

# Room AV System Installation Estimate

## BocaEG130 Engineering VTC Classroom with Student Push-to-Talk Microphones & Automatic Camera Movement (No Lecture Capture)

All AV rack equipment to be installed within a new Spectrum Media Director lectern.

### Display Equipment

| QTY | Manufacturer | Model              | Description                                                                                | Unit Cost   | Extended Cost |
|-----|--------------|--------------------|--------------------------------------------------------------------------------------------|-------------|---------------|
| 2   | Sony         | VPL-FH700L/W       | LCD laser light projector, WUXGA, 7000 ANSI Lumens, no lens                                | \$ 6,100.00 | \$ 12,200.00  |
| 2   | Sony         | VPLL-Z4007         | Short throw lens for projector                                                             | \$ 2,600.00 | \$ 5,200.00   |
| 2   | Chief        | CMS440             | Projector Mount - Ceiling Portion                                                          | \$ 60.49    | \$ 120.98     |
| 2   | Chief        | CMS003W            | Pipe for Mount, 3" Length, White                                                           | \$ 10.06    | \$ 20.12      |
| 2   | Chief        | RPAA1W             | Projector Mount - Projector Portion, White (Lock "A")                                      | \$ 126.65   | \$ 253.30     |
| 2   | Draper       | 140036L            | 109"D 16:10 Ceiling Recessed Electric Screen, LV Control; Requires direct power connection | \$ 2,749.00 | \$ 5,498.00   |
| 2   | NEC          | E656               | 65" LCD Panel (HDMI-CEC & RS232 Control), 1080p, non-touch                                 | \$ 1,840.00 | \$ 3,680.00   |
| 1   | NEC          | C751Q              | 75" LCD Panel (HDMI-CEC & RS232 & Crestron Connected), 4K, non-touch                       | \$ 3,500.00 | \$ 3,500.00   |
| 2   | Chief        | XCM1U              | FUSION X-Large Single Pole Flat Panel Ceiling Mounts (For 55"-90" Displays)                | \$ 327.00   | \$ 654.00     |
| 2   | Chief        | CMA100W            | 8" (203 mm) Ceiling Plate with Adjustable 1.5" NPT Column, White                           | \$ 109.00   | \$ 218.00     |
| 1   | Chief        | LSM1U              | Fixed Wall Mount for Flat Panels (For 37"-63" Displays)                                    | \$ 150.00   | \$ 150.00     |
| 2   | APC          | AV C2              | Type 10 Power Filter for displays                                                          | \$ 69.95    | \$ 139.90     |
| 3   | XtremePower  | J40                | Ultra-Slim Surge Power Distribution Unit, 3 outlets                                        | \$ 131.00   | \$ 393.00     |
| 2   | Crestron     | DM-RMC-4K-SCALER-C | 4K DM Receiver/Scaler                                                                      | \$ 900.00   | \$ 1,800.00   |
| 2   | Crestron     | DM-RMC-4KZ-100-C   | DM Receiver                                                                                | \$ 463.92   | \$ 927.84     |
| 1   | Crestron     | DM-DGE-200-C       | Digital Graphics Engine 200                                                                | \$ 1,504.00 | \$ 1,504.00   |
| 1   | Planar       | PCT2265            | 22" 1080p touchscreen monitor with VESA mount & USB hub                                    | \$ 400.00   | \$ 400.00     |
| 1   | Ergotron     | 45241026           | Arm for lectern monitor                                                                    | \$ 127.60   | \$ 127.60     |
| 2   | Balt         | 202AG              | 4'H x 6'W Porcelain Markerboard, Aluminum Trim                                             | \$ 288.43   | \$ 576.86     |

### Source Equipment

| QTY | Manufacturer    | Model         | Description                                        | Unit Cost   | Extended Cost |
|-----|-----------------|---------------|----------------------------------------------------|-------------|---------------|
| 1   | Wolfvision      | VZ-3-Neo      | Document Camera                                    | \$ 2,347.00 | \$ 2,347.00   |
| 1   | Crestron        | CBL-HD-DVI-12 | Crestron® Certified DVI-HDMI® Interface Cable, 12' | \$ 36.08    | \$ 36.08      |
| 1   | Dell            | Optiplex 3050 | Room PC w/ DisplayPort out                         | \$ 640.00   | \$ 640.00     |
| 1   | Middle Atlantic | U2            | UTILITY RACKSHELF, 2 RU, 14.75"D                   | \$ 78.00    | \$ 78.00      |
| 1   | Middle Atlantic | UMS RACKSHELF | UMS RACKSHELF 1 RU, 11.5"D, 10"W                   | \$ 78.00    | \$ 78.00      |

|   |          |          |                                               |    |          |    |          |
|---|----------|----------|-----------------------------------------------|----|----------|----|----------|
| 1 | Startech | DP2HDMI2 | DisplayPort® to HDMI® Video Adapter Converter | \$ | 24.00    | \$ | 24.00    |
| 1 | Crestron | AM-200   | Wireless Presentation Gateway                 | \$ | 1,011.24 | \$ | 1,011.24 |

