

# **ST. NICHOLAS CHURCH CODSALL AUDIO VISUAL UPGRADE REFERENCE DOCUMENTATION AUGUST 2021**

**The information in this document has been  
presented after consultation in Church with the  
DAC back in 2019.**

**All advice given by the DAC will be followed on the  
proposed installation  
of this new audio visual system.**

**Please interpret as required or contact Dan for  
further clarification.**

**We are hopeful that our intentions meet the  
expectations of all parties involved and therefore  
gain approval to proceed.**



**CONTACT FOR ST. NICHOLAS CHURCH**

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# **NEW AUDIO END USER REQUIREMENTS**

- **Replace speaker system. Amplification needs will be | Speech | Recorded Music Playback | Instrument & Vocal Amplification.**
- **Replace speaker system in Chancel. Zoned control so this can be used on its own but audio can come from main system.**
  - **Replace mixing console with a digital console with memory recall.**
- **Re-use current Sennheiser G3 Belt-Packs (Channel 38) and two current Sennheiser XS Wireless Hand Held Radio Mics (Channel 38) for Worship Group.**
  - **Replace lapel capsules for discrete head-worn mics.**
    - **Provision for CD Playback**
    - **Provision for acoustic instrument amplification.**
  - **Local aux input in the Chancel with local volume control.**
    - **Replace Loop system throughout building.**

# EXAMPLE AUDIO PATCH LIST

- Channel 1 – Fixed Lectern Mic (Reuse existing Gooseneck).
- Channel 2 – Fixed Pulpit Mic (Reuse existing Gooseneck.)
- Channel 3 – Head-worn Mic 1. – Reuse belt pack and receiver.
- Channel 4 – Head-worn Mic 2. Reuse belt pack and receiver.
- Channel 5 – Hand Held Radio Mic 3. Reuse existing XS Wireless Hand Held Mic.
- Channel 6 – Hand Held Radio Mic 4. Reuse existing XS Wireless Hand Held Mic.
  - Channel 7 – SPARE 1
  - Channel 8 – SPARE 2
  - Channel 9/10 – Piano
  - Channel 11 – Instrument Input 1.
  - Channel 12 – Instrument Input 2.
  - Channel 13 – Instrument Input 3.
  - Channel 14 – Instrument Input 4.
  - Channel 15/16 – CD.
- Channel 17/18 – Computer – Either front patch box OR Rack combined.
  - Channel 19/20 – Channel 21/22 – Local Aux 1.
    - Channel 23/24 – Local Aux 2.
  - 25/26 – Organ Microphones for Online Streaming.
  - 27/28 – Ambient Mics for Online Streaming.

# **EXAMPLE AUDIO OUTPUT LIST**

- ALL ZONES
- ZONED MINUS CHANCEL
- ZONED MINUS MAIN CHURCH
- FEED TO LOOP SYSTEM – SELECTED SOURCES ONLY
  - RECORD OUTS.
- LINE FEED TO VISION MIXER FOR ONLINE STREAMING



# **NEW VIDEO END USER REQUIREMENTS**

- **Replace Projector – Front Projection with a centralised double drop screen.**
- **Replace motorised Projection screen – Change format to 16:10. Double drop system..**
- **Replace & add new flat LCD/LED screens onto selected pillars (See further notes in document.)**
- **Install a video mixer and web streaming encoder to continue online services to YouTube Live.**
  - **Add two PTZ Cameras with controller.**

## **EXAMPLE VIDEO PATCH LIST**

- **Screens and Video output to YouTube Live to display the same content.**
  - **Switchable preview monitor output.**
    - **Aux Feed to projector.**
- **Switcher Input 1 – PowerPoint Laptop**
  - **Switcher Input 2 – Media Laptop**
  - **Switcher Input 3 – PTZ Camera 1**
  - **Switcher Input 4 – PTZ Camera 2**
- **Switcher Input 5 – Local Camera Static Wide Shot**

# **INSTALLATION EXPECTATIONS**

- **Removal of old system – Church will hold onto components which may be used elsewhere in the Parish.**
  - **Complete installation of new system. To include mains power provision.**
    - **Make good building architecture where required.**
  - **To work within the Diocesan restrictions and permissions granted.**
- **Agree to match hardware to the fabric of the building where possible. This may include painting in cables where necessary.**
  - **Commission and provide training for end users upon project completion.**
- **Give an indication of future maintenance packages / costs associated with running the system.**
  - **Provide an equipment cabinet and operating space to match the fabric of the building.**
    - **Provide full costing's including a breakdown of labor.**

## **EXISTING INFORMATION**

- The Church has BT Fibre Broadband & Wi-Fi router installed with hardwired ethernet also.
- The Church purchases Channel 38 shared frequency licenses for its radio equipment.
- The Church currently uses re-chargeable AA batteries for all Radio equipment and additional accessories such as keyboard and mice and has a system in place for charging them at the Church.
- The Church owns a small collection of K&M Microphone stands in good condition and the necessary clips for each style of microphone.
  - The Church owns a high spec Macbook Pro.
  - The Church owns a standard Laptop with Office and HDMI output.

