



PROJECT INFORMATION

AV & LIVE STREAMING

St. Edwards Church, Stow-on-the-Wold

Prepared on 24/06/21
Revised on 19/07/21

Distributed Sound & Video Ltd
T: 01933 322042
E: sales@dsavltd.co.uk
W: www.dsavltd.co.uk



CONTENTS

1. INTRODUCTION	2
1.1. Current System	2
1.2. Brief	2
2. SYSTEM OVERVIEW	3
2.1. Loudspeakers	3
2.2. Projection Screen	7
2.3. Projector	10
2.4. Front & Rear Laptop Inputs	11
2.5. Portable Display	12
2.6. Cameras	13
2.7. Ambient Microphone & Audio Feed	14
2.8. Equipment Housing	14
3. EQUIPMENT SPECIFICATIONS	17
3.1. Loudspeakers	
3.2. Projection Screen	
3.3. Projector	
3.4. Projector Shelf	
3.5. PTZ Camera	
3.6. Static Camera	17
3.7. Ambient Microphone	17
3.8. AV Cabinet	

Client

St. Edwards Church, Stow-on-the-Wold
Church Street, Stow-on-the-Wold, Gloucestershire
Contact: Peter Dixon

Distributed Sound & Video Ltd

46 Ashby Drive, Rushden, Northamptonshire, NN10 9HH
Company Reg. No. 057 37512
VAT Reg. No. GB 884 1177 06

Tel: 01933 322042

Email: sales@dsav ltd.co.uk

Web: www.dsav ltd.co.uk

This documentation has been compiled by Distributed Sound & Video Ltd specifically for the client, St. Edwards Church, Stow-on-the-Wold. This document and associated quotations are confidential and may not be disclosed to any third party. Copyright for this document and associated quotations is retained by Distributed Sound & Video Ltd and therefore cannot be used in whole or in part without our consent.

1. INTRODUCTION

This document provides an overview of the proposed audio-visual and live streaming system designed to fulfil the needs of St. Edwards Church and includes: a brief system overview, suggested cable routes and equipment specifications. Recommendations are based on initial discussions that took place on 19th May and subsequent discussions.

1.1. Current System

An installed audio system for speech reinforcement and music playback is currently in use at St. Edmund's, however the system was installed some time ago and it is a 100V line system which means speech intelligibility is not at its optimum.

There is no fixed visual system in use at St. Edwards.

1.2. Brief

In response to the current COVID-19 pandemic the church is looking for a permanent solution to better facilitate services for those attending church and also those watching online. In line with this, we have made recommendations for upgrading the existing audio system with an emphasis upon improving audibility, reliability, and ease-of-use. A visual system for the display of song words, presentations, and video content will also be installed.

A fully integrated solution will be designed to meet your existing and future needs, and will:

- Improve audibility and intelligibility of spoken word without the problem of feedback;
- Provide natural speech reinforcement;
- Improve accessibility for the hearing impaired;
- Provide a bright crisp image even in a well-lit environment;
- Enable streaming of services and events to the internet;
- Use the latest advancements in technology for excellent functionality and flexibility;
- Be discreet and sympathetic to the fabric of the church building in line with its Grade I listed status;
- Require minimal set-up time;
- Be capable of unattended operation but also wireless control; and
- Be simple and intuitive for users of varying abilities and multiple user groups.

2. SYSTEM OVERVIEW

The proposed audio-visual and live streaming installation is comprised of the following parts:

1. Audio Upgrade
2. Visual Installation
3. Live Streaming & Recording

AUDIO UPGRADE

The audio upgrade is designed to improve the intelligibility of spoken word and the quality of music playback. The changes to the system are designed to have minimal impact to the fabric of the building yet produce a significant difference to the overall quality of the system.

2.1. Loudspeakers

[Nave](#) - Martin Audio CDD6 loudspeakers have been chosen for both their audio and aesthetic qualities. One pair of CDD6 6" 2-way passive loudspeakers shall be installed at the front of the church to adequately reinforce spoken word and music playback. Locating one speaker either side of the Chancel Arch will provide natural reinforcement of the voice from the direction of the source and will provide full coverage throughout the Nave and side aisles without causing feedback (*speaker position is illustrated by Figure 1 on page 4*).

The Coaxial Differential Dispersion technology that is unique to these speakers enables them to be installed at height and ensures that the sound from them can be directed at the seating area and will not therefore, cause issues of feedback with microphones in use at the Pulpit or Eagle. There would also be little difference in level of coverage from front to back or in the side aisle and the design and setup of the system would mean that the sound imaging would appear as though it was coming from the microphones (person speaking) and not high level.

[Side Aisle](#) – A third Martin Audio CDD6 loudspeaker would also be installed in the side aisle to provide coverage of this area (*speaker position is illustrated by Figure 2 on page 5*).

The speakers measure (W) 210mm x (H) 325mm x (D) 210mm and weigh 5kg (*please refer to Section 3.1 for CDD6 loudspeaker specifications*). The speakers are finished in white and would complement the plasterwork, however, can be painted off white/cream to better match the plasterwork, if required. The speakers will be mounted on wall brackets that will be affixed to the wall using four rawl bolts or chemical fixings depending on the composition of the wall.



Figure 1 - Location of CDD6 Loudspeakers in the Nave



Figure 2 - Location of CDD6 Loudspeaker in the Side Aisle

Loudspeaker Cabling – A 2-core loudspeaker cable will run from the right-hand speaker in the Nave down to the Rood Beam and then northwards along the top of the Rood beam to the north wall. A 2-core loudspeaker cable will descend from the left-hand speaker in the Nave to the Rood Beam. A small junction box will be installed where the two 2-core cables will join a single 4-core cable (*please see Figure 3 on page 6*).

The 4-core cable will descend from the Rood Beam down the north wall of the Nave following an existing cable route. When at floor level the cable will run eastwards behind the Choir Stalls and through an existing hole in the wall to the Vestry where the existing audio control cupboard is located.

A 2-core loudspeaker cable will descend from the side aisle speaker to floor level where it will follow an existing cable route around the base of the stone column into the Nave. The cable will then run eastward into the Chancel where it will meet with the other loudspeaker cabling.



Figure 3 - Loudspeaker cabling from the Side Aisle into the Nave

The existing speakers in the Nave and associated cabling will be removed.

The existing mixer and amplifier will be replaced with new models and will be housed inside the existing cupboard in the Vestry.

VISUAL INSTALLATION

The proposed solution is designed around the ability to project content onto a single retractable screen for those seated in the Nave and a portable display for those seated in the Lady Chapel. The solution is designed to be functional, user friendly yet discreet and in keeping with the church building.

2.2. Projection Screen

A 3m Eyleine Pro Channel Non-tensioned electric projection screen in 16:10 format shall be installed behind the Rood beam in the Chancel completely out of view of the congregation and out of reach (*screen position is illustrated by Figure 4 below*). The electronic nature of the screen means no manual operation is required at all (*please refer to Section 3.2 for projection screen specifications*).



Figure 4 – Illustration of the projection screen position when in its down position.

The screen material will have a deep black border at the top so when the screen is in use, the bottom edge will be approx. 1.9m above floor height. When not in use, the screen material will be retracted inside the casing out of view (*illustrated by Figure 5 below*).



Figure 5 – Illustration of proposed projection screen casing

The screen casing measures 3330mm (L) x 126mm (H) x 120mm (D) and weighs 24.8kg. The casing will be located behind the Rood beam but will be affixed to the top of the beam using a pair of brackets and four wood screws in each. The casing will be positioned higher up on the rear of the beam so that it cannot be seen from the front. The casing will also be painted brown to complement the dark wooden beam.

Screen Cabling- A single thin Foil Screened Stranded Conductor Twin Cable (FST) cable will be installed to control the screen. The cable will run northwards along the top of the Rood Beam and will descend to floor level following the loudspeaker cabling where it will ascend in the north aisle until it meets the capital of the column. From here the cable will continue to ascend over the top of the stone arch, following an existing speaker cable. When on the other side of the arch, the cable will descend to floor level down the rear of the column following an existing cabling route (*please see Figure 6 on page 9*).