### Control/Switching Equipment [DM16X16]

| QTY | Manufacturer    | Model           | Description                                                             | Unit Cost   | Extended Cost |
|-----|-----------------|-----------------|-------------------------------------------------------------------------|-------------|---------------|
| 1   | Crestron        | CP3N            | Control System                                                          | \$ 1,465.00 | \$ 1,465.00   |
| 1   | Crestron        | DM-MD16X16      | 16x16 DigitalMedia™ Switcher                                            | \$ 5,375.00 | \$ 5,375.00   |
| 1   | Crestron        | DM-TX-4K-302-C  | 4K DigitalMedia 8G+® Transmitter 302                                    | \$ 1,100.00 | \$ 1,100.00   |
| 1   | Crestron        | DMC-4KZ-C       | HDBaseT® Certified DigitalMedia 8G+™ Input Card for DM® Switchers       | \$ 688.00   | \$ 688.00     |
| 7   | Crestron        | DMC-4KZ-HD      | 4K HDMI® Input Card for DM® Switchers                                   | \$ 625.00   | \$ 4,375.00   |
| 3   | Crestron        | DMC-4KZ-CO-HD   | 2-Channel HDBaseT® Certified 4K DigitalMedia 8G+® Output Card           | \$ 813.00   | \$ 2,439.00   |
| 2   | Crestron        | DMC-4K-HDO      | 2-Channel 4K Scaling HDMI® Output Card for DM® Switchers                | \$ 1,125.00 | \$ 2,250.00   |
| 11  | Crestron        | CBL-HD-6        | Crestron® Certified HDMI® Interface Cable, 6'                           | \$ 26.00    | \$ 286.00     |
| 1   | Crestron        | CBL-DVI-6       | Crestron® Certified DVI Interface Cable, 6'                             | \$ 26.00    | \$ 26.00      |
| 4   | Crestron        | CBL-HD-DVI-6    | Crestron® Certified HDMI® to DVI Interface Cable, 6 ft                  | \$ 26.00    | \$ 104.00     |
| 1   | Crestron        | GLS-ODT-C-CN    | Dual-Technology Occupancy Sensor with Cresnet®, 2000 Sq. Ft.            | \$ 144.00   | \$ 144.00     |
| 1   | Crestron        | Cust #: 1002322 | A+ 5 Year Warranty                                                      | \$ -        | \$ -          |
| 1   | Ubiquiti        | ERPOE-5         | VPN Router                                                              | \$ 150.00   | \$ 150.00     |
| 1   | Luxel           | AMS-2624P       | AV Series 26-Port(24 RJ45)/24 PoE+ Gigabit Managed Switch, Variable Fan | \$ 795.00   | \$ 795.00     |
| 4   | Middle Atlantic | PD-915R         | Rack mount power strip                                                  | \$ 176.00   | \$ 704.00     |

### User Interface Equipment

| QTY | Manufacturer | Model            | Description                             | Unit Cost   | Extended Cost |
|-----|--------------|------------------|-----------------------------------------|-------------|---------------|
| 1   | Crestron     | TSW-1060-B-S     | 10" Touch Screen, Black Smooth          | \$ 1,300.00 | \$ 1,300.00   |
| 1   | Crestron     | TSW-1060-TTK-B-S | TableTop Kit for TSW-1060, Black Smooth | \$ 125.00   | \$ 125.00     |

### Audio/Conferencing Equipment

| QTY      | Manufacturer | Model                | Description                                          | Unit Cost   | Extended Cost |
|----------|--------------|----------------------|------------------------------------------------------|-------------|---------------|
| 1        | Crestron     | AMP-3210T            | 3x210W Commercial Power Amplifier, 4/8Ohm or 70/100V | \$ 1,000.00 | \$ 1,000.00   |
| Speakers |              |                      |                                                      |             |               |
| 6        | Crestron     | Saros_ICE6T-W-T-EACH | Saros 6.5" 2-Way In-Ceiling Speaker, White Textured  | \$ 93.00    | \$ 558.00     |
| 2        | JBL          | CBT100LA1            | Line Array Speaker                                   | \$ 736.00   | \$ 1,472.00   |
| 2        | JBL          | MTC-CBT-FM1          | Speaker Flush Mount                                  | \$ 32.00    | \$ 64.00      |

Presenter microphones

|   |               |                |                                             |    |          |    |          |
|---|---------------|----------------|---------------------------------------------|----|----------|----|----------|
| 1 | AudioTechnica | ES915C21       | Gooseneck Microphone                        | \$ | 270.00   | \$ | 270.00   |
| 1 | Revolabs      | 01-ELITEEXEC2  | 2 Channel Executive Elite™ system, w/o mics | \$ | 1,200.00 | \$ | 1,200.00 |
| 2 | Revolabs      | 01-ELITEMIC-WR | Wearable Executive Elite™ Microphone        | \$ | 400.00   | \$ | 800.00   |