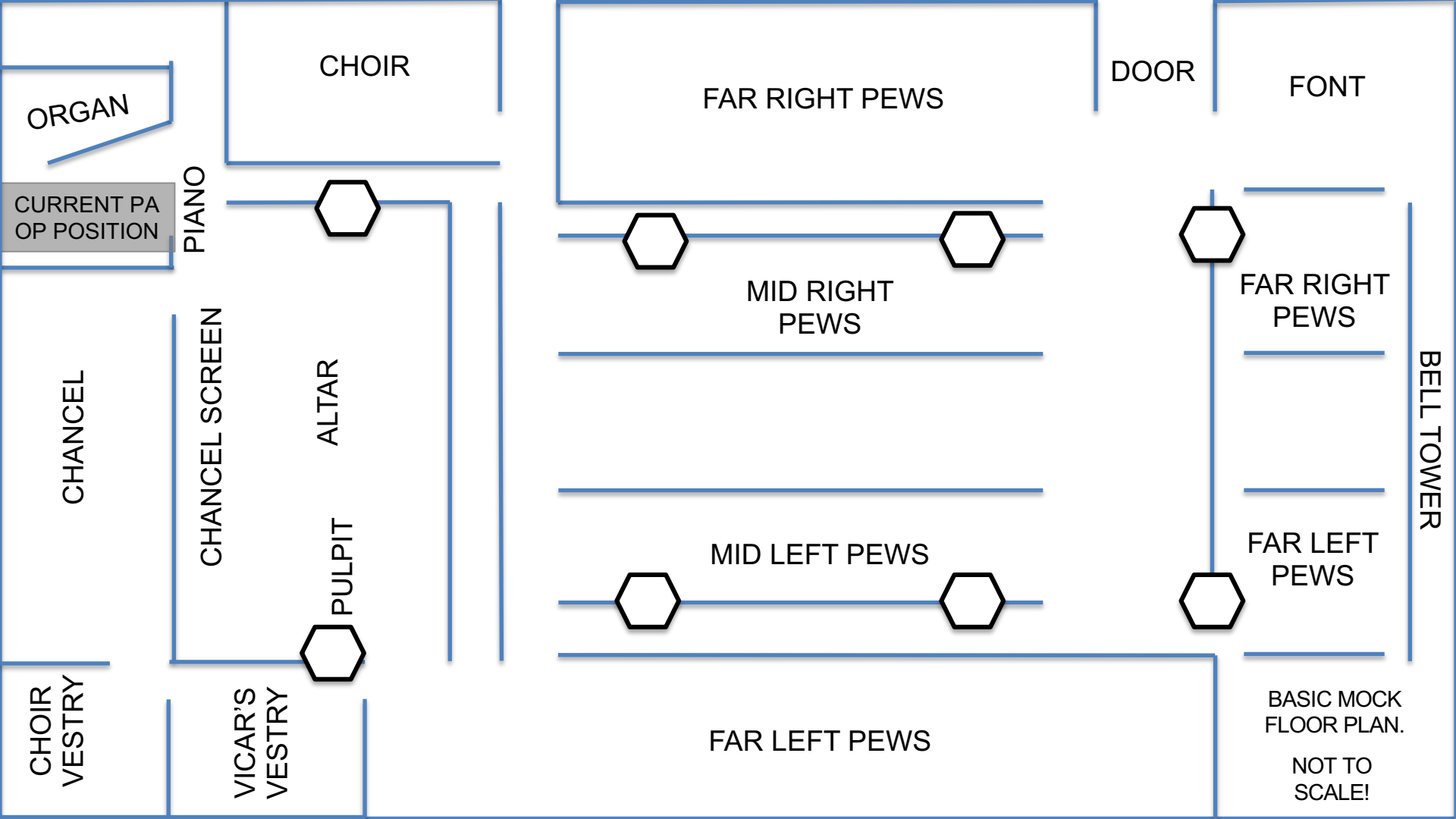
# EXISTING INFORMATION

## Sound Equipment

- Sound craft Spirit E8 mixer,  
linked with SoundLAB 8 channel mixer.
- Sennheiser G3 belt pack cardioid lapels. X2
- Sennheiser XS Wireless Hand Held Radio Mics. X2
- SoundTube RSI 600 pendant speakers. X4
- Ampetronics Loop Induction Driver.
- 100V Line Mono Amplifier.
- Shure SCM410 4Channel Auto Mic Mixer (Pulpit /  
Lectern).
- Audio Technica U859 Gooseneck Microphones.
- Gemini 2 Tray CD Player.
- Passive DI Boxes – Piano / Guitar.
- Computer Amplification.
- Aux Amplification.

## Video Equipment

- None





## REFERENCE PHOTOS

Previous Video  
Equipment now  
decommissioned.

Looking down the nave.



## REFERENCE PHOTOS

Previous Video  
Equipment now  
decommissioned.

Previous projector unit on  
the Chancel screen.





## REFERENCE PHOTOS

Previous Video  
Equipment now  
decommissioned.

Previous projector screen  
– retracted. 4:3 format,  
motorised.



## REFERENCE PHOTOS

Previous Video  
Equipment now  
decommissioned.

Shows previous hanging  
arrangement of screen.





## REFERENCE PHOTOS

Previous Video  
Equipment now  
decommissioned.

Wide look at previous projector  
unit and screen position.

## REFERENCE PHOTOS

Previous Video  
Equipment now  
decommissioned.



Side and front  
view of previous  
screen on pillar  
opposite the Choir  
stalls.