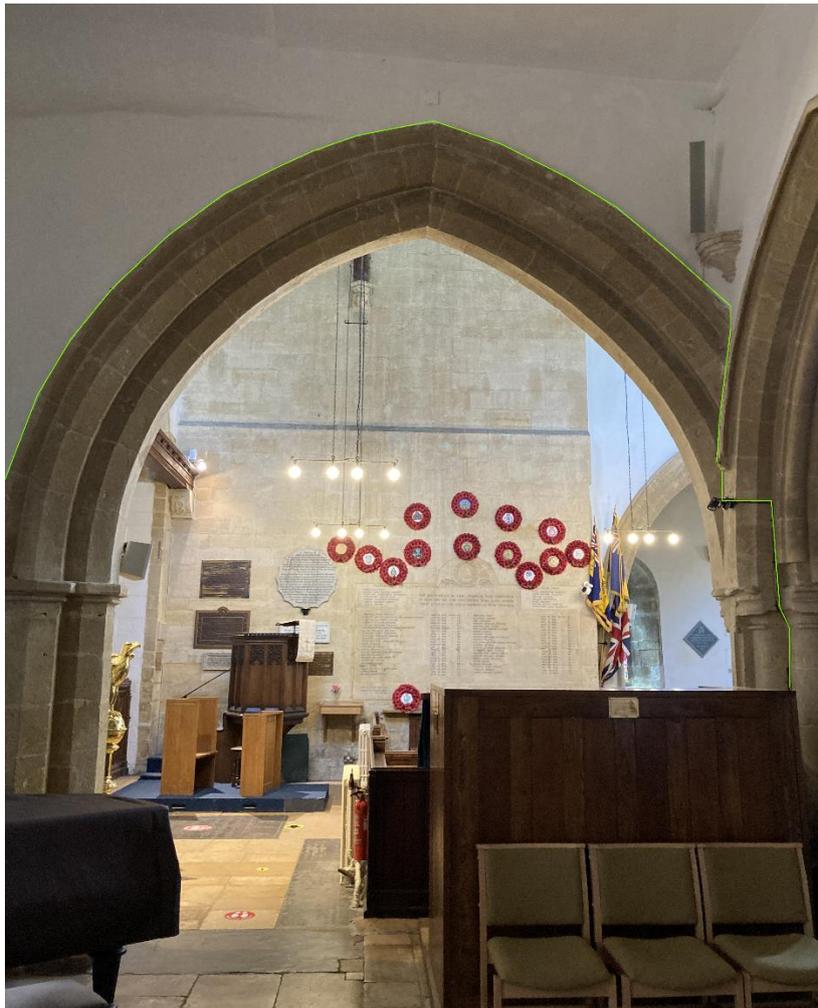


Figure 6– Illustration of control cabling route in the side aisle

Once at floor level the FST cable will run underneath the block of pews following the central divider, all the way to the control position in the rear pew (please see Figure 7 below).



Figure 7– Illustration of control cabling route underneath the pews

A single 13Amp electrical socket will be required at high level to power the projection screen, along with a switched fused spur to isolate it from low level. The high-level socket will be positioned next to the screen as required.

2.3. Projector

An Epson EB-L1070U WUXGA 7,000 Lumens laser professional installation projector has been recommended to provide a bright clear image (*please refer to Section 3.3 for projector specifications*). The projector measures 525mm (W) x 472mm (H) x 189mm (D) and weighs 12.7kg.

The projector will be positioned on top of a wooden shelf located at the rear of the Nave. The shelf has been designed by the church's architect Toby Falconer (*please refer to section 3.4 for further details of the shelf*) to be located above the left-hand monument.

This position ensures that the projector will be out of reachable height of anyone entering the church and out of the sightline of the congregation during services (*please refer to Figure 8 below for illustration of projector location*). It also ensures that the projected image will be good quality.



Figure 8 – Illustration of proposed projector position on the West elevation

The shelf will be mounted as per Toby Falconer’s recommendations with two wall brackets, each affixed to the wall using three M8 rawbolts/chemical fixings dependent upon the composition of the wall.

[Projector Cabling](#) – A CAT6 cable and FST cable will run from the projector to the south wall where it will ascend to rafter height. Once at high level the cable will run eastwards towards the Chancel where it will descend to the Rood Beam. From here it will follow the projection screen cabling all the way back to the control position in the rear pew.

A single 13Amp electrical socket will be required at high level to power the projector, along with a switched fused spur to isolate it from low level. The high-level socket will be positioned behind the projector.

2.4. Front & Rear Laptop Inputs

A single input socket will be installed at the front of the church adjacent to the Eagle to enable service leaders to plug their equipment in to the system, e.g., to run a presentation via a laptop (*please refer to Figure 9 below for an illustration of the socket location*).

The front input socket will comprise of a standard single gang size (86mm x 86mm x 45mm) backbox and will be installed using two screws and rawl plugs. The backbox and faceplate will be finished in white to complement the white plasterwork.



Figure 9 – Illustration of proposed socket position in the northeast corner of the Nave

A second input will be installed inside the equipment cabinet.

2.5. Portable Display

To ensure those seated in the Lady Chapel can view the projected content an iiyama 50" display mounted on a height adjustable trolley is proposed. This equipment will be fully portable and can be easily disconnected from the system for storage elsewhere. An output socket would be installed at low level in the Lady Chapel (please refer to Figure 10 below for an illustration of the socket location).



Figure 10 – Illustration of proposed socket position in the northeast corner of the Lady Chapel

The output socket will comprise of a standard single gang size (86mm x 86mm x 45mm) backbox and will be installed using two screws and rawl plugs. The backbox and faceplate will be finished in white to complement the white plasterwork. The output socket will be accompanied by a single 13 Amp electrical socket to power the portable display.

[Output Socket Cabling](#) – A single CAT6 cable will run eastwards to the archway and will run up and over the rear of the arch to the column where the other cabling descends to floor level. From here the cable will follow the cable route to the control location in the rear pew.

LIVE STREAMING

The solution has been designed to require minimal intervention so it can be turned on at the start of a service, and a single button press will start the recording and/or live stream, and then can simply be turned off at the end. There is also the ability for more complex operation, if required, such as the display of pre-loaded slides that can be shown at times when the identity of individual members of the congregation must be protected, during communion, for example or the repositioning of camera 'shot'. Our recommendations are based on a simple system with the ability to stream and record from a single static camera and a single Pan Tilt Zoom camera, both located in the Nave with system control for both cameras located at the rear of the Nave.

2.6. Cameras

A single Marshall CV503 Fixed Broadcast Camera has been chosen to provide a wide angled 'shot' of the front of the Nave and a PTZ Optics 30x Zoom Pan, Tilt, Zoom Camera has been chosen to provide close up 'shots' of the Pulpit, Eagle, Chancel Step and Altar. The cameras will be installed together not too far above head height to ensure viewers at home feel part of the congregation rather than having a 'birds-eye' view. The cameras cannot be located centrally due to the large west window; they will therefore be located on the base of the spandrel above the control location (*camera position is illustrated by Figure 11 below*).



Figure 21 – Camera location at the rear of the Nave (Green shape represent cameras)

The PTZ camera will be inverted and wall mounted on a HCM-1-WH wall bracket. The fixed camera will be mounted on top of the wall bracket. This means that the fixed camera will provide the same viewpoint as the PTZ, when the operator is moving between shots.

The existing loudspeaker will be redundant and so the camera can be located in its place. The PTZ camera measures (W) 142mm x (H) 164mm x (D) 169mm and the fixed camera measures 44(W) x 47(H) x 55(L) mm (*please refer to Sections 3.5 and 3.6 for camera specifications respectively*).

[Camera Cabling](#) - A single SDI cable will run from each camera out of sight around the top of the capitol into the side aisle. Rather than running straight down the column, the cable will ascend and run over the top of the stone arch where it will then descend following the control cable route all the way to the control location. Although this is a longer route, it will be the most discreet.

2.7. Ambient Microphone & Audio Feed

To add ambience to the live stream to ensure that the audio is not just a dry feed directly from the audio system, a Shure Boundary microphone finished in white would be installed in the Nave (*please see Section 3.7 for microphone specifications*). This microphone would provide a general low-level sound input of the congregation and associated ambience. The most discreet location would be in the V of the spandrel above the cameras on the north side of the Nave. In this position the microphone would have a good pickup but would be unobtrusive against the plasterwork.

[Microphone Cabling](#) – A single microphone cable would be installed from the microphone and would follow the camera cabling route to the control position.

Another cable required to feed audio from the existing microphones to the live stream would be installed between the mixer in the Vestry and the encoder in the new control position at the rear of the Nave.

2.8. Equipment Housing

There is currently a blue fabric covered board over part of the rear pew. This was identified as a prime location for the new control equipment as the operator would have a good view of each camera position and the board would disguise the AV control location from the congregation or visitors (*please see Figure 12 on page 15*).

The new streaming equipment will be housed inside a new wooden cabinet. The new cabinet will be finished in Oak with solid lockable wood door (*please see Section 3.8 for cabinet specifications*).



Figure 12 - Location of the AV Cabinet underneath the blue boarding in the rear pew

A double 13 amp socket would be required at low level in this area to power the new control equipment.

NB: all new cabling will be finished in white or painted in to match the background (i.e. stone, plaster or wood). Cabling will be affixed using metal P-clips into mortar joints, stapled into wood or glued. Great care and attention will be made to ensure all cabling is hidden out of sight where possible and painted to match the backdrop. A natural stone-based paint is also used to match the stonework.

