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AV design and consulting services

MEETING ROOM SYSTEM V3

Project Proposal

Prepared for:
Prepared by: David Bradshaw, Ui Consulting
12 June 2021
Proposal number: 999-1004

EXECUTIVE SUMMARY

Objective

Provide an audio and video system for a 12 person meeting and conference room environment.

Goals

A suitably sized video image easily seen in typical lighting environments. Provide easy connection for the host presenters computer video and audio source, using HDMI. Provide Video conferencing codec connection to host computer using USB-C for external camera, audio replay and local audio relay. Intuitive control via touch-panel control for untrained operators to use. Evenly distributed intelligible audio across the room.

Solution

Components from QSC have been chosen for use as control system, audio processing and interconnection device, saving extra cost of deploying an independent control system. JBL wide dispersion, controlled broadband pattern ceiling loudspeakers provide even coverage from overhead. Video localisation from the front of the room is provided by screen side situated narrow vertical pattern column speakers, directing the audio at the listeners whilst keeping it away from potential ceiling reflections. High resolution 4k video monitor and 4k video conferencing camera provided for soft codec video conferencing capability from multiple platforms via HDMI and USB connectivity provided on table connection ports. Room booking panel on exterior of room for sync with clients calendar server application, shows room status and enables on the fly room booking. Ceiling mounted adaptive microphone array keeps microphones off the table top and dynamically adapts its pick up pattern to the talkers in the room. DSP based automixing and acoustic echo cancellation for clear audio conferencing without artefacts or echo.

Project Outline

- Table top mounted AV, control and power connections
- Table top intuitive 7" control panel
- Ceiling mounted speakers for far side audio replay
- Screen side column speakers for video localisation
- Ceiling mounted adaptive pattern microphone array
- 85" 4k video display
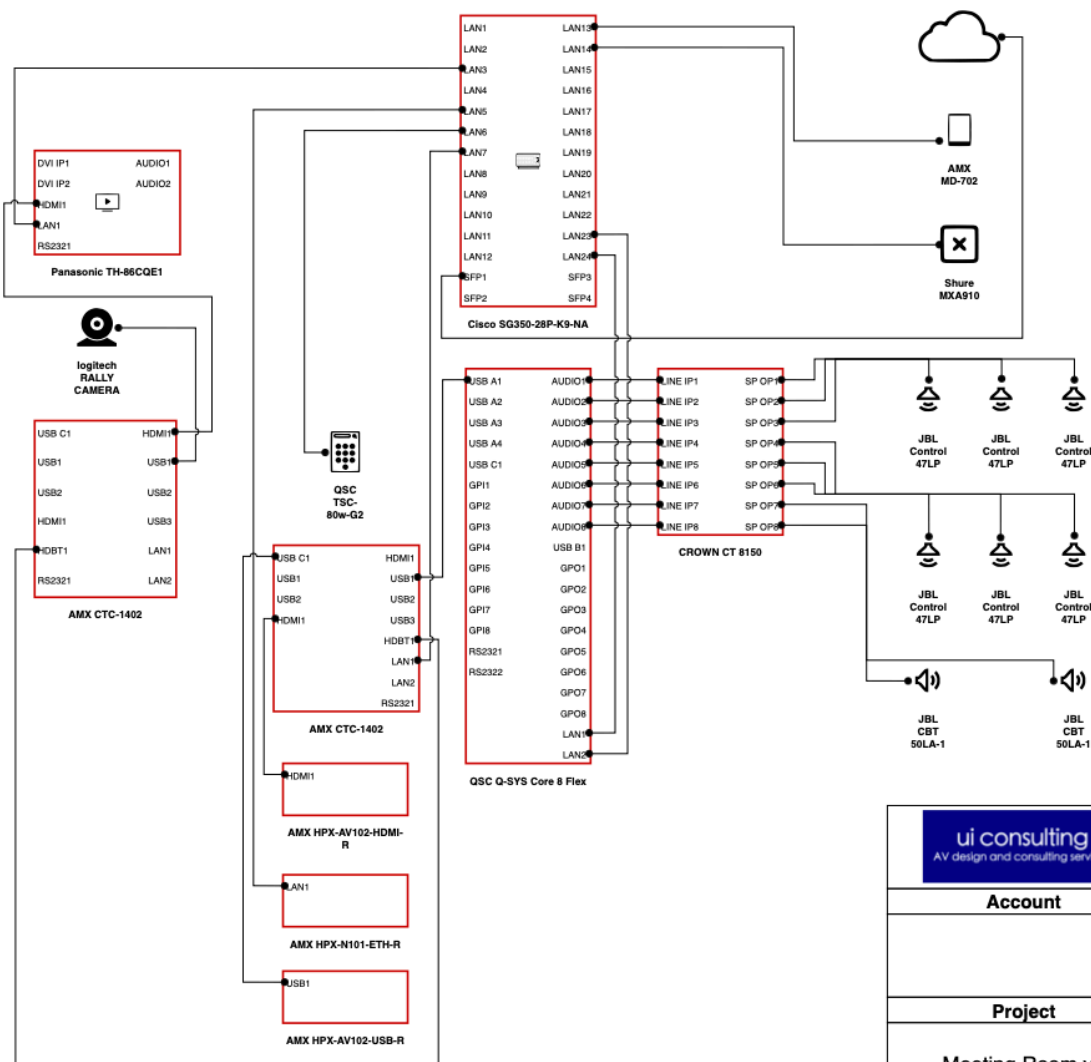- PTZ 4k Camera system
- Room booking display