Audience tabletop push-to-talk mics with activity feedback

|    |               |            |                                                        |    |          |    |          |
|----|---------------|------------|--------------------------------------------------------|----|----------|----|----------|
| 20 | AudioTechnica | ES947      | Tabletop Mics: Small Tabletop, mounts in table surface | \$ | 186.00   | \$ | 3,720.00 |
| 20 | AudioTechnica | AT8657/LED | Flush mount Microphone Socket with Logic I/O           | \$ | 206.25   | \$ | 4,125.00 |
| 20 | Neutrik       | NC5FX-HD   | 5-Pole Female XLR Cable Connector                      | \$ | 19.76    | \$ | 395.20   |
| 3  | Crestron      | C3IO-16    | 16 Versiport I/O Ports                                 | \$ | 438.00   | \$ | 1,314.00 |
| 1  | Crestron      | CEN-CI3-3  | 3 Series Card Interface, 3 Slot: includes PW-2420RU    | \$ | 1,125.00 | \$ | 1,125.00 |

Audio DSP equipment

|   |          |                    |                                                                                             |    |          |    |          |
|---|----------|--------------------|---------------------------------------------------------------------------------------------|----|----------|----|----------|
| 3 | Biamp    | TesiraForte VT AVB | Audio DSP w/ 12 AEC analog inputs, 8 analog outputs, USB Tx/Rx, AVB Expansion, Analog/digit | \$ | 2,400.00 | \$ | 7,200.00 |
| 1 | Presonus | SW5E               | 5-Port AVB Switch with PoE+ on 4 ports                                                      | \$ | 400.00   | \$ | 400.00   |

Camera equipment

|   |        |              |                                                                        |    |          |    |          |
|---|--------|--------------|------------------------------------------------------------------------|----|----------|----|----------|
| 1 | Vaddio | 999-1512-000 | StepVIEW Mat - Large Exposed - 75' Attached Cable                      | \$ | 480.00   | \$ | 480.00   |
| 2 | Vaddio | 999-9909-000 | RoboSHOT 12 QUSB System (12x zoom lens, for audience view, 73 deg FOV) | \$ | 4,400.00 | \$ | 8,800.00 |
| 1 | Vaddio | 999-6911-200 | WideSHOT SE WallVIEW Fixed Position Camera                             | \$ | 2,406.00 | \$ | 2,406.00 |
| 1 | Extron | 60-1081-01   | Six Input HDCP-Compliant Scaling Presentation Switcher (IN-1606)       | \$ | 1,390.00 | \$ | 1,390.00 |
| 1 | Aja    | U-TAP-HDMI   | HD/SD USB 3.0 Capture Device (HDMI to USB 3.0 Converter)               | \$ | 298.56   | \$ | 298.56   |

VTC equipment

|   |          |             |                                                         |    |           |    |           |
|---|----------|-------------|---------------------------------------------------------|----|-----------|----|-----------|
| 1 | Cisco    | CTS-SX80-K9 | Cisco SX80 Codec kit, no camera, 3 years of maintenance | \$ | 15,548.00 | \$ | 15,548.00 |
| 1 | Crestron | C2N-IO      | Control Port Expansion Module - 1 COM port              | \$ | 188.00    | \$ | 188.00    |

Furniture, AV Interface Equipment

| QTY | Manufacturer | Model                   | Description                                                                                  | Unit Cost   | Extended Cost |
|-----|--------------|-------------------------|----------------------------------------------------------------------------------------------|-------------|---------------|
| 1   | Spectrum     | 55213-IOBKBS1640020000  | "Media Director" Presenter's Lectern (flip-up shelve on both sides, 2RU racks at top cavity) | \$ 3,500.00 | \$ 3,500.00   |
| 1   | Crestron     | FT2-700-ELEC-B          | FlipTop™ FT2 Series, 700 Size, Electrical, Black                                             | \$ 329.00   | \$ 329.00     |
| 1   | Crestron     | FT2A-PWR-US-3           | AC Power Outlet Module for FT2 Series, Triple, US NEMA 5, Type B                             | \$ 94.00    | \$ 94.00      |
| 1   | Crestron     | FT2A-CBLR-1T-4K-HD      | HDMI® to HDMI, 18Gbps, 5’ retracts, 4’ under table                                           | \$ 258.50   | \$ 258.50     |
| 1   | Crestron     | FT2A-CBLR-1T-4K-MDP-DP  | Mini DisplayPort to DisplayPort, 5’ retracts, 4’ under table                                 | \$ 258.50   | \$ 258.50     |
| 1   | Crestron     | FT2A-CBLR-1T-4K-USBC-HD | USB-C to HDMI®, 18Gbps, 5’ retracts, 4’ under table                                          | \$ 258.50   | \$ 258.50     |

Equipment Subtotal \$ 120,356.18

Electrical Estimate (5 outlets) \$ 2,250.00

|                                              |           |                   |
|----------------------------------------------|-----------|-------------------|
| Telecom Estimate (6 ports)                   | \$        | 2,700.00          |
| AV Installation Contractor Supplies Estimate | \$        | 2,500.00          |
| AV Installation Contractor Labor Estimate    | \$        | 23,500.00         |
| <b>Project Total</b>                         | <b>\$</b> | <b>151,306.18</b> |