## REFERENCE PHOTOS

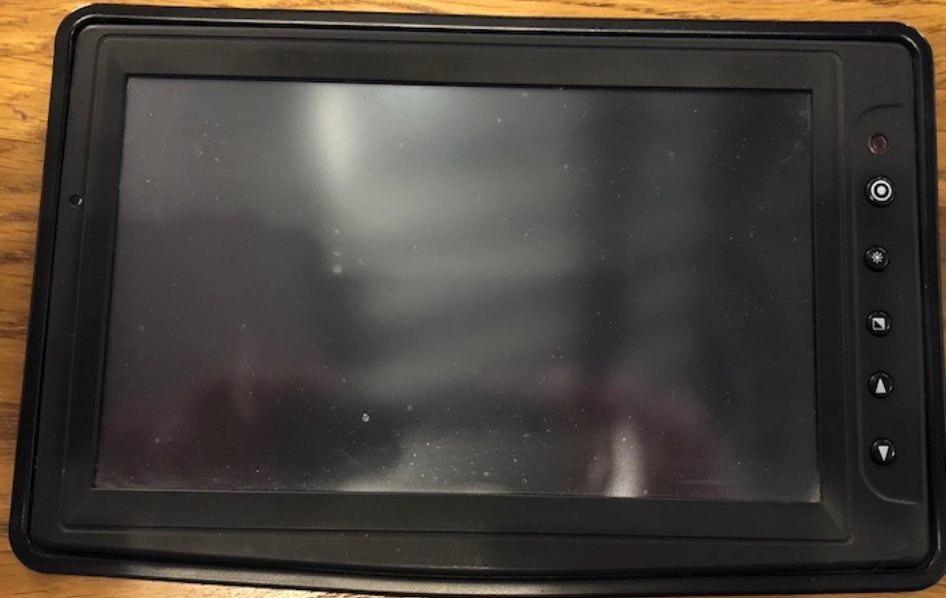
Previous Video  
Equipment now  
decommissioned.

Middle left pillar  
showing previous  
rear screen.



## REFERENCE PHOTOS

Previous Video  
Equipment now  
decommissioned.



When the lectern  
was purchased an  
additional screen  
was added in the  
lectern.



## REFERENCE PHOTOS

Previous Video  
Equipment now  
decommissioned.

Previous Video operating  
position next to Organ console  
in Choir stalls.

Was placed here originally  
when installed. Very cramped  
and no real end user working  
space.





## REFERENCE PHOTOS

Current Equipment.

Current Audio  
location  
next to Organ  
console. Has been  
placed here for  
accessibility for self-  
operation. End user  
cannot hear levels  
however.

The Chancel behind has a  
very simple 1 input CD  
player and singular speaker  
secreted in the roof. A feed  
from here also goes there  
for overflow purposes.





## REFERENCE PHOTOS

Confirmed New  
Equipment Locations.

Replace projector  
screen with double  
drop screen and  
move it to the centre  
of the arch way.  
3M width and a  
16:10 format.



## REFERENCE PHOTOS

Confirmed New  
Equipment Locations.

New Projector location will be  
to the left of the bell tower  
platform as you look down the  
nave.

This will front project a  
keystone corrected image  
onto the new double drop  
central screen.





**NOT TO SCALE!**

## **REFERENCE PHOTOS**

**Confirmed New  
Equipment Locations.**

Replace the existing screen with a double drop projection screen that is more central in location and therefore provide better visibility to more of the congregation.

The red bar shows an example of how the screen cartridge could sit when the screen were not in use.

## REFERENCE PHOTOS

Suggested New  
Equipment Locations.

Replace the confidence monitor  
screen in the lectern with a new  
HDMI capable one.  
This is currently VGA only.

A cable route exists through the  
centre of the lectern and meets  
at a patch plate on the front.





## REFERENCE PHOTOS

Confirmed New  
Equipment Locations.

Replace the screen on the pillar  
opposite the Choir with a new  
16:10 (or similar format)  
version.



## REFERENCE PHOTOS

Confirmed New  
Equipment Locations.

Install an additional screen on  
the middle right pillar to assist  
enhancing a dead spot for users  
of the visual element of the  
system.





**NOT TO SCALE!**

## REFERENCE PHOTOS

Confirmed New  
Equipment Locations.

Install an a new  
65" screen in front  
of the Vicar's Vestry.

Options were explored  
on the  
DAC site visit and this  
was deemed the best  
solution to serve this aisle.



## REFERENCE PHOTOS

Confirmed New  
Equipment Locations

PTZ Camera installed  
for view of main altar area  
choir stalls  
and view to the Chancel.

The camera can be removed  
when not in use.

Colour - White

Looking down the nave.