BILL OF MATERIALS

S.No.	Description	Brand	Model	Qty	Unit Price	Amount
Video						
1	86" 4K UHD LED Display with four Input multi Display	Panasonic	TH-86CQE1	1	£6,068.00	£6,068.00
2	Premium PTZ camera with Ultra-HD imaging system and automatic	Logitech	RALLY CAMERA	1	£923.00	£923.00
Audio						
3	In-Wall or Table Top Touch Screen Controller	QSC	TSC-80w-G2	1	£1,062.00	£1,062.00
4	Ceiling array microphone	Shure	MXA910	1	£3,186.00	£3,186.00
5	DSP with 8 Flex I/O ports, USB audio, 8 AEC channels, AES67 and	QSC	Q-SYS Core 8 Flex	1	£2,125.00	£2,125.00
6	Eight-channel, 125W @ 4 ohms Power Amplifier	CROWN	CT 8150	1	£1,730.00	£1,730.00
7	Shallow Backcan Version of 47C/T for locations with limited clearanc	JBL	Control 47LP	6	£169.00	£1,018.00
Control						
8	7" Wall Mount Touchpael	AMX	MD-702	1	£992.00	£992.00
9	SG350-28P 28-port GB POE	Cisco	SG350-28P-K9-NA	1	£854.00	£854.00
Accessories						
10	2 M Blank Panel	AMX	HPX-B200	1	£14.00	£14.00
11		AMX	MSA-AMK2-07	1	£147.00	£147.00
12	HydraPort Module Cable	AMX	HPX-AV102-USB-R	1	£0.00	£0.00
13	Table top mounting accessory for TSC-80t-G2-BK.	QSC	TSC-80t-G2-BK	1	£283.00	£283.00
14	MyTurn Ready HDMI Retractable 4K60 HydraPort Module Cable	AMX	HPX-AV102-HDMI-R	1	£0.00	£0.00
15	HPX-N101-ETH-R, Ethernet Module with Retractable Cable provide:	AMX	HPX-N101-ETH-R	1	£206.00	£206.00
16	HPX-P200-UK HYDRAPORT POWER	AMX	HPX-P200-UK	1	£127.00	£127.00
17	Brushed AluminumBlack Anodized	AMX	HPX-900	1	£283.00	£283.00
18	Strong Contractor Series Rack - 18Depth	12U	Strong	SR-CS-RACK-12U	1	£179.00	£179.00
19	LINE ARRAY SPEAKER, 8X2DRIVERS, 60W, W/WALL BRACKET,	JBL	CBT 50LA-1	2	£357.00	£715.00
20	Conferencing Connectivity and Transport Kit	AMX	CTC-1402	1	£1,988.00	£1,988.00
					Total Price	**£21,895.00**

CABLE SCHEDULE

S.No.	ID	Source Device	Destination Device	Source Port	Destination Port	Length	Cable Type	Signal
1		Cisco SG350-28P-K9-NA	Shure MXA910	LAN14	Shure MXA910		CATx	Audio
2		Cisco SG350-28P-K9-NA	AMX MD-702	LAN13	AMX MD-702		CATx	Control
3		Cisco SG350-28P-K9-NA	Panasonic TH-86CQE1	LAN3	LAN1		CATx	Control
4		AMX HPX-N101-ETH-R	Cisco SG350-28P-K9-NA	LAN1	LAN5		CATx	Both
5		Cisco SG350-28P-K9-NA	QSC TSC-80w-G2	LAN6	QSC TSC-80w-G2		CATx	Control
6		Cisco SG350-28P-K9-NA		SFP1			CATx	Both
7		QSC Q-SYS Core 8 Flex	CROWN CT 8150	AUDIO1	LINE IP1		2 Core Audio	Audio
8		QSC Q-SYS Core 8 Flex	CROWN CT 8150	AUDIO2	LINE IP2		2 Core Audio	Audio
9		QSC Q-SYS Core 8 Flex	CROWN CT 8150	AUDIO3	LINE IP3		2 Core Audio	Audio
10		QSC Q-SYS Core 8 Flex	CROWN CT 8150	AUDIO4	LINE IP4		2 Core Audio	Audio
11		QSC Q-SYS Core 8 Flex	CROWN CT 8150	AUDIO5	LINE IP5		2 Core Audio	Audio
12		QSC Q-SYS Core 8 Flex	CROWN CT 8150	AUDIO6	LINE IP6		2 Core Audio	Audio
13		QSC Q-SYS Core 8 Flex	CROWN CT 8150	AUDIO7	LINE IP7		2 Core Audio	Audio
14		QSC Q-SYS Core 8 Flex	CROWN CT 8150	AUDIO8	LINE IP8		2 Core Audio	Audio
15		QSC Q-SYS Core 8 Flex	Cisco SG350-28P-K9-NA	LAN1	LAN24		CATx	Audio
16		QSC Q-SYS Core 8 Flex	Cisco SG350-28P-K9-NA	LAN2	LAN23		CATx	Control
17		CROWN CT 8150	JBL Control 47LP	SP OP1	JBL Control 47LP		Speaker Cable	Audio
18		CROWN CT 8150	JBL Control 47LP	SP OP2	JBL Control 47LP		Speaker Cable	Audio
19		CROWN CT 8150	JBL Control 47LP	SP OP3	JBL Control 47LP		Speaker Cable	Audio
20		CROWN CT 8150	JBL Control 47LP	SP OP4	JBL Control 47LP		Speaker Cable	Audio
21		CROWN CT 8150	JBL Control 47LP	SP OP5	JBL Control 47LP		Speaker Cable	Audio
22		CROWN CT 8150	JBL Control 47LP	SP OP6	JBL Control 47LP		Speaker Cable	Audio
23		CROWN CT 8150	JBL CBT 50LA-1	SP OP7	JBL CBT 50LA-1		Speaker Cable	Audio
24		CROWN CT 8150	JBL CBT 50LA-1	SP OP8	JBL CBT 50LA-1		Speaker Cable	Audio
25		AMX CTC-1402	QSC Q-SYS Core 8 Flex	USB1	USB A1		USB	Audio
26		AMX HPX-AV102-USB-R	AMX CTC-1402	USB1	USB C1		USB	Both
27		AMX CTC-1402	AMX HPX-AV102-HDMI-R	HDMI1	HDMI1		HDMI	Video
28		AMX CTC-1402	Logitech Rally Camera	USB1	USB VIDEO1		USB	Video
29		AMX CTC-1402	Panasonic TH-86CQE1	HDMI1	HDMI1		HDMI	Video
30		AMX CTC-1402	AMX CTC-1402	HDBT1	HDBT1		CATx	Video
31		AMX CTC-1402	Cisco SG350-28P-K9-NA	LAN1	LAN7		CATx	Control