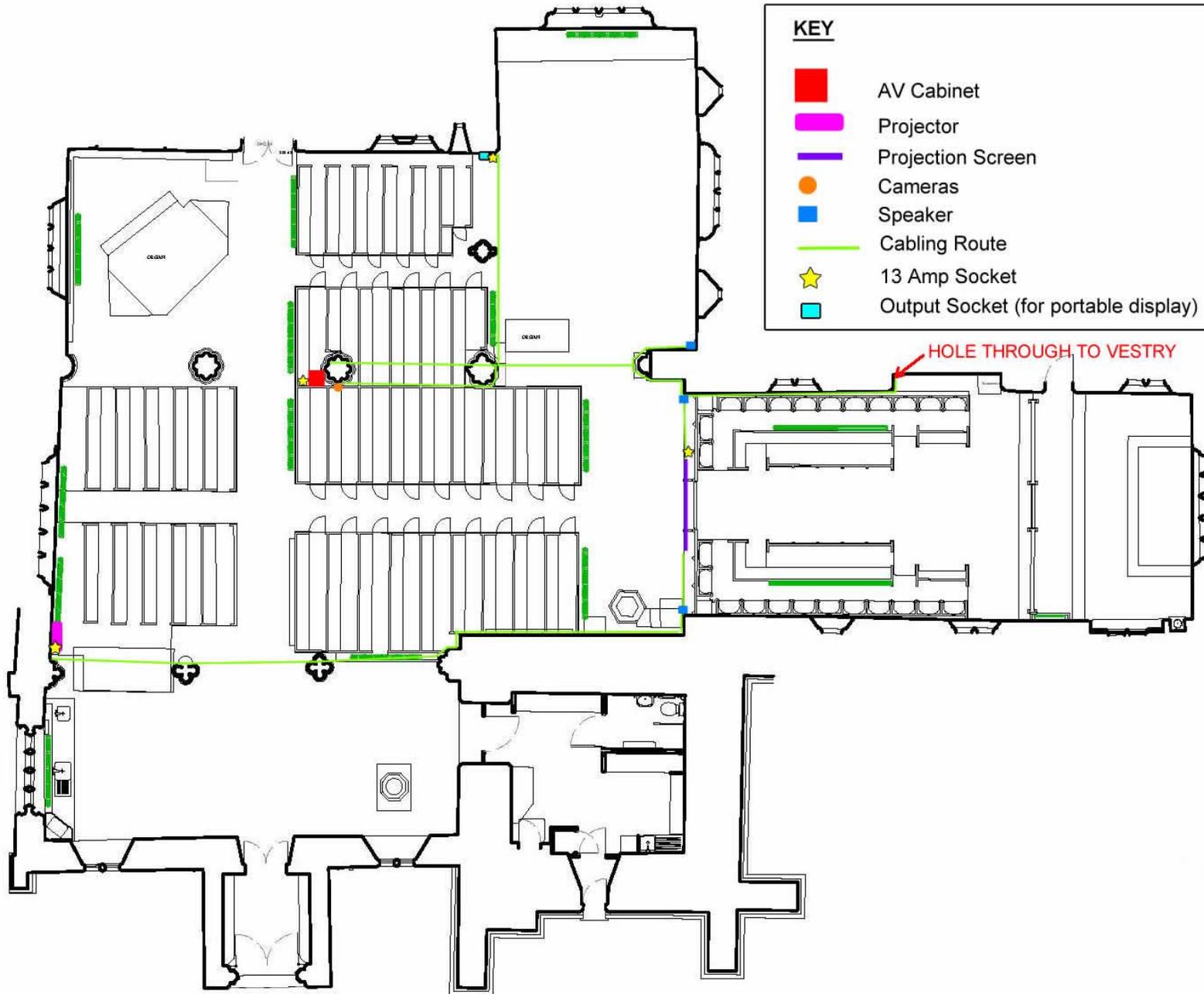


Figure 13 – Plan illustrating equipment locations and cable routes (plan © John Falconer Architects)

3. EQUIPMENT SPECIFICATIONS

- 3.1. Loudspeakers
- 3.2. Projection Screen
- 3.3. Projector
- 3.4. Projector Shelf
- 3.5. PTZ Camera
- 3.6. Static Camera
- 3.7. Ambient Microphone
- 3.8. AV Cabinet

CDD6

Ultra-Compact Coaxial Differential Dispersion System

Features

- Ultra-compact, CDD[™] passive two-way system
- Coaxial Differential Dispersion[™] technology
- Elegant UPM Formi composite enclosure
- User-rotatable coaxial drive unit
- Vertical and horizontal mounting options
- Screw-free perforated steel grille
- 8Ω nominal impedance
- Discreet mounting accessories
- Black or white standard colour options

Applications

- Bars and restaurants
- Museums and AV spaces
- Convention centres
- Hotels
- Retail outlets
- Leisure centres
- Houses of Worship



The ultra-compact CDD6 is a two-way passive loudspeaker system designed to fulfil the requirement for full-frequency dynamic performance from a very small enclosure. Featuring a 6.5" (165mm) LF/1" (25mm) HF Coaxial Differential Dispersion driver, its extremely small size and sleek lines make it ideal for visibly-unobtrusive applications. It can also be used as a fill system in conjunction with larger CDD Series models and, with the addition of a CSX subwoofer, can reproduce surprisingly high levels of music program.

The Coaxial Differential Dispersion technology employed in the CDD6 delivers more consistent audience coverage than systems with fixed X° x Y° coverage patterns — projecting relatively more output to the rear of the audience, while having wide horizontal coverage close-up. Its innovative CDD driver achieves 'point source' summation of the LF and HF sections — eliminating off-axis variations in frequency response associated with non-coaxial designs. Improving on conventional coaxial designs, which can suffer from high-frequency beaming, the driver features a static waveguide that merges seamlessly with the unique cone shape — maintaining the dispersion pattern out to very high frequencies.

The visually-distinctive enclosure can be used in either horizontal (landscape) or vertical (portrait) orientation, with rotation of the driver easily accomplished by removing the screw-free, protective grille. The curved shape of the enclosure allows it to be surface-mounted close to a wall or ceiling by means of optional wall and ceiling brackets.

Finished in black (RAL9005) or white (RAL9016) as standard, the CDD6 can be supplied in any RAL colour to order.

A full-range, passive two-way system, the CDD6 may be used without a controller. However, the EQ and limiter functions of a controller such as the Martin Audio DX0.5, DX1.5 or DX2, or an MA Series amplifier with onboard DSP will maximise its capabilities. When used with a CSX subwoofer, crossover and EQ functions can either be performed by the DX0.5, DX1.5 and DX2 system controllers, or by an MA Series amplifier with onboard DSP option.