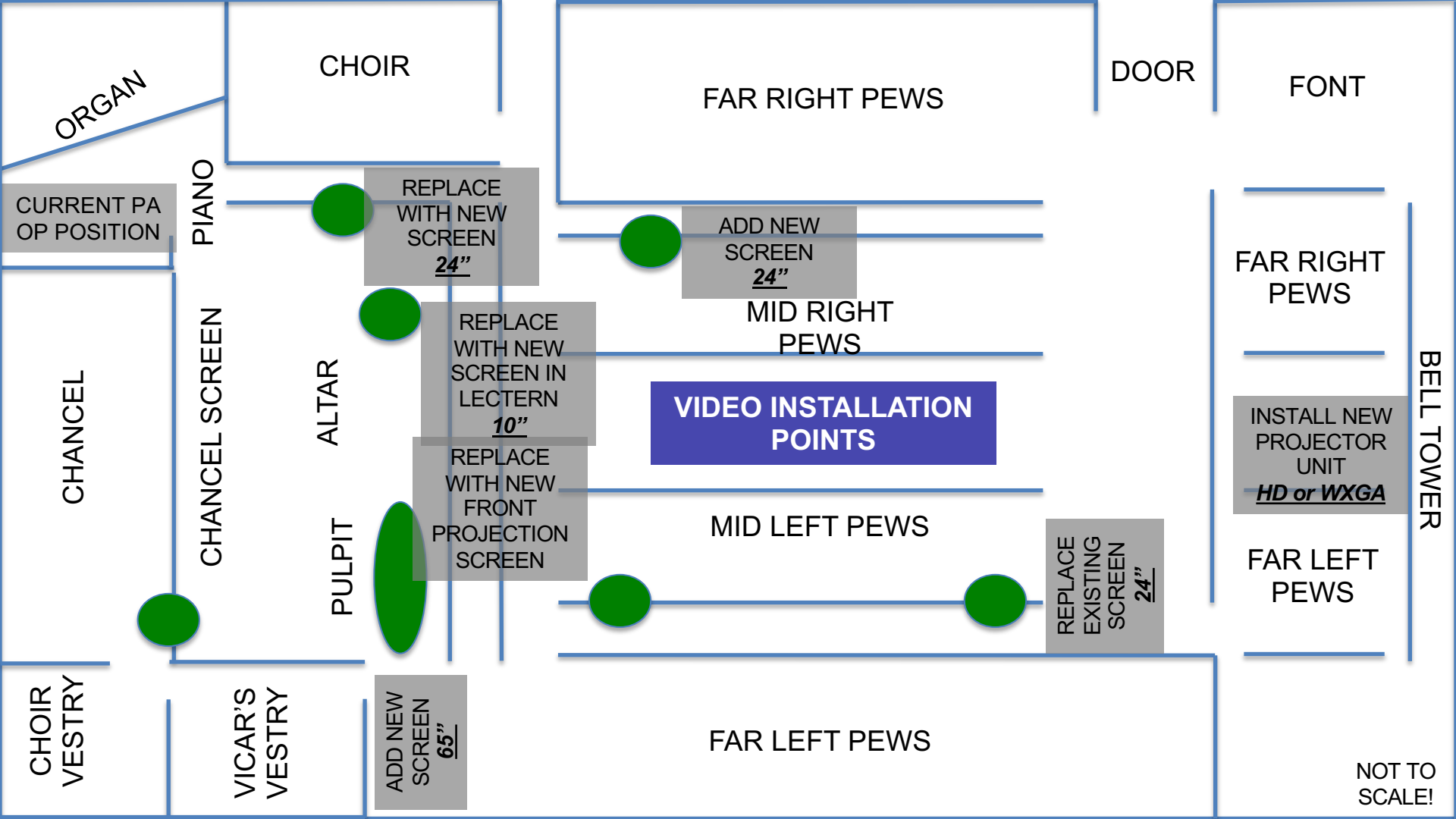
## REFERENCE PHOTOS

Removal of light  
fittings

Two lighting fittings marked for removal as suggested by the DAC on the site visit to allow for the new projection screen.

Replacement LED fittings will be Secreted in the roof to replace Them.

Wide look at previous projector unit and screen position.





## REFERENCE PHOTOS

Confirmed New  
Equipment Locations.

Confirmed speaker  
Type 2  
(See photo references  
further down  
document.)



Front left speaker position.  
Not to scale!





# REFERENCE PHOTOS

Confirmed New  
Equipment Locations.

Confirmed speaker  
Type 2  
(See photo references  
further down  
document.)



Front right speaker position.  
Not to scale!



# REFERENCE PHOTOS

Confirmed New  
Equipment Locations.

Confirmed speaker  
Type 1  
(See photo references  
further down  
document.)



Rear left fill speaker position.  
Not to scale!





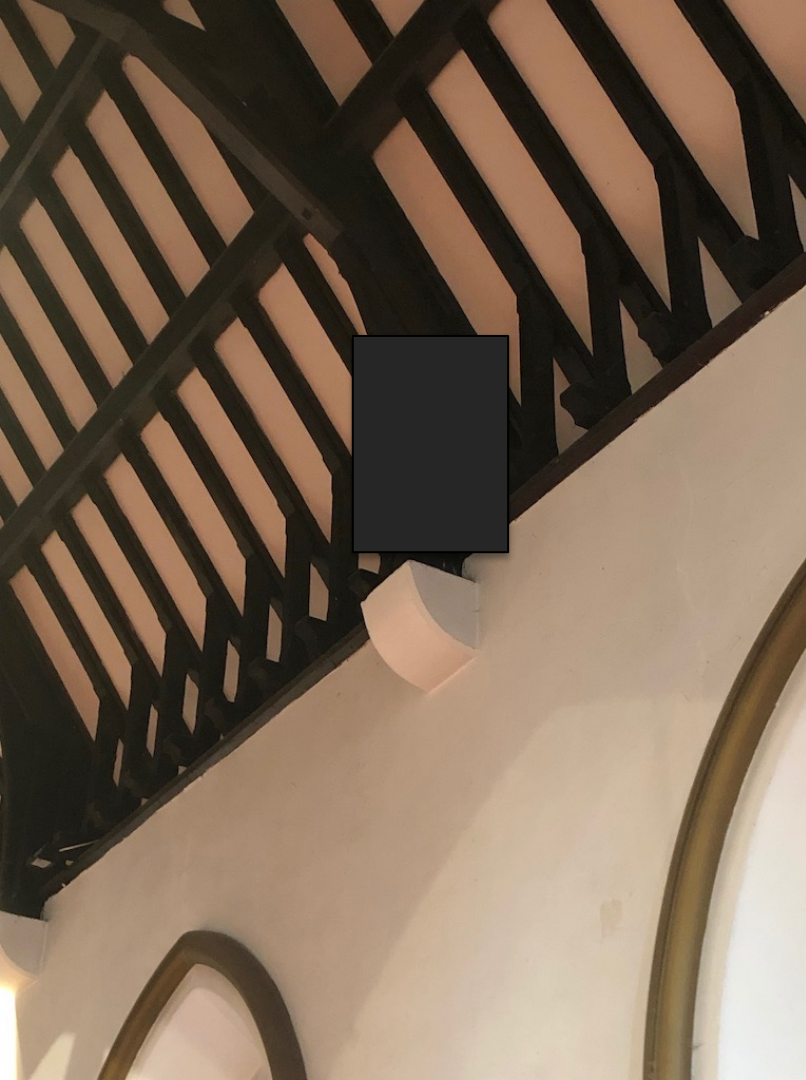
# REFERENCE PHOTOS

Confirmed New  
Equipment Locations.