Panasonic TH-86CQE1
- DVI IP1 / AUDIO1
- DVI IP2 / AUDIO2
- HDMI1
- LAN1
- RS2321

logitech RALLY CAMERA

AMX CTC-1402
- USB C1 / HDMI1
- USB1 / USB1
- USB2 / USB2
- HDMI1 / USB3
- HDBT1 / LAN1
- RS2321 / LAN2

QSC TSC-80w-G2

AMX CTC-1402
- USB C1 / HDMI1
- USB1 / USB1
- USB2 / USB2
- HDMI1 / USB3
- / HDBT1
- / LAN1
- / LAN2
- / RS2321

AMX HPX-AV102-HDMI-R
- HDMI1

AMX HPX-N101-ETH-R
- LAN1

AMX HPX-AV102-USB-R
- USB1

Cisco SG350-28P-K9-NA
- LAN1 / LAN13
- LAN2 / LAN14
- LAN3 / LAN15
- LAN4 / LAN16
- LAN5 / LAN17
- LAN6 / LAN18
- LAN7 / LAN19
- LAN8 / LAN20
- LAN9 / LAN21
- LAN10 / LAN22
- LAN11 / LAN23
- LAN12 / LAN24
- SFP1 / SFP3
- SFP2 / SFP4

AMX MD-702

Shure MXA910

QSC Q-SYS Core 8 Flex
- USB A1 / AUDIO1
- USB A2 / AUDIO2
- USB A3 / AUDIO3
- USB A4 / AUDIO4
- USB C1 / AUDIO5
- GPI1 / AUDIO6
- GPI2 / AUDIO7
- GPI3 / AUDIO8
- GPI4 / USB B1
- GPI5 / GPO1
- GPI6 / GPO2
- GPI7 / GPO3
- GPI8 / GPO4
- RS2321 / GPO5
- RS2322 / GPO6
- / GPO7
- / GPO8
- / LAN1
- / LAN2

CROWN CT 8150
- LINE IP1 / SP OP1
- LINE IP2 / SP OP2
- LINE IP3 / SP OP3
- LINE IP4 / SP OP4
- LINE IP5 / SP OP5
- LINE IP6 / SP OP6
- LINE IP7 / SP OP7
- LINE IP8 / SP OP8

JBL Control 47LP (x6)

JBL CBT 50LA-1 (x2)

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Account
Project
Meeting Room v3
Notes
Legends
Design: Meeting Room 12 Persons v3
Drawn By: David
Checked By:
Created On: 2021-06-11
Revision:

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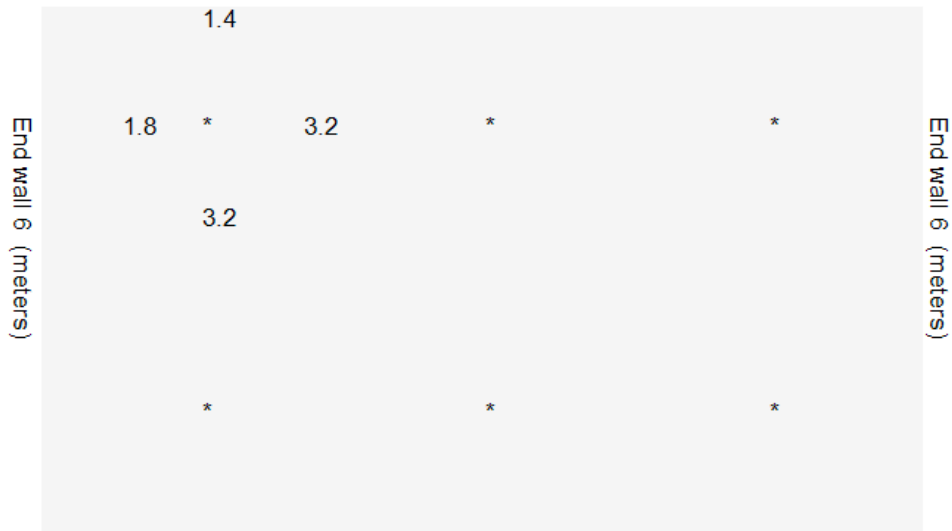# MEETING ROOM SYSTEM V3

JBL Professional Distributed System Design

Project Name: Meeting Room v2
Project Date: 14/06/2021

Side Wall 10 (meters)

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                          1.4

End wall 6 (meters)    1.8    *      3.2         *              *       End wall 6 (meters)