CDD6

Ultra-Compact Coaxial Differential Dispersion System



Technical Specifications

Acoustical

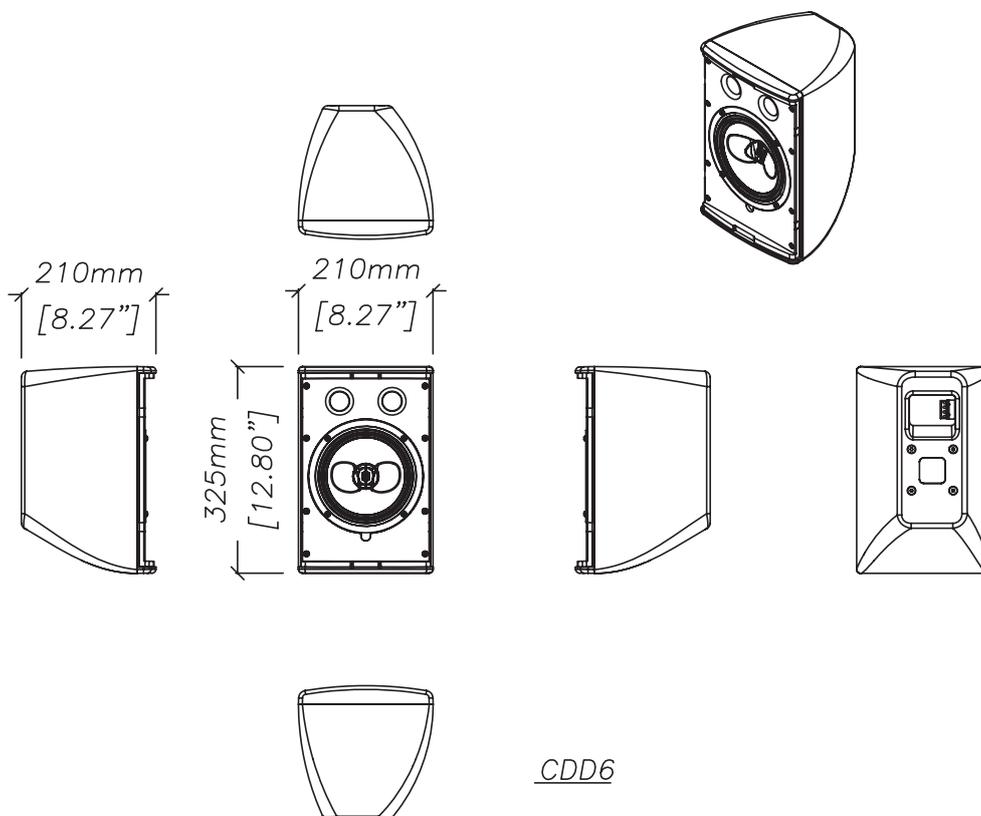
TYPE	Ultra-compact, Coaxial Differential Dispersion passive two-way system
FREQUENCY RESPONSE (5)	80Hz-20kHz \pm 3dB, -10dB @ 70Hz
DRIVER	LF: 6.5" (165mm)/1.5" (38mm) voice coil, long excursion, ferrite motor system HF: 1" (25mm) voice coil, fabric dome with neodymium motor system
RATED POWER (2)	150W AES, 600W peak
RECOMMENDED AMPLIFIER	MA2.8Q, MA2.0
SENSITIVITY (8)	91dB
MAXIMUM SPL (9)	113dB continuous, 119dB peak
NOMINAL IMPEDANCE	8 ohms
DISPERSION (-6dB)	110°-80° horizontal, 80° vertical (user-rotatable)
CROSSOVER	2.5kHz passive
ENCLOSURE	9 litre, composite material
FINISH	Black or white textured paint
PROTECTIVE GRILLE	Black or white perforated steel with scrim cloth backing
CONNECTORS	Low profile 13A push-lock
PIN CONNECTIONS	Left to right: Input+, Input -, Link -, Link +
FITTINGS	4 x M6 inserts for wall/ceiling brackets
DIMENSIONS	(W) 210mm x (H) 325mm x (D) 210mm (W) 8.3ins x (H) 12.8ins x (D) 8.3ins
WEIGHT	5.5kg (12.1lbs)
ACCESSORIES	CDDWB6/8B wall bracket black CDDWB6/8W wall bracket white CDDCB6/8B ceiling bracket black CDDCB6/8W ceiling bracket white

Notes

- (1) Measured on-axis in half (2pi) space at 2 metres, then referred to 1 metre.
- (2) AES Standard ANSI S4.26-1984.
- (3) Measured in half (2pi) space at 2 metres with 1 watt input, using band limited pink noise, then referred to 1 metre.
- (4) Measured in half (2pi) space at 2 metres using band limited pink noise, then referred to 1 metre.
- (5) Measured on-axis in open (4pi) space at 2 metres, then referred to 1 metre.
- (6) Measured in open (4pi) space at 2 metres with 1 watt input, using band limited pink noise, then referred to 1 metre.
- (7) Measured in open (4pi) space at 2 metres using band limited pink noise, then referred to 1 metre.
- (8) Measured in open (4pi) space at 2 metres with 2.83V input, using band limited pink noise, then referred to 1 metre.
- (9) Calculated at 1 metre.
- (10) Measured in half (2pi) space at 2 metres with 2.83V input, using band limited pink noise, then referred to 1 metre.

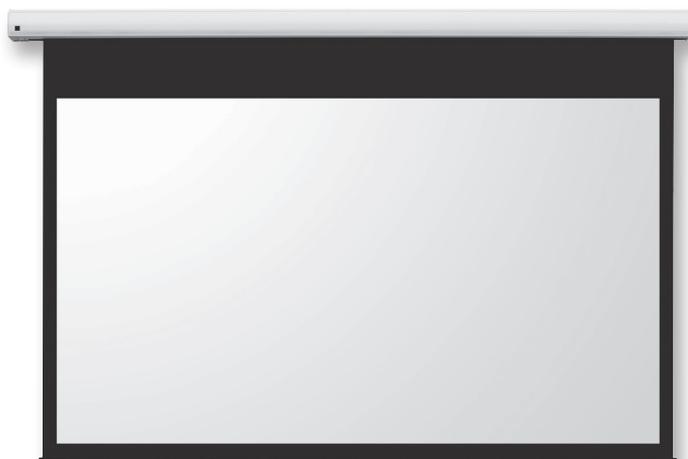
Trade Descriptions Act

Due to Martin Audio's policy of continuing improvement, we reserve the right to alter these specifications without prior notice. Martin Audio is committed to refining state of the art sound reinforcement, combining in-depth product and field applications research with advanced manufacturing techniques. Every Martin Audio product is built to the highest manufacturing standards and rigorously tested to ensure that it meets the performance criteria specified in the design.



CDD6

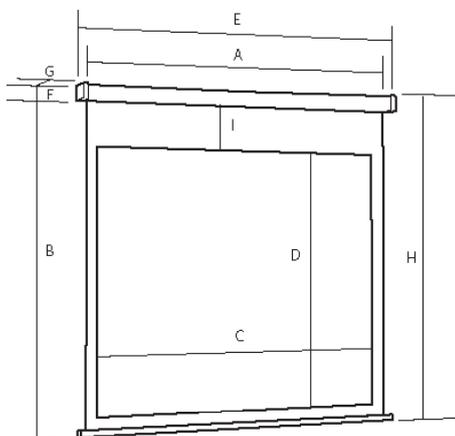
Eyeline® Pro Electric wall or ceiling mounted screens



A professional projection screen which offers an amazing array of standard features at a class beating price. High quality screen material provide a crisp flat surface for truly stunning results..

Suitable for both home and professional use and does not require electrical installation.

12 month guarantee.



Case and fabric

Heavy duty white powder coated aluminium case with front facing infra-red (IR) sensor built into casing. Matte White projection surface with 50mm black borders on base, left and right sides and extended black drop to the top. Glass fibre screen fabric prevents edge curl.

Operation

Four ways to operate the screen; Infra-Red Remote, 12v trigger, RJ45 connection to control system or manual override for fail safe use if remote lost or dead battery. Connectivity via left hand end cap supplied with cover plate if not used.

Supplied complete with connectivity cables; External IR extension for use if built in receiver is obstructed; 10m 12v trigger for connection to a projector and a RJ45 connector for system integration.

Installation

Easy installations to wall or ceiling using channel fix mounting brackets. The brackets can be positioned anywhere along the screen length.

Tubular motor for fast, quiet and reliable operation is situated on the left hand side. Supplied with a 2.7m cable and plug for immediate 'plug and play' install. Also suitable for professional hard wire electrical installation.

Product Code	Dimension cm											Weight kg
				E ht mm	F Case Length mm	G Case Height mm	H Case Depth mm	I Overall Height mm	Ext. Drop mm			
SEV15	110X146	4:3	1560	1880	1460	1100	1700	102	97	1982	730	
SEV18	128X170	4:3	1800	1880	1700	1280	1944	102	97	1982	550	
SEV20	152X203	4:3	2103	1880	2030	1520	2270	102	97	1982	310	
SEV24	176X234	4:3	2440	1880	2340	1760	2580	102	97	1982	80	
SEV30	229x305	4:3	3105	2540	3050	2290	3297	102	97	2642	200	
SEW16	89x159	16:9	1690	1880	1590	890	1843	102	97	1982	950	
SEW18	96x170	16:9	1800	1880	1700	960	1953	102	97	1982	870	
SEW20	115x203	16:9	2103	1880	2030	1150	2279	102	97	1982	650	
SEW24	132x234	16:9	2440	1880	2340	1320	2589	102	97	1982	500	
SEW30	172x305	16:9	3105	2070	3050	1720	3297	102	97	2172	300	
SE18ST	170x106	16:10	1800	1835	1704	1065	1953	102	97	1835	870	
SE24ST	146x234	16:10	1500	1833	2340	1463	2589	102	97	1833	370	
SE30ST	190x305	16:10	3105	2155	1905	1905	3297	102	97	2172	267	

EB-L1070U (white)

DATASHEET / BROCHURE



The fit-and-forget laser projector with interchangeable lenses, that's ideal for scenarios that demand large, detailed and powerful images.

This affordable 7,000 lumens installation projector, with interchangeable lenses and laser image quality, is sold as 'body only' which allows the user to choose the most appropriate lens from Epson's wide range. With flexible installation, low maintenance, and a modern and compact design, this laser projector can be used in a range of large venues.

Superior image quality

The EB-L1070U projects clear whites, vivid details, deep blacks, defined shadows and high contrast imagery.

Flexible installation

The compact, unobtrusive design allows this projector to blend seamlessly into most environments. Its 360 degree usage arc and tilt-free technology, mean you can project in any direction.

Interchangeable lenses

Just as a specific scenario dictates which camera lens is most appropriate to use – the same is true with different projection environments. That's why we've designed our projector body to accommodate different lenses. There are 11 interchangeable Epson lenses available, covering short to long-throw projection.