Confirmed speaker  
Type 1  
(See photo references  
further down  
document.)



Rear right fill speaker position.  
Not to scale!



# REFERENCE PHOTOS

Confirmed New  
Equipment Locations.

Confirmed speaker  
Type 2  
(See photo references  
further down  
document.)



Front right aisle speaker position.  
Not to scale!



# REFERENCE PHOTOS

Confirmed New  
Equipment Locations.

Confirmed speaker  
Type 2  
(See photo references  
further down  
document.)



Front left aisle speaker position.  
Not to scale!





## REFERENCE PHOTOS

Confirmed New  
Equipment Locations.

Confirmed speaker  
Type 1  
(See photo references  
further down  
document.)



Choir speaker position.  
Not to scale!

# REFERENCE PHOTOS

Confirmed New  
Equipment Locations.

Confirmed speaker  
Type 3  
(See photo references  
further down  
document.)



Sub bass speaker position.  
Not to scale!



**REFERENCE  
PHOTOS**  
Confirmed New  
Equipment Locations.

Confirmed speaker  
Type 1  
(See photo references  
further down  
document.)



Chancel left speaker position.  
Not to scale!





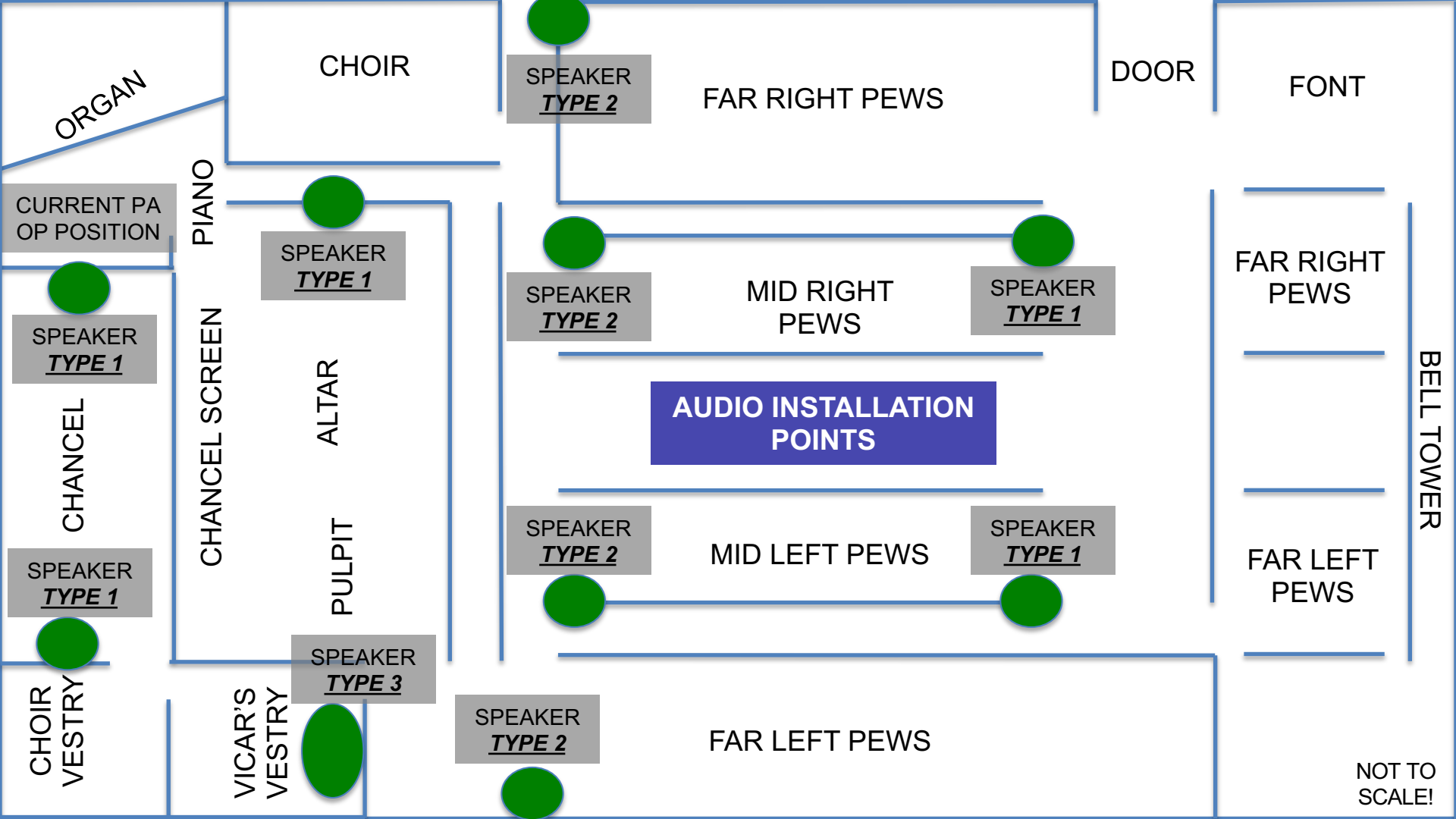
# REFERENCE PHOTOS

Confirmed New  
Equipment Locations.

Confirmed speaker  
Type 1  
(See photo references  
further down  
document.)



Chancel right speaker position.  
Not to scale!