                          3.2


                              *            *              *
```

Side Wall 10 (meters)

Type of Speaker/Connection: Control 47LP -- 8 ohms direct
Layout Type: Square
Spacing Selection: Minimum Overlap
Room Length (meters): 10
Room Width (meters): 6
Ceiling Height (meters): 3
Listener Height (meters): 1.22

Row Spacing (meters): 3.2
Number of Speakers: 6   Column Spacing (meters): 3.2
Number of Rows: 2   Row Distance from Each Side Wall (meters): 1.4
Number of Columns: 3   Column Distance from Each End Wall (meters): 1.8

Maximum Continuous Average SPL (Pink Noise, dB): 106.8
Maximum Continuous Peak SPL (Pink Noise, dB): 112.8
Maximum Continuous Average SPL (music speech, dB): 102.8

Expected Level Variation (dB): 2.0
Recommended Amplifier Power (watts): 900.0

Panasonic
BUSINESS

4K UHD Entry Professional display

TH-86CQE1

Highly detailed images in 4K resolution (3840×2160) supporting 4K/60p signals for faithful expression of high-quality content. Enables continuous operation 24/7 Operation (98") or 16/7 Operation (43-86"), without any concern. Ideal everyday use for offices, schools, and other applications. Equipped with four HDMI input terminals that support HDMI CEC. The CQE1 Series is a USB Type-C terminal equipped with a display that can be connected with a PC or tablet. Also compatible with Crestron Connected™.

KEY FEATURES

- 86", 400 cd/m² and clear view with anti-glare coating

- 4K UHD LCD display delivers highly detailed content with contrast adjustments that enhance image quality

- IPS Panel for superb viewing experience from any angle

- Sleek and stylish design with narrow bezel and easy installation with built-in speakers and basic terminals

- Equipped with four HDMI input terminals that support HDMI CEC

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Logitech Rally Camera

With premium industrial design and an Ultra-HD imaging system, Rally Camera tops the lineup of standalone video cameras from Logitech®. Packed with advanced optics and breakthrough technology enhancements, Rally Camera delivers peerless performance, exceptional versatility, and easy deployment.

Rally Camera combines world-class Logitech optics and 4K sensor with whisper-quiet mechanical pan, tilt, and zoom functions and high-end materials

suitable for any professional setting. With razor-sharp 15X HD zoom, expansive 90° field of view, and truly phenomenal video quality, Rally Camera captures every person in the room with amazing clarity.

Logitech RightSight™ camera control* automatically moves and adjusts the lens to comfortably frame participants in rooms of all shapes and sizes while Logitech RightLight™ technology optimizes light balance to emphasize

faces and render natural-looking skin tones, even in dim or backlit conditions.

Rally Camera offers versatile mounting and cabling options for easy installation and integrates seamlessly with existing audio infrastructure. Plus, USB plug-and-play ensures compatibility with every leading video conferencing software platform with no additional software required.

Control® 47LP

Professional Series – Two-Way 6.5" Coaxial Low-Profile Ceiling Loudspeaker

SPECSHEET

JBL PROFESSIONAL by HARMAN

Key Features:

- Extremely consistent 120° broadband pattern control featuring JBL's exclusive conical Radiation Boundary Integrator® (RBI™) technology:
  - Provides very consistent coverage of listening area
  - Wide coverage requires fewer speakers, reducing the cost of the installed system without sacrificing performance
- Coaxial design:
  - 165 mm (6.5 in) woofer with butyl rubber surround
  - 25 mm (1 in) soft-dome tweeter on 250 mm (10 in) diameter wave guide
- Slim design (142 mm / 5.6 in) for use in spaces with restricted / shallow mounting depths
- 8 ohm and 70V/100V operation
- Integrated backcan for easy "blind-mount" install
- Packaged with grille and tile rails for easy installation

Included grille not shown

Description:

The Control 47LP is a premium in-ceiling professional loudspeaker designed for applications that require extremely wide bandwidth along with very consistent coverage.

Featuring JBL's exclusive conical Radiation Boundary Integrator® (RBI™), the RBI provides a large waveguide for the tweeter while low-frequency sound projects through specially-designed apertures in the RBI, allowing for a seamless integration of coverage between the two coaxially mounted drivers. The result is extremely consistent sound character with very little variation throughout the listening space. The wide coverage allows for the use of fewer loudspeakers compared to speakers with less consistent coverage control, while at the same time providing better coverage of the area.

The shallow backcan on the Control 47LP enable the system to be installed into areas with shallow or restricted mounting depths. The Control 47LP's 165 mm (6.5 in) woofer features a polypropylene cone and pure butyl-rubber surround for long life. The copper-clad aluminum voice coil wound on a vented aluminum former provides low distortion and high sensitivity. The coaxially mounted 25 mm (1 in) soft dome features internal damping for smooth extended response and ferrofluid cooling for enhanced power handling and reduced power compression. The result is crisp, clear highs.

Ideal for small and large projects alike, the Control 47LP is switchable for use as either an 8-ohm low-impedance speaker, or as part of a 70V/100V distributed loudspeaker system.

Specifications:

System

Frequency Range (-10 dB)[1]	68 Hz - 20 kHz
Frequency Response (± 3 dB)[1]	100 Hz - 17 kHz
Power Capacity[2]	150W Continuous Program Power 75W Continuous Pink Noise
Nominal Sensitivity	91 dB
Nominal Coverage Angle[3]	120° conical coverage
Directivity Factor (Q)[3]	6.5
Directivity Index (DI)[3]	7.9 dB
Rated Maximum SPL	110 dB @ 1 m (3.3 ft) average, 116 dB peak
Rated Impedance	8 ohms (in bypass mode)
Transformer Taps	60W, 30W, 15W, (& 7.5W @ 70 V)
Transformer Insertion Loss	0.76 dB @ 60W, 0.70 dB @ 30W, 0.61 dB @ 15W, 0.58 dB @ 7.5W

Transducers

LF Driver	165 mm (6.5 in) with polypropylene cone, butyl rubber surround, copper-clad coil, vented aluminum former
HF Driver	25 mm (1 in) soft dome w/ dampening, ferrofluid-cooled

Enclosure

Input Connectors	Two removable locking 2-pin connectors with screw-down terminals; max wire 12 AWG (2.5 mm)