Reliable

Epson has developed a 'maintenance-free light source' alternative laser projector range that's truly fit-and-forget.

KEY FEATURES

- **Fit and forget**
Fit almost anywhere. 360 degree angle projection freedom
- **Lens support**
Supports a wide selection of Epson interchangeable lenses
- **Enhanced design**
Clean, simple, compact and discreet design. White version.
- **Image quality**
7,000 lumens, 4K enhancement, CLO, 3LCD, 2000:1 native contrast
- **Support**
Five year / 20,000 hour warranty



EPSON
WORLD LEADER
IN PROJECTORS
Source: Futuresource Consulting Ltd.

EPSON
EXCEED YOUR VISION

PRODUCT SPECIFICATIONS

TECHNOLOGY

Projection System	3LCD Technology
LCD Panel	0.76 inch with C2 Fine

IMAGE

Colour Light Output	7,000 lumen- 4,900 lumen (economy) in accordance with IDMS15.4
White Light Output	7,000 lumen - 4,900 lumen (economy) in accordance with ISO 21118:2012
Portrait Colour Light Output	7,000 lm
Portrait White Light Output	7,000 lm
Resolution	WUXGA, 1920 x 1200, 16:10
High Definition	4K enhancement
Aspect Ratio	16:10
Contrast Ratio	Over 2,500,000 : 1
Native Contrast	2,000 : 1
Light source	Laser
Laser Light source	20,000 Hours Durability High, 30,000 Hours Durability Eco
Keystone Correction	Manual vertical: $\pm 45^\circ$, Manual horizontal $\pm 30^\circ$
Colour Reproduction	upto 1.07 billion colours

OPTICAL

Projection Ratio	1.44 - 2.33:1
Zoom	Motorized, Factor: 1 - 1.6
Lens Shift	Motorized - Vertical $\pm 67\%$, horizontal $\pm 30\%$
Image Size	50 inches - 1,000 inches
Projection Lens F Number	1.7 - 2.3
Focal Distance	24 mm - 38.2 mm
Focus	Motorized
Interchangeable Lens	Yes
Projection Distance Wide	1.5 m - 31.6 m (50 inch screen)
Projection Distance Tele	2.5 m - 50.4 m (50 inch screen)

CONNECTIVITY

Interfaces	USB 2.0 Type B (Service Only), RS-232C, Ethernet interface (100 Base-TX / 10 Base-T), WLAN (2x), VGA in, VGA out, DVI in, HDMI in, BNC in, HDBaseT, Stereo mini jack audio out, Stereo mini jack audio in (3x), HDMI (HDCP 2.2), Wireless LAN IEEE 802.11b/g/n (WiFi 4) (optional)
------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

GENERAL

Energy Use	416 W, 299 W (economy), 0.5 W (standby)
Supply Voltage	AC 100 V - 240 V, 50 Hz - 60 Hz
Product dimensions	545 x 164 x 436 mm (Width x Depth x Height)
Product weight	16.9 kg
Noise Level	Normal: 36 dB (A) - Economy: 30 dB (A)
Colour	White

EB-L1070U (white)

WHAT'S IN THE BOX

- CD Manual
- Cable cover
- Lens cap
- Power cable
- Quick Start Guide
- Remote control incl. batteries

OPTIONAL ACCESSORIES

EB-L1070U (white)

- Ceiling Pipe (700mm) - ELPFP14
V12H003P14
- Ceiling Pipe (450mm) - ELPFP13
V12H003P13
- HDBaseT Transmitter - ELPHD01
V12H547041
- Ceiling Mount (White) - ELPMB22
V12H003B22
- Air Filter - ELPAF46
V13H134A46
- Ceiling Mount - ELPMB48 High EB-G7000/L1000
V12H803010
- Wireless LAN Adapter - ELPAP10
V12H731P01
- 3D Polarizer - ELPPL01
V12H618A01
- Active Speakers (2 x 15W) - ELPSP02
V12H467040DA

OPTIONAL LENSES

- Lens - ELPLL08 - Long throw - G7000/L1000 series
V12H004L08
- Lens - ELPLM11 - Mid throw 4 - G7000/L1000 series
V12H004M0B
- Lens - ELPLU03 - G7000 & L1000 Series ST off axis 1
V12H004U03
- Lens - ELPLM08 - Mid throw 1 - G7000/L1000 series
V12H004M08
- Lens - ELPLX01W - UST lens G7000 series & L1100,1200,1300,1400/5U
V12H004Y01
- Lens - ELPLX01 - UST lens G7000 series & L1100,1200,1300,1400/5U
V12H004X01
- Lens - ELPLM10 - Mid throw 3 - G7000/L1000 series
V12H004M0A
- Lens - ELPLW06 - L1500U/1505U wide zoom 2
V12H004W06
- Lens - ELPLW08 - Wide throw
V12H004W08
- Lens - ELPLW05 - G7000 & L1000 Series wide zoom 1
V12H004W05
- Lens - ELPLU04 - G7000 & L1000 Series ST off axis 2
V12H004U04

LOGISTICS INFORMATION

SKU	V11H940940
EAN code	8715946672496
Country of Origin	China



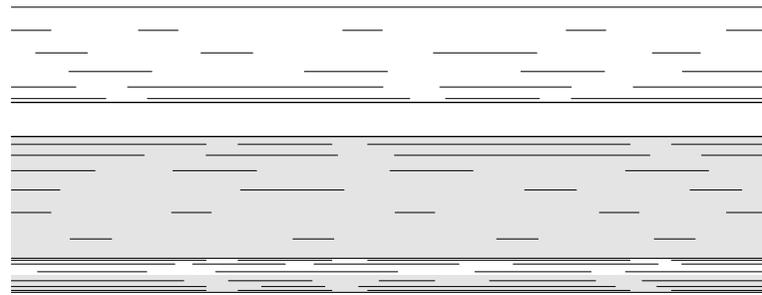
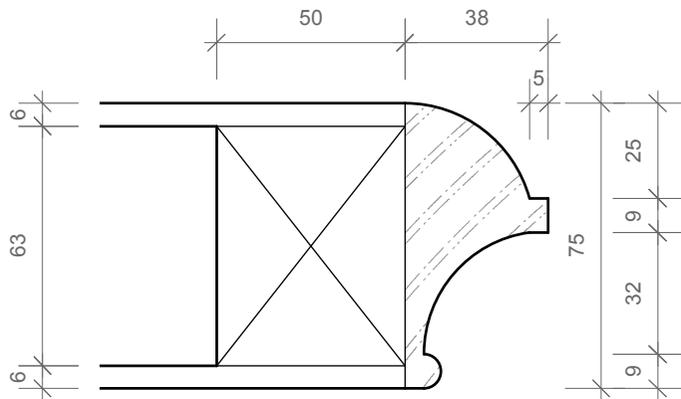
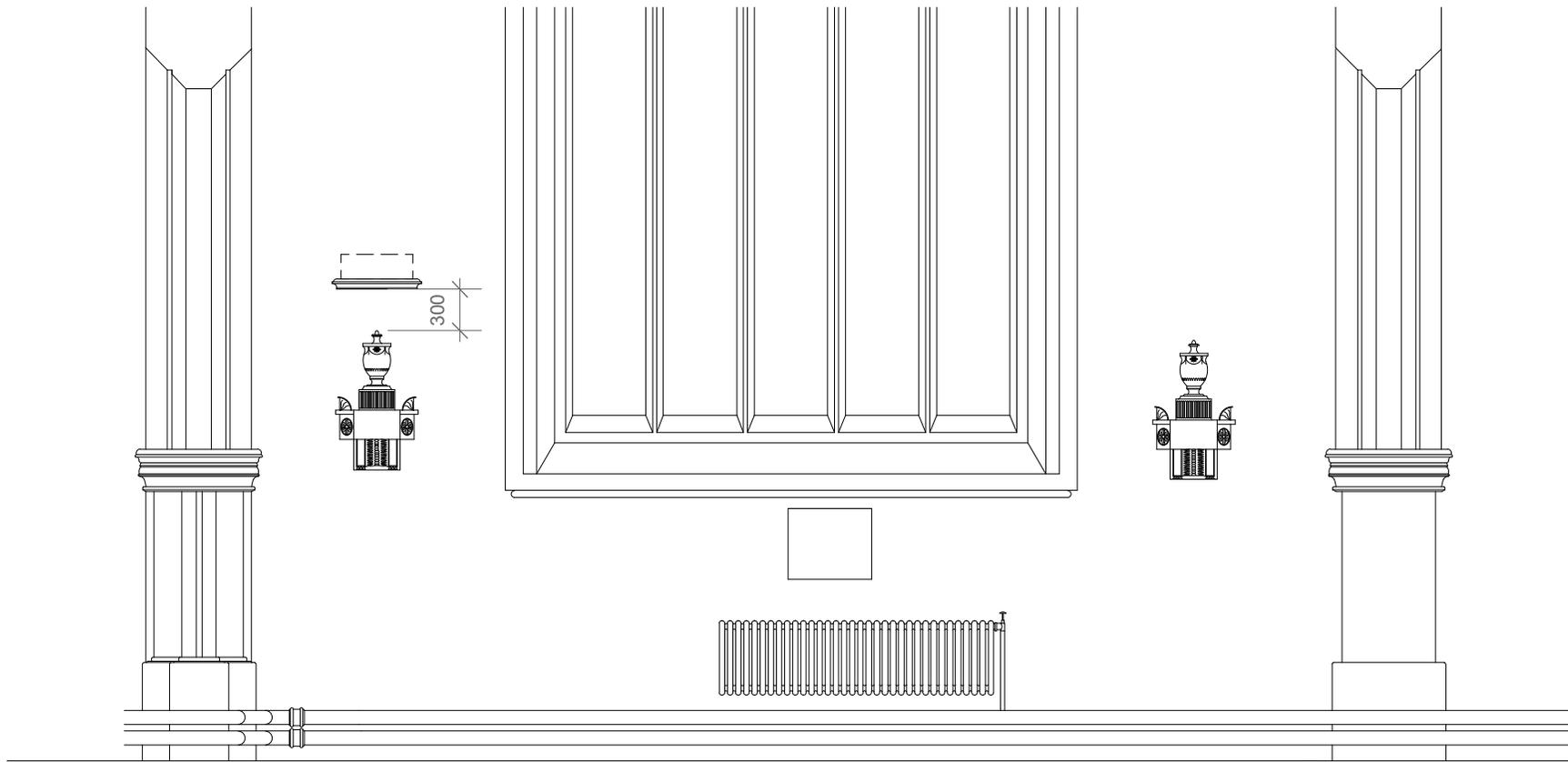
For more information please contact:

Home users: 0343 90 37766
Business users*: 0871 42 37766
Republic of Ireland: 01 436 7742
Or visit us at <https://www.epson.co.uk/contactus>
* 10p per minute plus network extras.

Web: www.epson.co.uk
www.epson.ie

Trademarks and registered trademarks are the property of Seiko Epson Corporation or their respective owners.
Product information is subject to change without prior notice.
Last extracted: 2019-09-06

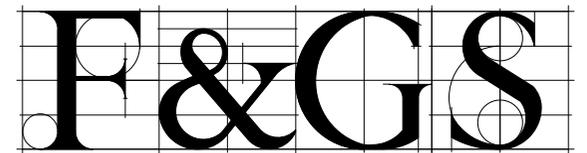
EPSON®



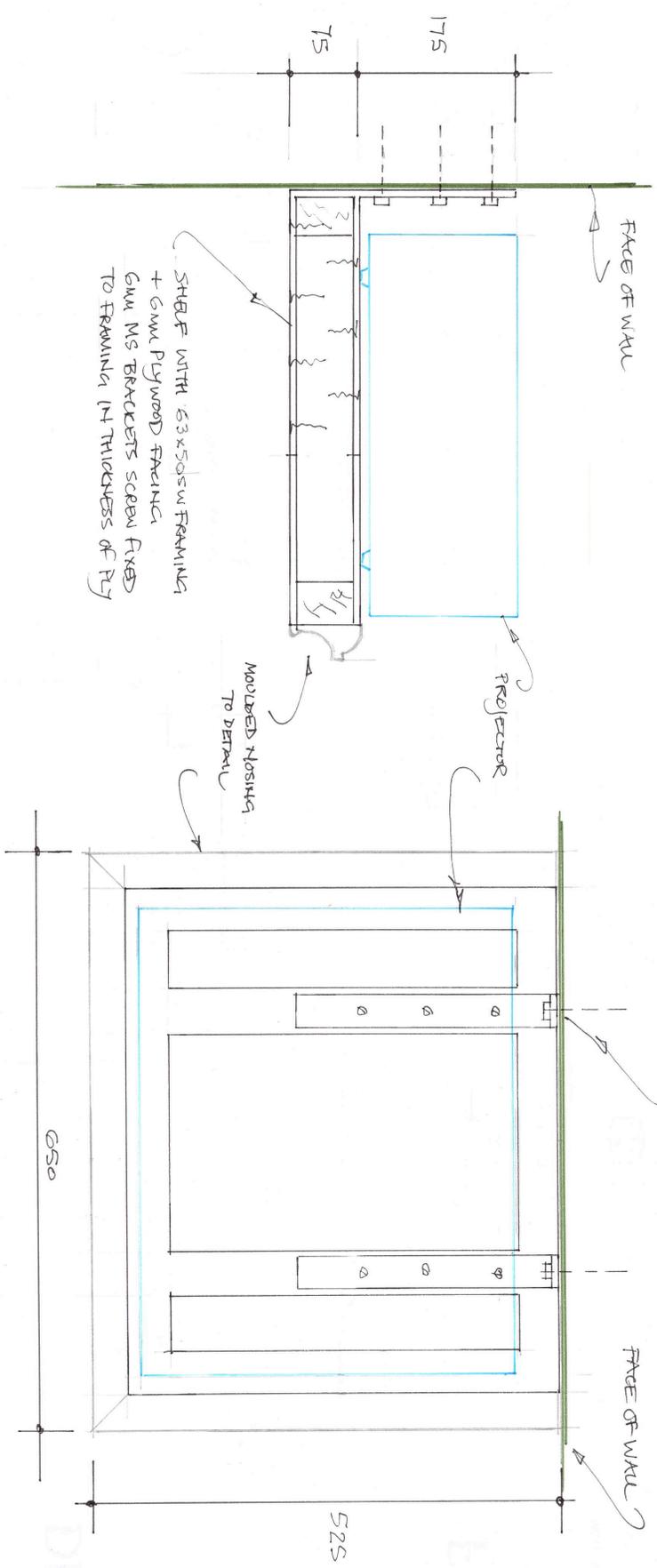
ST EDWARD THE CONFESSOR

29.06.2021

1:50, 1:5 @ A3



FALCONER & GILBERT SCOTT ARCHITECTS



2805 - SECTION ON THE WALL ST-EDWARD
 PROJECTOR SHELF - SKETCH DETAIL
 TF 23.06.21
 Scale 1:5 ON A3

DRAWN

FIG 2



Model Number:

PT30X-SDI-GY-G2 (gray)
 PT30X-SDI-WH-G2 (white)
<http://ptzoptics.com/sdi/>

PTZOPTICS Broadcast & Conference Camera

The PTZOptics 30X-SDI is a 1080p camera with 30X optical zoom for capturing HD images at long distances. With support for 3G-SDI, HDMI, and IP streaming (H.264, H.265, & MJPEG), this camera is ideal for broadcasting high definition video signals for broadcast, recording, or video conferencing applications.

KEY FEATURES

- 60.7 degree wide-angle lens.
- High performance in low light scenarios with Wide Dynamic Range.
- Full 1920x1080p HD Resolutions up to 60 frames per second.
- 2D and 3D noise reduction with our latest “low noise CMOS sensor”.
- RS232 & RS485 (Serial), and IP control
- H.264, H.265, & MJPEG streaming over RJ-45 LAN port
- HDMI, 3G-SDI, & IP streaming (all 3 simultaneously)
- PoE (Power over Ethernet) or 12VDC
- RTMP & RTSP IP streaming
- 5-year warranty
- Photobooth capable

WHAT'S IN THE BOX

- 30X Zoom 3G-SDI Camera
- Power Adapter + Cord
- IR Remote Control
- RS-232C Cable
- Quick Start Guide
- (2) AAA Batteries

Camera & Lens	
Video Sensor	1/2.7" CMOS, 2.07 Mega Pixels
Frame Rates	1080p-60*/50/30/25, 1080i-60*/50, 720p-60/50/30/25
Frame Rates (CVBS)	576i/30, 480i/30
Focal Length	F4.42mm-132.6mm, F1.8-F2.8
Lens Zoom	30x
Field of View	60.7°
Min Lux	0.05 Lux (@F1.8, AGC ON)
Shutter Speed	1/30s - 1/10000s
SNR	≥55dB
Vertical Flip & Mirror	Supported
Horizontal Angle of View	2.28° (tele) to 60.7° (wide)
Vertical Angle of View	1.28° (tele) to 34.1°(wide)
Working Environment	Indoor

Pan & Tilt Movement	
Pan Movement	±170°
Tilt Rotation	Up: 90°, Down: 30°
Presets	10 via IR (255 via Serial or IP)