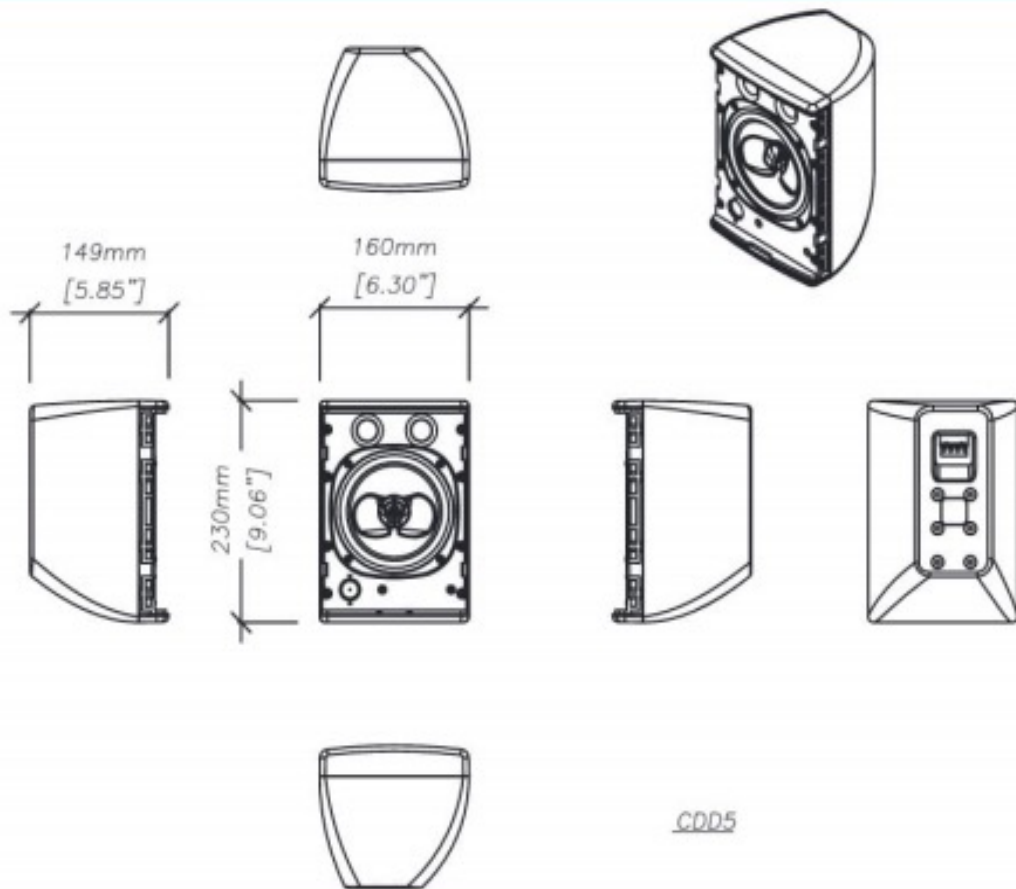
(W) 160 mm x (H) 230 mm x (D) 149 mm  
(W) 6.3 in x (H) 9.1 in x (D) 5.9 in  
2.7 kg (6 lb)

**REFERENCE  
PHOTOS  
SPEAKERS  
TYPE 1  
X5 REQUIRED.**

**The Martin Audio CDD range has been chosen as the best affordable solution for this project.**

Martin Audio CDD 5" Speaker.  
Black in colour.  
Black wall bracket.  
Affixed to wooden roof beams.

# REFERENCE PHOTOS SPEAKERS TYPE 1



Martin  
Audio  
CDD 5"  
Black

# REFERENCE PHOTOS SPEAKERS TYPE 1

CDD5	
TYPE	Ultra-compact, Coaxial Differential Dispersion passive two-way system
FREQUENCY RESPONSE <sup>1</sup>	100Hz – 20kHz ± 3dB, -10dB @ 70Hz
DRIVER	LF: 5.25" (130 mm)/1.25" (32 mm) voice coil, long excursion, ferrite motor system HF: 0.75" (19 mm) voice coil, fabric dome with neodymium motor system
RATED POWER <sup>2</sup>	100 W AES, 400 W peak
RECOMMENDED AMPLIFIER	MA2.0 VIA2502, VIA5004
SENSITIVITY <sup>3</sup>	90 dB
MAXIMUM SPL <sup>4</sup>	110 dB continuous, 116 dB peak
NOMINAL IMPEDANCE	8 ohms
DISPERSION (-6 dB) <sup>5</sup>	120°-90° horizontal, 80° vertical (user-rotatable)
CROSSOVER	2.5 kHz passive
ENCLOSURE	3 litre, ABS
FINISH	Black or white
PROTECTIVE GRILLE	Standard models only: black or white perforated steel with scrim cloth backing "WR" models only: black or white perforated, zinc-plated steel with scrim cloth backing, Declon® synthetic fabric layer and inner, zinc-plated, hydrophobic steel mesh layer
CONNECTORS	Low-profile 13 A push-lock WR models only: weatherproof cover with gasket seal and cable gland
PIN CONNECTIONS	Left to right: Input+, Input -, Link -, Link +
FITTINGS	6 x M5 inserts for wall/ceiling brackets
ENVIRONMENTAL	IP54 (Model CDD5TX-WR only)
DIMENSIONS	(W) 160 mm x (H) 230 mm x (D) 149 mm (W) 6.3 in x (H) 9.1 in x (D) 5.9 in
WEIGHT	2.7 kg (6 lb)
ACCESSORIES	CDDCB5B ceiling bracket black CDDCB5W ceiling bracket white



Martin  
Audio  
CDD 5"  
Black  
(Picture colour for  
reference only.)