Knockouts	Two (top and side)

Safety Agency	Suitable for use in air handling spaces per UL1480, UL2043, NFPA90 & NFPA 70 ; S7232/UL listed, signaling speaker; transformer UL registered per UL1876; in accordance with IEC60849/EN60849
Dimensions	305 mm diameter x 142 mm depth from back of baffle (12 in x 5.6 in)
Cutout Size	282 mm diameter (11.1 in)
Ceiling Thickness Range	Accommodates tiles/drywall up to 70 mm (2.75 in) thick
Weight	4.3 kg (9.5 lb)
Included Accessories	» C-ring support backing plate » 2 tile support rails (fits both 2 x 4 ft or 600 x 1200 mm tiles) » Knockout strain relief » Cutout template » Paint shield » 2 removable locking multi-pin connectors » Grille
Optional Accessories	» MTC-47NC new construction bracket » MTC-47MR mud-ring construction bracket

[1] Half-space (flush mounted in ceiling)

[2] Continuous Pink Noise rating is IEC-shaped pink noise with a 6 dB crest factor for 100 hours continuously. Continuous Program power is a conservative expression of the system's ability to handle normal speech and music program material, and is defined as 3 dB above the Continuous Pink Noise Rating.

[3] Half-space (in ceiling) average 1 kHz to 16 kHz

JBL continually engages in research related to product improvement. Changes introduced into existing products without notice are an expression of that philosophy.

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JBL PROFESSIONAL by HARMAN

CBT 50LA-1
Constant Beamwidth Technology™ Line Array Column Loudspeaker with Eight 50 mm (2 in) Drivers

CBT SERIES
CONSTANT BEAMWIDTH TECHNOLOGY™

Key Features:

▶ Patent-pending Constant Beamwidth Technology™ provides constant directivity up to the highest frequencies and reduces out-of-coverage lobing.

▶ Switchable voicing provides flat response in music mode or mid-range presence peak in speech mode.

▶ Dynamic SonicGuard™ overload protection

▶ Built-in 70V/100V transformer, plus 8 ohm direct capability.

▶ Swivel (pan) / tilt wall bracket included.

Overview:

The CBT 50LA-1, with Constant Beamwidth Technology™, represents a breakthrough in pattern control, utilizing analog delay beam-forming and amplitude tapering to accomplish consistent vertical coverage without the narrow vertical beaming and out-of-coverage lobing that are typical of straight form-factor passive column speakers.

The slim, compact design fits well into virtually any architectural decor. The combination of superb sound quality, excellent pattern control, and compact (53 cm [20.8 in] tall by 10 cm [3.9 in] wide) design makes CBT 50LA-1 ideal for a wide variety of applications, such as retail stores, concourses, transit spaces, fill applications, conference rooms, architectural spaces, audio for video, lecture halls, and other applications where such a combination is desired.

The voicing can be set to match the application through the Music/Speech switch, conveniently located on the side of the cabinet. The Music setting provides flat frequency response, while the Speech setting produces a mid-range presence boost to provide clear, intelligible speech even at the longest throw distances.

The drivers feature dual neodymium magnets for light weight. Copper-capped pole pieces lower both the driver inductance and the flux modulation. This increases high-frequency extension and reduces distortion at high drive levels. Butyl rubber surrounds provide long life even in high humidity environments. The drivers are shielded.

Dynamic SonicGuard™ minimizes distortion at high drive levels by limiting low frequency excursion dynamically. This maximizes clarity at high drive levels while protecting the drivers from damage due to overpowering.

A swivel (pan) / tilt wall-mount bracket is included and ten M6 inserts on the back panel fit the spacing of common mounting brackets, or can be utilized to suspend the speaker using M6 forged shoulder steel eyebolts, providing versatility of installation.

CBT 50LA-1 can be installed either indoors or outdoors. The drivers are weather-treated, the fiberglass reinforced ABS cabinet with UV resistant paint is excellent for outdoor applications, external screws are stainless steel, and the painted aluminum grille resists rusting in the harshest conditions.

Available in black or white (-WH).

Specifications:

Components:	Eight 50 mm (2 in) Full-Range
Frequency Range (-10 dB)[1]:	80 Hz – 20 kHz
Coverage Pattern:	Vertical 20° (1.5 kHz - 16 kHz, ±10°) Horizontal 150° (ave, 1 kHz – 4 kHz, ±20°)
Sensitivity (2.83V@ 1m)1:	93 dB (speech mode, 2 kHz - 14 kHz) 89 dB (music mode, 300 Hz - 18 kHz)
Nominal Impedance:	8 ohms
Power Capacity (8 ohm setting)[2]:	150W (600W peak), 2 hrs 100 W (400W peak), 100 hrs
Max SPL[3]:	Speech mode: 115 dB cont ave (121 peak) Music mode: 111 dB cont ave (117 peak)
70V/100V Transformer Taps:	60W, 30W, 15W, (7.5W at 70V only), and 8Ω thru, via switch
Enclosure:	Fiberglass reinforced ABS cabinet, painted aluminum grille
Outdoor Capability:	IP-55 rated, per IEC529, when installed with optional MTC-PC2 panel cover. UV, moisture and 200-hr ASTM G85 acid-air/salt-spray resistant.
Colors:	Black or White (-WH)
Insert Points:	Ten M6 swivel (pan)/tilt insert points on back panel.
Mounting:	Included swivel (pan) / tilt wall bracket provides continuously variable +/-80 degree left-right swivel aiming (at no up/down tilt – see Bracket Guide for maximum swivel range at various up/down tilt angles), continuously adjustable ±15 degree tilt, as well as 5 degree fixed increment points within the range. Ten threaded mounting points located on back panel conform to industry standard rectangular 108 x 51 mm (4.25 x 2.0 in) pattern for OmniMount® 30.0 and other compatible third-party brackets. Threaded mounting points can be utilized for suspension.
Dimensions (H x W x D):	528 x 99 x 153 mm (20.8 x 3.9 x 6.0 in)
Net Weight:	4.1 kg (9.0 lb)
Included Accessories:	Swivel (pan) / tilt wall bracket
Optional Accessories:	MTC-PC2 terminal panel cover MTC-CBT-FM1 flush-mount low-profile wall-mount bracket MTC-CBT-SMB1 Stand-Mount Bracket for use with 35 mm speaker stand

[1]Full space
[2]IEC standard, full bandwidth pink noise with 6 dB crest factor.
[3]Calculated based on power rating and measured sensitivity, exclusive of power compression.

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Q-SYS Core 8 Flex