***Please note:** The camera is unable to perform 1080@60 over IP Stream & SDI/HDMI simultaneously.

Rear Board Connectors	
Video Output	HDMI, 3G-SDI, IP Streaming, CVBS
Network Interface	RJ45
Audio Interface	Line In, 3.5mm (HDMI & IP Stream Only)
Communication	RS-232, RS485, PELCO-D/P
Baud Rate	2400/4800/9600 bits
Power Supply	JEITA type Power Adapter (DC IN 12V)
3G-SDI Interface	BNC – 75 Ohm, Female
USB 2.0 Interface	Future Use

Electrical Index	
Power Supply	12W (Max)
Input Voltage	12V DC (10.8 - 13.0V DC) or PoE 802.3af

Physical Specifications	
Dimension (in.)	5.6W x 6.5H x 6.7D (7.8H max w/ Tilt)
Dimensions (mm)	142W x 164H x 169D (198H max w/ Tilt)
Box Dimensions	9" x 9" x 10" 229mm x 254mm x 229mm
Camera Weight	3.05 lbs. (1.39 kg)
Boxed Weight	5.4 lbs. (2.45 kg)



12. Multiple Function Buttons

Function 1. Set camera IR address function:
Press 3 keys consecutively to set the camera's IR address as follow:

- [*] + [#] + [F1]: IR Address 1
- [*] + [#] + [F2]: IR Address 2
- [*] + [#] + [F3]: IR Address 3
- [*] + [#] + [F4]: IR Address 4

Function 2. Image freezing function: Press [F4] to start the freeze function. The word "Freeze" displays on the upper left corner. After five seconds, the display disappears automatically (though the freeze feature continues). To cancel the freeze, press the [F4] key the word "Unfreeze" displays on the upper left corner. After five seconds, the display disappears automatically.

15. Menu Button

OSD Menu Settings: Press this button to enter or exit the OSD (on screen display) menu.

16. Backlight Button

Backlight (aka BLC) button: Press this button to enable backlight compensation. Press it again to disable backlight compensation.

NOTE: Effective only in auto exposure mode.
NOTE: If there is a light behind the subject, the subject will appear dark (i.e. silhouetted). In this case, press the backlight button to turn BLC On. To cancel this function, press the backlight button to turn BLC Off.

17. P/T RST Button

Press the button to self-calibrate the pan and tilt positions and limits.

Special Shortcut Functions

- [*] + [#] + [1]: Display OSD menu in English
- [*] + [#] + [3]: Display OSD menu in Chinese
- [*] + [#] + [4]: Show IP address
- [*] + [#] + [6]: Quickly restore default settings
- [*] + [#] + [8]: Show the camera FW version
- [*] + [#] + [9]: Quickly set mounting mode (vertical flip / normal)
- [*] + [#] + [MANUAL]: Resets IP information
- [#] + [*] + [4]: Enable Dynamic IP addressing
- [#] + [*] + [#] + [1]: Set IP to 192.168.100.81
- [#] + [*] + [#] + [2]: Set IP to 192.168.100.82
- [#] + [*] + [#] + [3]: Set IP to 192.168.100.83
- [#] + [*] + [#] + [4]: Set IP to 192.168.100.84
- [#] + [*] + [#] + [5]: Set IP to 192.168.100.85
- [#] + [*] + [#] + [6]: Set IP to 192.168.100.86
- [#] + [*] + [#] + [7]: Set IP to 192.168.100.87
- [#] + [*] + [#] + [8]: Set IP to 192.168.100.88
- [#] + [*] + [#] + [9]: Set IP to 192.168.100.89
- [#] + [*] + [#] + [0]: Set IP to 192.168.100.80

1. Standby Button

Press this button to enter standby mode.

Press it again to enter normal mode.

NOTE: Power consumption in standby mode is approximately half of the normal mode.

2. Position Buttons (0-9)

To set preset or call presets and for Special Shortcut Functions.

3. * (asterisk) Button

For use with multiple function buttons (see 12)

4&13. Set/Clear Preset Buttons

Set preset: Store a preset position [PRESET] + Numeric button (0-9): Setting a corresponding numeric key preset position.

Clear preset: Erase a preset position

[RESET] + Numeric button (0-9)

Note: [*] + [#] + [RESET]: Erase all presets.

5&14. Pan/Tilt & Home Control Buttons

Press the arrow buttons to perform panning and tilting. Press the [HOME] button to face the camera back to its Home position.

6. Return Button

Press button to return to previous menu.

7. Zoom Buttons (Slow & Fast)

Zoom+: Zoom In (Slow and fast speeds)

Zoom-: Zoom Out (Slow and fast speeds)

8. L/R Set Button

Set the left & right direction of panning control. Hold [L/R Set] + Press [1]: Normal panning direction. Hold [L/R Set] + Press [2]: Left and right panning direction will be reversed.

9. Focus Buttons

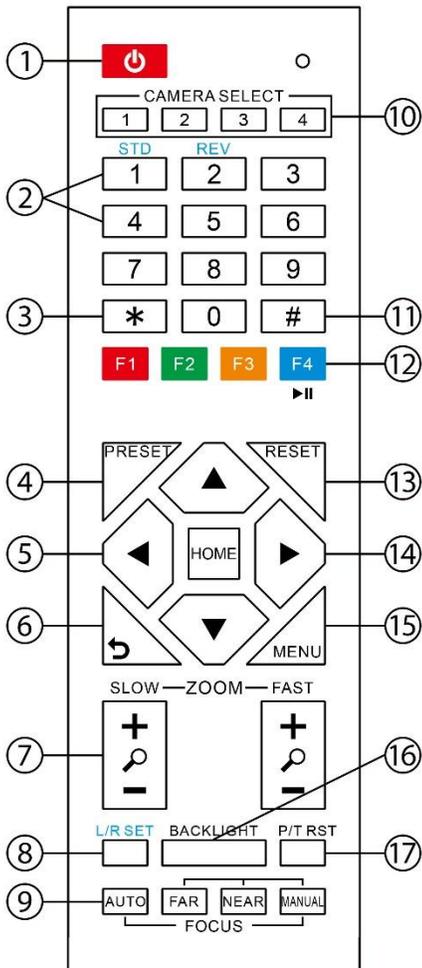
Used for focus adjustment. Press [AUTO] to adjust the focus on the center of the object automatically. To adjust the focus manually, press the [MANUAL] button, and then adjust focus with [Far] (focus on far object) and [Near] focus on near object).

10. Camera Address Select Buttons

Press the button corresponding to the camera which you want to operate with the IR remote controller.

11. # Button

For use with multiple function buttons (see 12)



Marshall

BROADCAST & PRO AV

CV503

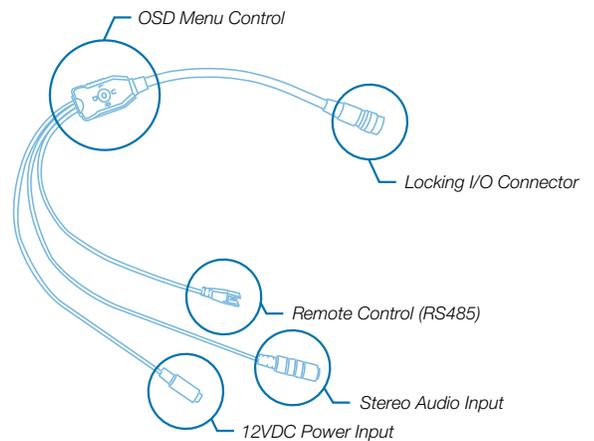
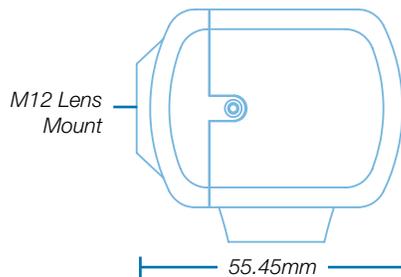
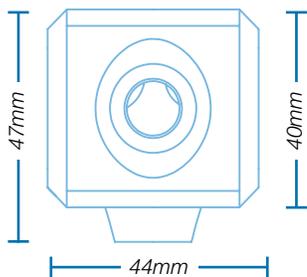
Miniature Full-HD Camera (3G/HDSDI)



The Marshall CV503 offers Full-HD 1920x1080p video at up to 60 fps in a sturdy, durable form factor, and straightforward design. The CV503 is suitable for use in Full-HD broadcast and Pro AV workflows including live broadcast productions, sportscast, newscast, reality television, concerts, corporate, government, courtroom, house of worship, and many more.

PRODUCT FEATURES

- 3G/HDSDI output
- 2.5 Megapixel (1/2.86") sensor (4:2:2 color)
- Interchangeable M12 lens mount (includes stock 3.6mm lens (72°H. AOV))
- Full-HD resolutions: 1920 x 1080p, 1920 x 1080i, and 1280 x 720p
- Frame rates: 60, 59.94, 50, 30, 29.97, 25, 24, 23.98 fps
- Remote adjust through RS485 (Visca) or OSD menu joystick
- Wide range of picture adjustment settings including paint (red/blue), white balance, gain control, pedestal (blacks), white clip, exposure, gamma, and more



Centraverse™ Installed Sound Microphones

THE RIGHT CHOICE.