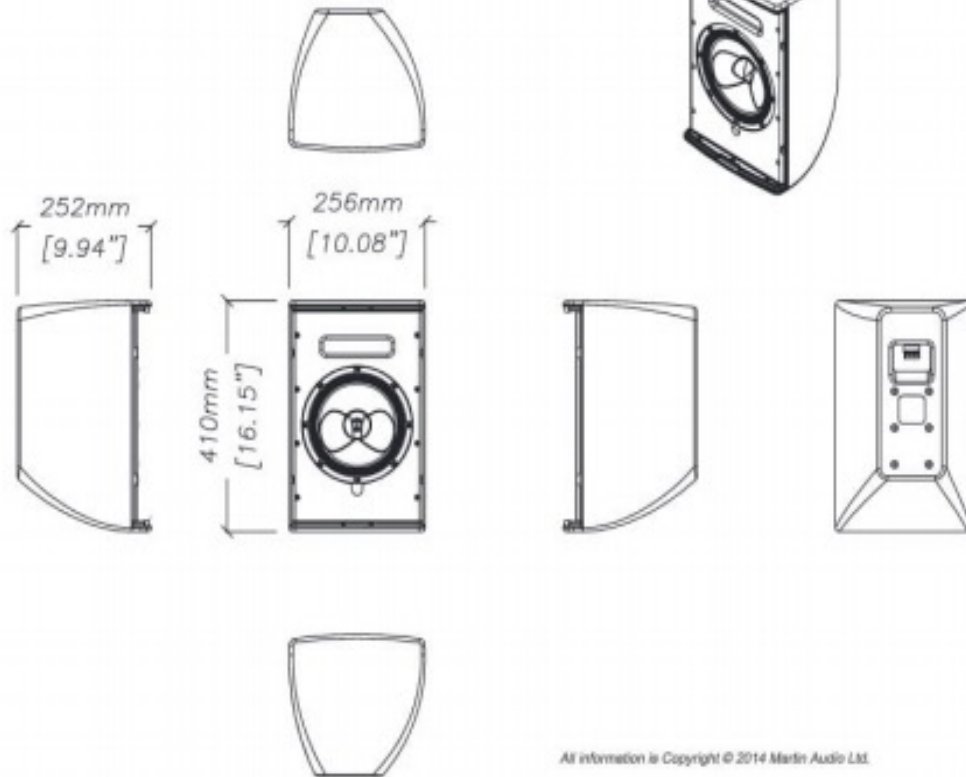
**REFERENCE  
PHOTOS  
SPEAKERS  
TYPE 2  
X4 REQUIRED.**

**The Martin Audio CDD range has been chosen as the best affordable solution for this project.**

(W) 256 mm x (H) 410 mm x (D) 253 mm  
(W) 10.1 in x (H) 16.1 in x (D) 10 in  
9.5 kg (21 lb)

**Martin Audio CDD 8" Speaker.**  
Black in colour.  
Black wall bracket.  
Affixed to wooden roof beams.

# REFERENCE PHOTOS SPEAKERS TYPE 2



All information is Copyright © 2014 Martin Audio Ltd.

Martin  
Audio  
CDD 8"  
Black

# REFERENCE PHOTOS SPEAKERS TYPE 2

TYPE	<b>CDD8</b> Ultra-compact, Coaxial Differential Dispersion passive two-way system
FREQUENCY RESPONSE <sup>1</sup>	70Hz – 20kHz + 3dB, -10dB @ 70Hz
DRIVER	LF: 8" (200 mm)/2" (50 mm) voice coil, long excursion, shared ferrite motor system with HF HF: 1" (25 mm) exit/1.4" (38 mm) voice coil, polyimide dome compression driver
RATED POWER <sup>2</sup>	200 W AES, 800 W peak
RECOMMENDED AMPLIFIER	MA2.8Q, MA2.0 VIA2502, VIA2004
SENSITIVITY <sup>3</sup>	94 dB
MAXIMUM SPL <sup>4</sup>	117 dB continuous, 123 dB peak
NOMINAL IMPEDANCE	8 ohms
DISPERSION (-6 dB) <sup>5</sup>	110°-80° horizontal, 60° vertical (user-rotatable)
CROSSOVER	2.3 kHz passive
ENCLOSURE	14 litre, composite material
FINISH	Black or white textured paint
PROTECTIVE GRILLE	Standard models only: black or white perforated steel with scrim cloth backing "WR" models only: black or white perforated, zinc-plated steel with scrim cloth backing, Declon® synthetic fabric layer and inner, zinc-plated, hydrophobic steel mesh layer
CONNECTORS	Low-profile 13 A push-lock WR models only: weatherproof cover with gasket seal and cable gland
PIN CONNECTIONS	Left to right: Input+, Input-, Link-, Link+
FITTINGS	6 x M6 inserts for wall/ceiling brackets
ENVIRONMENTAL	IP54 (Model CDD8-WR only)
DIMENSIONS	(W) 256 mm x (H) 410 mm x (D) 253 mm (W) 10.1 in x (H) 16.1 in x (D) 10 in
WEIGHT	9.5 kg (21 lb)
ACCESSORIES	WB6/8B wall bracket black WB6/8W wall bracket white CDDCB6/8B ceiling bracket black CDDCB6/8W ceiling bracket white



Martin  
Audio  
CDD 8"  
Black  
(Picture colour for  
reference only.)