KEY FEATURES

- 64 x 64 networked audio channels (Q-LAN / AES67)
- Eight on-board Flex channels and GPIO
- 8 x AEC (acoustic echo cancellation) processors
- up to 32 x 32 Dante audio channels (8 x 8 included)
- USB AV bridging (8 x 8 audio + Q-SYS camera support)
- External USB audio device host
- Supports up to 2 VoIP softphone instances
- Full featured Q-SYS Control engine
- Dual gigabit ethernet ports with assignable application resources offering any combination of VoIP, Q-LAN Control, Q-LAN audio or network redundancy
- Internal power supply
- 1U half-width, includes mounting hardware

Q-SYS Core 8 Flex
Analog + Network I/O Processor

Introducing the Q-SYS Core 8 Flex audio, video and control (AV&C) processor, which extends the applications of the Q-SYS Ecosystem into a wider range of smaller-scale installations across corporate, higher education, healthcare and beyond. Built on the same foundational technology as the rest of the Q-SYS processor portfolio, including the best-in-class Q-SYS Core 110f, the Core 8 Flex is designed for applications with lower network channel capacity and/or targeted processing requirements.

Core 8 Flex offers onboard analog audio I/O and GPIO plus network AV&C processing, and like all Q-SYS Core processors, the Core 8 Flex delivers features and functionality at the software level, including acoustic echo cancellation (AEC), wide-area paging, video routing, and a full featured control engine without the need for dedicated control processors.

ONBOARD ANALOG I/O PLUS NETWORK I/O

In addition to it's 64 x 64 network aaudio I/O capacity, the Core 8 Flex offers eight on-board Flex channels and eight GPIO on-ramps to integrate analog audio and control devices into the Q-SYS Ecosystem

RIGHTSIZED. UNCOMPROMISED.

Rather than deploying an AV&C processor with unused analog I/O that occupies a full rack space, Core 8 Flex offers a smaller, space-efficient solution with the right amount of analog I/O. However, it does not compromise on functionality; instead it delivers a fully-integrated and customized Q-SYS experience, from paging and background music distribution to control, automation and beyond (the same feature set as the larger Cores in the processor portfolio).

OPTIMIZED FOR THE MEETING SPACE

While it can be used across multiple installation types, Core 8 Flex provides the AV infrastructure to enable full room web conference integration, particularly for larger, more challenging spaces. It features USB integration with all major web conferencing applications, eight channels of acoustic echo cancellation (AEC), two VoIP softphones, Software-based Dante to enable modern microphones, and a full-featured control engine for third-party device integration.
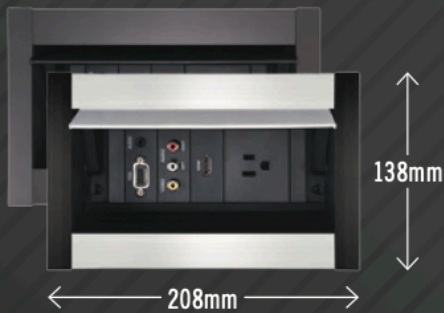
REDUCE COMPLEXITY AND IMPROVE SCALABILITY WITH THE Q-SYS ECOSYSEM

The Q-SYS Core 8 Flex joins a growing Ecosystem of AV&C processors built on a flexible software foundation that deliver features and functionality without relying on dedicated, single-purpose hardware. Like all Q-SYS Cores, the Core 8 Flex lets integrators take full advantage of the same Q-SYS software suite to design and configure systems, and end users can benefit from a more holistic user experience as a result of all native Q-SYS peripherals, and the system's ability to scale your system without having to rip-and-replace your configuration file.

hydraport
ARCHITECTURAL CONNECTIVITY SYSTEM

HydraPort

HPX-600 6 Module Enclosure
- Recessed table box with dual-flip lid
- Mix and match from a variety of module options that span up to 6 HydraPort units
- Select from 50+ AV and Power Modules
- Black or Silver

138mm / 208mm

HPX-900 9 Module Enclosure
- Recessed table box with dual-flip lid
- Mix and match from a variety of module options that span up to 9 HydraPort units
- Select from 50+ AV and Power Modules
- Black or Silver

283mm

HPX-1200 12 Module Enclosure
- Recessed table box with dual-flip lid
- Mix and match from a variety of module options that span up to 12 HydraPort units
- Select from 50+ AV and Power Modules
- Black or Silver

358mm

QSC®

TSC-55w-G2
TSC-80w-G2
TSC-116w-G2

KEY FEATURES

- Capacitive LCD touch surface: In-plane switching (IPS) technology
- High resolution displays
- Power over Ethernet: IEEE 802.3af compliance allows for simplified single cable installation
- Universal mounting options: Included accessories for mounting to US standard and European wall and junction boxes
- Complete design freedom: Create custom branded graphical interfaces using Q-SYS UCI Editor within Q-SYS Designer Software

Q-SYS TSC-G2 Series

Q-SYS Platform touch screen controller

Q-SYS TSC-G2 Series touch screen controllers combine capacitive touch technology with a bright, high resolution full color LCD for state-of-the-art control of a Q-SYS system. Control elements and layout for GUIs on this versatile touch screen controller are completely customizable to provide end users a full range of controls, from complete system control and monitoring, to one-touch deployments of pre-programmed presets.

Designers can create custom user control interfaces (UCI) within Q-SYS Designer Software using the UCI Editor. Drag and drop any control Q-SYS element from a Q-SYS design schematic into UCI Editor and easily deploy your design to the touch screen, without any programming experience.
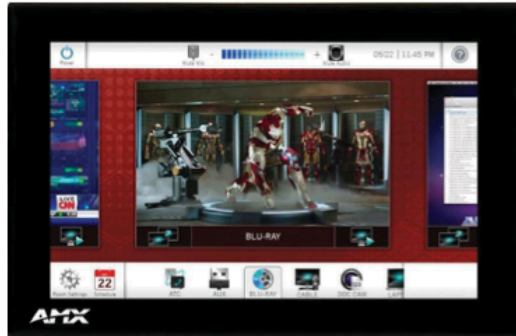
UCI Editor allows the import of room diagrams, corporate logos or other graphical elements in most major graphic file formats including .png, .jpg, .svg, and .gif. In order to deploy UCI designs onto Q-SYS touch screens, a software license is required for each Q-SYS Core processor.

TSC-G2 Series touch screen controllers are offered in black and designed for easy surface mount installation in a wall, lectern or similar flat surface. Universal mounting accessories are included for standard US and European wall and junction boxes for vertical or horizontal installations.

Table top stand accessories are available for the TSC-80w-G2 and TSC-116w-G2 models.

MD-702 (FG5969-55BL) Landscape Wall Mount Touch Panel

Overview