Shure Centraverse Installed Sound Microphones deliver high quality, reliable audio no matter what the application. From meeting rooms to houses of worship, podiums to desktops, Centraverse microphones come complete with all you need to ensure a quick and efficient sound solution, every time.



All Centraverse models are equipped with Commshield® RF Filtering Technology

- Guards against unwanted RF Interference from portable wireless devices (smartphones, etc.)
- High resistance to intense nearby radio signals



Gooseneck Microphones



CVD
Desktop Base

Professional gooseneck electret condenser microphone for use in general installed sound reinforcement applications. Designed with dual gooseneck sections for full articulation, the CVG12 and CVG18 provide scalable, best-in-class performance in a wide variety of locations, including podiums and desktops.

- Cardioid polar pattern with tailored response for speech
- Dual-section gooseneck enables ease of positioning and placement options
- Available in 12" (30,4 cm) and 18" (45,7 cm) gooseneck lengths
- Integrates with available Desktop Base accessory (CVD-B)
- Ships complete with included flange mount and snap-fit windscreen
- Available snap-fit windscreen (ACVG4WS-B – 4 pack)
- Available in the following configurations:
 - With Inline Preamp (CVG12 / CVG18)
 - With Mute switch/LED, Inline Preamp (CVG12S / CVG18S)



70 Hz – 16 kHz

Boundary Microphones



Professional boundary electret condenser microphone for use in desktop installed sound reinforcement applications. Available in cardioid and omnidirectional polar patterns and black or white color options, its low-profile design fits seamlessly within any design aesthetic.

- Available in cardioid or omnidirectional polar patterns
- Black and white color options
- Attached 12 ft XLR cable
- Superior Shure design and rugged, dependable construction



70 Hz – 16 kHz

Overhead Microphones



Professional low profile electret condenser microphone designed for overhead sound reinforcement applications. An integrated wire aiming hanger provides for optimal placement above choirs and other ensembles with minimal effort.

- Cardioid polar pattern with tailored response for speech
- Black and white color options
- Attached 25 ft XLR cable
- Available snap-fit windscreen (ACVO4WS-B/W – 4 pack)



70 Hz – 16 kHz

NOTE:

Model availability depends on region. See your local Shure dealer or distributor for details.

KEY:

Operating Principle

Dynamic Condenser

Polar Pattern

Cardioid Omnidirectional

Frequency Response

Flat Tailored

Centraverse™ Microphone Specifications (Note: All specifications are subject to change.)

Gooseneck Microphones



Polar Pattern	Cardioid	
Cartridge Type	Electret Condenser	
Frequency Response	70 Hz – 16 kHz	
Output Impedance	180 Ω	
Sensitivity <i>open circuit voltage, @ 1 kHz, typical</i>	-33 dBV/Pa (22 mV)	
Maximum SPL <i>1 kHz, at 1% THD</i>	120 dB SPL	
Signal-to-Noise Ratio <i>Ref. 94 dB SPL at 1 kHz</i>	67 dB	
Dynamic Range	93 dB	
Self Noise <i>equivalent SPL, A-weighted, typical</i>	27 dB SPL	
Preamplifier Output Clipping Level <i>@ 1 kHz, at 1% THD</i>	-7 dBV	
Common Mode Rejection <i>10 Hz to 100 kHz</i>	>45 dB	
Operating Temperature	-18 to 57°C	
Power Requirements	11 – 52 V DC, 2,0 mA	
Weight	CVG/12 177 g	CVG/18 191 g

Boundary Microphones



Polar Pattern	Omnidirectional	Cardioid
Cartridge Type	Electret Condenser	Electret Condenser
Frequency Response	70 Hz – 16 kHz	70 Hz – 16 kHz
Output Impedance	180 Ω	180 Ω
Sensitivity <i>open circuit voltage, @ 1 kHz, typical</i>	-28 dBV/Pa (40 mV)	-32.5 dBV/Pa (23 mV)
Maximum SPL <i>1 kHz at 1% THD</i>	117 dB SPL	120 dB SPL
Signal-to-Noise Ratio <i>Ref. 94 dB SPL at 1 kHz</i>	74 dB	67 dB
Dynamic Range	97 dB	93 dB
Self Noise <i>equivalent SPL, A-weighted, typical</i>	20 dB SPL	27 dB SPL
Preamplifier Output Clipping Level <i>@ 1 kHz, at 1% THD</i>	-6 dBV	-7 dBV
Common Mode Rejection <i>10 Hz to 100 kHz</i>	>45 dB	>45 dB
Operating Temperature	-18 to 57°C	-18 to 57°C
Power Requirements	11 – 52 V DC, 2,0 mA	11 – 52 V DC, 2,0 mA
Weight	227 g	227 g

Overhead Microphones



Polar Pattern	Cardioid
Cartridge Type	Electret Condenser
Frequency Response	70 Hz – 16 kHz
Output Impedance	180 Ω
Sensitivity <i>open circuit voltage, @ 1 kHz, typical</i>	-33 dBV/Pa (22 mV)
Maximum SPL <i>1 kHz, at 1% THD</i>	120 dB SPL
Signal-to-Noise Ratio <i>Ref. 94 dB SPL at 1 kHz</i>	67 dB
Dynamic Range	93 dB
Self Noise <i>equivalent SPL, A-weighted, typical</i>	27 dB SPL
Preamplifier Output Clipping Level <i>@ 1 kHz, at 1% THD</i>	-7 dBV
Common Mode Rejection <i>10 Hz to 100 kHz</i>	>45 dB
Operating Temperature	-18 to 57°C
Storage Temperature	-29 to 74°C
Power Requirements	11–52 V DC, 2,0 mA
Weight	133 g

SHURE[®]
LEGENDARY
PERFORMANCE™

Europe, Middle East, Africa:
Shure Europe GmbH
Jakob-Dieffenbacher-Str. 12
75031 Eppingen, Germany

Phone: 49-7262-92490
Fax: 49-7262-9249114
Email: info@shure.de

Enclosure Systems

415 Series 19" AV Wall Rack pod

Features

- Heights: 3U, 4U, 6U, 8U, 10U and 12U
- Width: 525mm
- Depth: 350mm
- Other wood finishes and sizes are available at special request.



A new addition to our range of 19" wall cabinets, designed for use in offices, boardrooms, recording studios and where visual appearance is important.

A range of surface mounted wooden rack pods which are available in Ash and Oak real wood veneer as standard. The racks are constructed in veneered 19mm particle board and are finished with a pre-catalyst lacquer for durability. All units have an open back style for cable management and come with two mounting profiles to the front. Additional mounting profiles are available. They are supplied fully assembled to reduce installation time and come with four rubber self-adhesive bump-on feet for optional user fit on hard surfaces.

A plinth kit is available for conversion to floor standing units.

415 Racks

Colour - American Ash or Oak

Product Code	'U' Height	Colour	Width (mm)	Depth (mm)
15-1033	3	Ash	525	350
15-1034	4			
15-1036	6			
15-1038	8			
15-1040	10			
15-1042	12			
15-1043	3	Oak	525	350
15-1044	4			
15-1046	6			
15-1048	8			
15-1050	10			
15-1052	12			



Enclosure Systems

415 series 19" AV surface rack cabinet



In addition to our AV surface rack pods, these cabinets come with the option of a tinted acrylic or solid door. All versions are provided with discreet pivot hinges allowing for an inset door and are fully lockable for security.

Available in sizes 3U, 4U, 6U, 8U, 10U and 12U heights, in a choice of our standard Ash or Oak finish. Other sizes and finishes available to special order.

Punched rack angle is provided to the front face only, 3 holes per 1U and painted Black to RAL9003. Additional angles are available as an option for rear positioning.

415 Cabinet Doors

Colour - American Ash or Oak

Product Code	Door type	'U' Height	Colour	Width (mm)	Depth (mm)
15-1233	Acrylic	3U	Ash	570	400
15-1333	Solid				
15-1234	Acrylic	4U			
15-1334	Solid				
15-1236	Acrylic	6U			
15-1336	Solid				
15-1238	Acrylic	8U			
15-1338	Solid				
15-1240	Acrylic	10U			
15-1340	Solid				
15-1242	Acrylic	12U			
15-1342	Solid				
15-1243	Acrylic	3U	Oak	570	400
15-1343	Solid				
15-1244	Acrylic	4U			
15-1344	Solid				
15-1246	Acrylic	6U			
15-1346	Solid				
15-1248	Acrylic	8U			
15-1348	Solid				
15-1250	Acrylic	10U			
15-1350	Solid				
15-1252	Acrylic	12U			
15-1352	Solid				