**REFERENCE  
PHOTOS  
SPEAKERS  
TYPE 3  
X1 REQUIRED.**

**The Martin Audio CDD range has been chosen as the best affordable solution for this project.**

**Martin Audio CDD 12" Sub  
Speaker.**

**Black in colour.**

**To sit on top of Vicar's Vestry.**

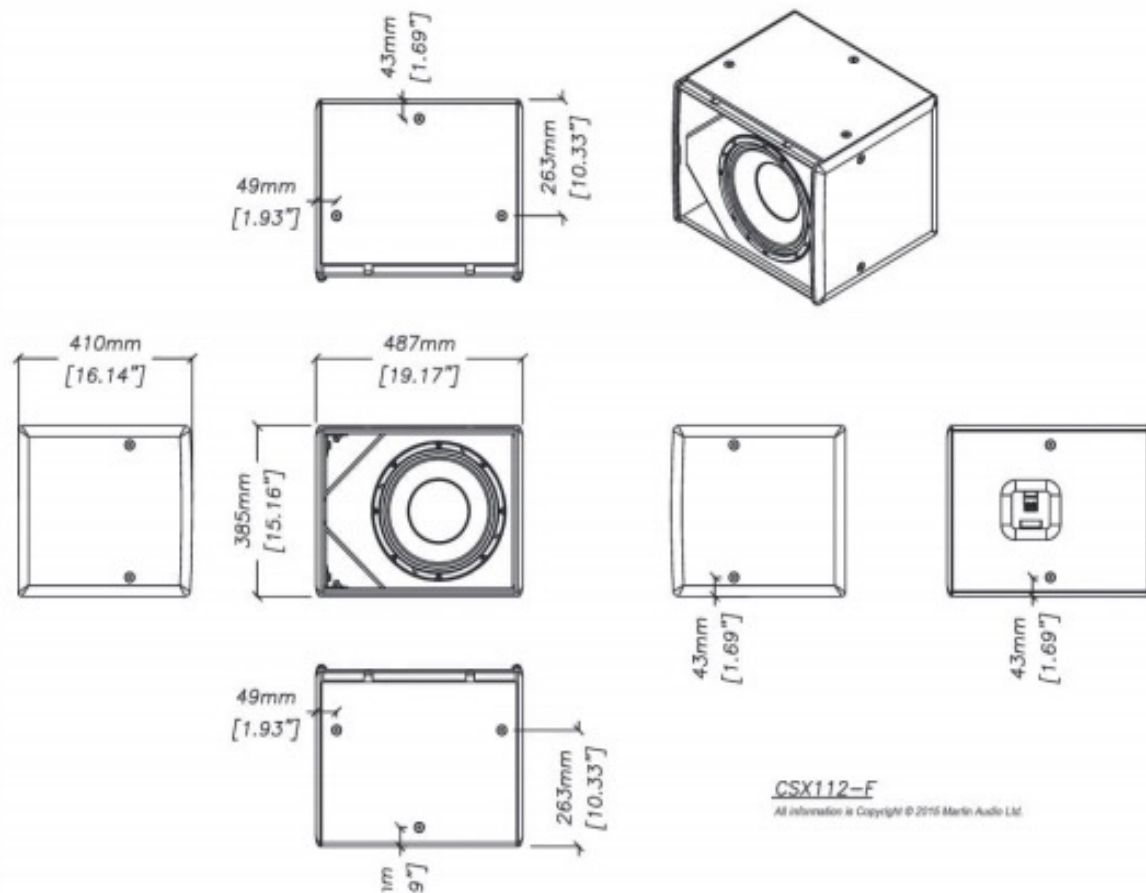


(W) 487 mm x (H) 385 mm x (D) 410 mm

(W) 19.2 in x (H) 15.2 in x (D) 16.1 in

21.5 kg (47.3 lb)

# REFERENCE PHOTOS SPEAKERS TYPE 3



Martin  
Audio  
CDD 12"  
Black

# REFERENCE PHOTOS SPEAKERS TYPE 3

	CSX112-F
TYPE	Compact, single driver, direct radiating subwoofer
FREQUENCY RESPONSE <sup>1</sup>	48Hz – 150Hz ± 3dB, -10dB @ 35Hz
DRIVER	12" (300 mm)/3" (75 mm) voice coil, long excursion, ferrite magnet, waterproof cone
RATED POWER <sup>2</sup>	400 W AES, 16000 W peak
RECOMMENDED AMPLIFIER	MA3.0 VIA5002
SENSITIVITY <sup>3</sup>	102 dB
MAXIMUM SPL <sup>4</sup>	128 dB continuous, 134 dB peak
NOMINAL IMPEDANCE	8 ohms
DISPERSION (-6 dB)	Omnidirectional
CROSSOVER	80–120 Hz, via DX0.5 or DX4.0 controller
ENCLOSURE	52 litre, high-density MDF
FINISH	Black or white textured paint
PROTECTIVE GRILLE	Black or white perforated steel
CONNECTORS	Low-profile 20 A push-lock WR models only: weatherproof cover with gasket seal and cable gland
PIN CONNECTIONS	Left to right: Input+, Input -, Link -, Link +
FITTINGS	12 x M10 fly points
ENVIRONMENTAL	IP24 (Model CSX112-FWR only)
DIMENSIONS	(W) 487 mm x (H) 385 mm x (D) 410 mm (W) 19.2 in x (H) 15.2 in x (D) 16.1 in
WEIGHT	21.5 kg (47.3 lb)

Martin  
Audio  
CDD 12"  
Black

## **REFERENCE PHOTOS**

**Equipment & Operator  
position location.**



**As the audio and video are split up within the building currently and also behind where It has been confirmed that the equipment will be located to the near left of the nave in a cabinet matching the fabric of the building and add space for an operator to sit at and work from.**

**In line with the DAC's advice, it will sit in line with the existing pews with one of the pew ends still in place to keep the line of sight the same as you look down the building.**





## **Equipment Cabinet & Operating Position**

PTZ Camera installed for view of nave, bell tower and font as well as an alternative to the front camera.

The camera can be removed when not in use.

Colour - White

**Rear Left Pews by furthest left pillar.**



## Equipment Cabinet & Operating Position

Rear Left Pews by furthest left pillar.



**Equipment Cabinet &  
Operating Position**

**Rear Left Pews by furthest  
left pillar.**