The MD-702 / 7" Modero G5 Wall Mount Touch Panel is a premium user interface that includes the G5 graphics engine and delivers superior performance. Designed for dedicated room control or scheduling, this elegantly-styled touch panel provides fast and smooth animations and transitions, along with a quad-core processor that provides more than enough processing power to run the most demanding applications today and in the future. The MD-702 also includes a built-in web browser and document viewers, enabling users to access real-time information during meetings or lectures. CloudworX Manager allows the user to configure and deploy large numbers of devices simultaneously, either locally or remotely.

The MD-702 is built for usability, offering edge-to-edge capacitive touch glass with multi-touch capabilities. The distinctive appearance will complement even the most sophisticated meeting facilities and homes, with a variety of mounting options for added security and convenience.

Common Applications

• The MD-702 is ideal for boardrooms, conference rooms or auditoriums where a premium control surface is needed to provide access to multiple functions simultaneously while remaining elegantly unobtrusive.

• In Higher Education, the MD-702 is ideal for lecture halls, auditoriums, performing arts theaters and boardrooms that require extensive control capabilities.

• In residences, it is perfect for kitchens, bedrooms or home offices where it can be used to manage systems throughout the home.

• This device can be used as a scheduling panel for high-end meeting rooms and auditoriums and is mass configurable and deployable through CloudworX Manager.

• All Modero Series Wall Mount panels are ideal for reception areas or other gathering places where calendars can be displayed along with streamed information from the web like weather and stock quotes.

Features

• **G5 Graphics Engine and Quad Core Processing**– The most powerful processing in the industry delivers smooth gesturing, swiping, dynamic reordering, enhanced animation with transitions all at higher speeds for an experience any user will enjoy.

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MXA910 Ceiling Array Microphone with IntelliMix®

Features Steerable Coverage™ Technology with up to 8 separate adjustable lobes to capture audio anywhere in the room. Autofocus™ Technology fine-tunes the position of each lobe in real time, for consistent sound even if participants lean back or stand up. Onboard IntelliMix DSP provides all the signal processing needed for echo- and noise-free audio. Quickly and easily create room configurations offline and deploy them online with Designer System Configuration Software. In addition to video conferencing, the MXA910 is also ideal for applications requiring voice lift or camera tracking. Versatile mounting options for any ceiling type, including hard ceiling, VESA pole mount, or wire rope suspension.

View MXA910 Software Demo

- Available in three colors or custom paintable to match room aesthetics

- Dante Domain Manager / Device Lock compatible

- Programming-free LED mute sync with leading software conferencing solutions (when used with IntelliMix P300 or ANIUSB-MATRIX)

- UL 2043 plenum rated and IP5X rated

- LED status bar with configurable colors and brightness

Learn more about MXA910

AMX Conferencing Connectivity and Transport Kit

Soft-codec and distance transport solution featuring transmitter and receiver
CTC-1402 (FG1010-910)

Transmitter Front & Rear

Receiver Front & Rear

Overview

The AMX Connectivity and Transport (CT) Series is a family of 4K switching and distribution kits that combine switching, scaling and distance transport into a single kit that includes both a transmitter and receiver. The solutions deliver added value and flexibility to conferencing and presentation solutions by providing a single, simple to implement solution that offers switching and connectivity where you need it along with unified control of both the transmitter and receiver—all over a single category cable. Solutions available include a Presentation kit, targeting simple presentation environments, and a Conferencing kit, targeting web conferencing applications.

The CT Conferencing kit combines multi-format 4K60 video switching, scaling, and distance transport with USB 2.0 peripheral switching. This allows dynamic sharing of room USB peripherals between visiting laptops, etc., and permanently installed devices such as an Acendo Core or room PC. This ensures excellent sound and visuals for guests whether they are using installed equipment or bringing their own devices—at a cost effective price.

Common Applications

Ideal for web conferencing solutions with cameras, mics and other USB devices installed.

Features

- **4K60 4:4:4 Support –** Future proof for 4K source devices and displays
- **HDMI, DP, VGA, and USB-C* Inputs (TX) —** Supports common laptop video connectors at the table
- **HDMI Inputs (RX) –** Switch to devices such as Acendo Core or a room PC located near the display
- **USB 2.0 –** Allows room USB devices at the table or near the display to be dynamically shared between visiting and permanent computing devices without having to disconnect/reconnect
- **Simplified Room Control –** Control the display or projector and a screen from built-in control ports on the RX.

Features \\\

Powering this remarkable amplifier is the pioneering technology of DriveCore, which integrates the amplifier drive stage into the power output stage fusing everything into a chip the size of a dime. DriveCore's front-end drive circuits leverage the inherent efficiency of Class D output stages while also maintaining superb sonic characteristics. The end result is an audio amplifier circuit that exhibits the exemplary audio quality of a highly evolved Class AB design.

- Flexible input routing
- Convection cooled
- Universal power supply
- Integrated Life-Safety Features
- Up to 8 x 125W in 1U chassis with no fan
- Patented feedback and protection circuits

- DriveCore technology provides >90% efficiency with no compromise in performance
- Amplifier is stable for 2Ω - 16Ω loads
- XFMR 4/8 needed for 70V/100V applications
- Flexible input routing

Project Proposal

Prepared for:
Prepared by: David Bradshaw, Ui Consulting
12 June 2021
Proposal number: 999-1004

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AV design and consulting services

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