1308 mm × 135 mm × 777 mm
	INF6501 – 61.7" × 6.1" × 37.1" / 1567 mm × 155 mm × 942 mm
Ships With - Accessories	Registration Card, Warranty Card, Quick Start Card,
	CD with User Manual, Power Cord, VGA Cable, Remote**, Cleaning Cloth
Menu Language	English
Operating Temperature	5°C – 35°C
Operating Humidity	90% at 40°C
Maximum Altitude	10,000 ft / 3098 m
Product Warranty	3 Years Parts and Labor
Accessories Warranty	90 Days
Approvals	FCC B (USA), UL (USA)

* Product specifications, terms, and offerings are subject to change at any time without notice.
** Batteries not included.

FULL HD 1080P HDMI Split Screen™ LiteShow II wireless ready

InFocus
Bright Ideas Made Brilliant

For more information, please visit www.infocus.com

Distance Learning Training By PCS

Training is key to the successful implementation and adoption of new technologies in the classroom. That is never more true than the implementation of distance leaning in the classroom. By working with educators to discover, develop, and deliver, we are empowering them to more fully utilize their technology investments.

discover

Discover the things that make Distance Learning possible:

- Content (Virtual Field Trips)
- Collaborations
- The ultimate in Distance Learning: Handing the remote to the kids

develop

Develop the skills necessary for connecting:

- Mastering the remote
- Camera skills
- Changing presentation modes
- Searching for content and collaborations

   (CILC, Vandy Virtual, TANDBERG Connections, etc…)

deliver

Deliver instruction including:

- Keys to successful content delivery
- Proper methods for facilitating both onsite and remote
- Extra tools for the teacher – Promethean, PowerPoint, video, etc…
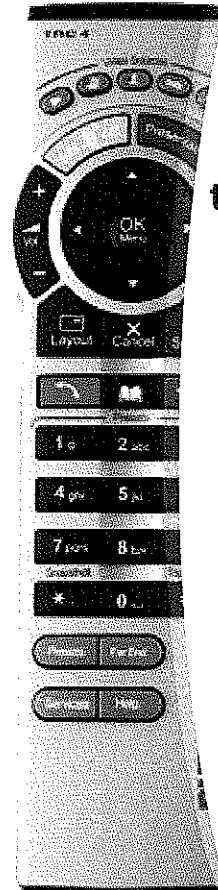
> "The most evident power of the technology is when the technology disappears."
>
> C. Michael Lay
> 3d Lead Trainer

> "The main reasons that I do business with PCS are their integrity and their training."
>
> Joan Gray
> Director of Technology
> Bedford County Schools

PCS 3d distance learning training employs a blended delivery system that brings together the power of on-site instruction and the use of distance learning technologies to deliver training remotely. By physically providing orientation to distance learning technologies, our trainers can help eliminate the intimidation that some educators feel regarding technology. Stressing the simplicity of the tools necessary to facilitate video conference connections, our trainers are able to make educators more comfortable with distance learning technology and more readily able to adopt it.

Pairing that with continued remote connections to introduce content sources, content delivery, and other teacher tools, **PCS 3d distance learning** trainers are able to graduate educators to a greater level of comfort and adoption of distance learning as a powerful classroom tool.

PCS

1720 Topside Road

Louisville, TN 37777

Main 865.273.1960

VCMS Help Desk 877.534.VCMS

video.pcsknox.com

Plug in to PCS 3d training today to get the most from your distance learning investments!