

EXAMPLE DOCUMENT

# PROJECT DELTA

BASED ON A CLIENT BRIEF FOR A PROPOSED PROJECT.



Client: Courthouse audio-visual system Prepared for: John Doe Quote Number: MSPQ1234

Design Contact: Musab Angudi – Solutions Specialist  
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Revision Number	Comment	Prepared	Approved
1.0	Project proposal based on client brief	JM	JH
1.1	Additional schematic drawings based on proposal	JB	JH
1.2	Pricing schedule and bill of quantities prepared	RM	JDS

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PROJECT BRIEF / SCOPE OF WORKS

Midwich and its channel partners were tasked to design a courthouse audio-visual system benefiting from the most up-to-date\* and effective technologies available on the market.

The original design brief encompassed the following areas of the courthouse:

- Reception area
- A single courtroom

A further four courtrooms are planned on the same site in the future, so integral to the requirement was an expandable central switching and control system.

Midwich accompanied their reseller partner during the original site walk-through and further joint meetings with the end user in order to establish their requirements. Midwich also assisted in establishing relevant information relating to:

- Environmental considerations impacting on the design proposal such as:
  - Zoned structure of design
  - Room dimensions
  - Features and furniture
- Network infrastructure
- Security requirements
- Any other specific design requirements stipulated by the end user

The following system description, simplified schematic and quote is how Midwich responded to the requirement.

\* 2016

John Doe wish to upgrade their technologies, encompassing the courtrooms, meeting rooms and reception areas. Site plan below:

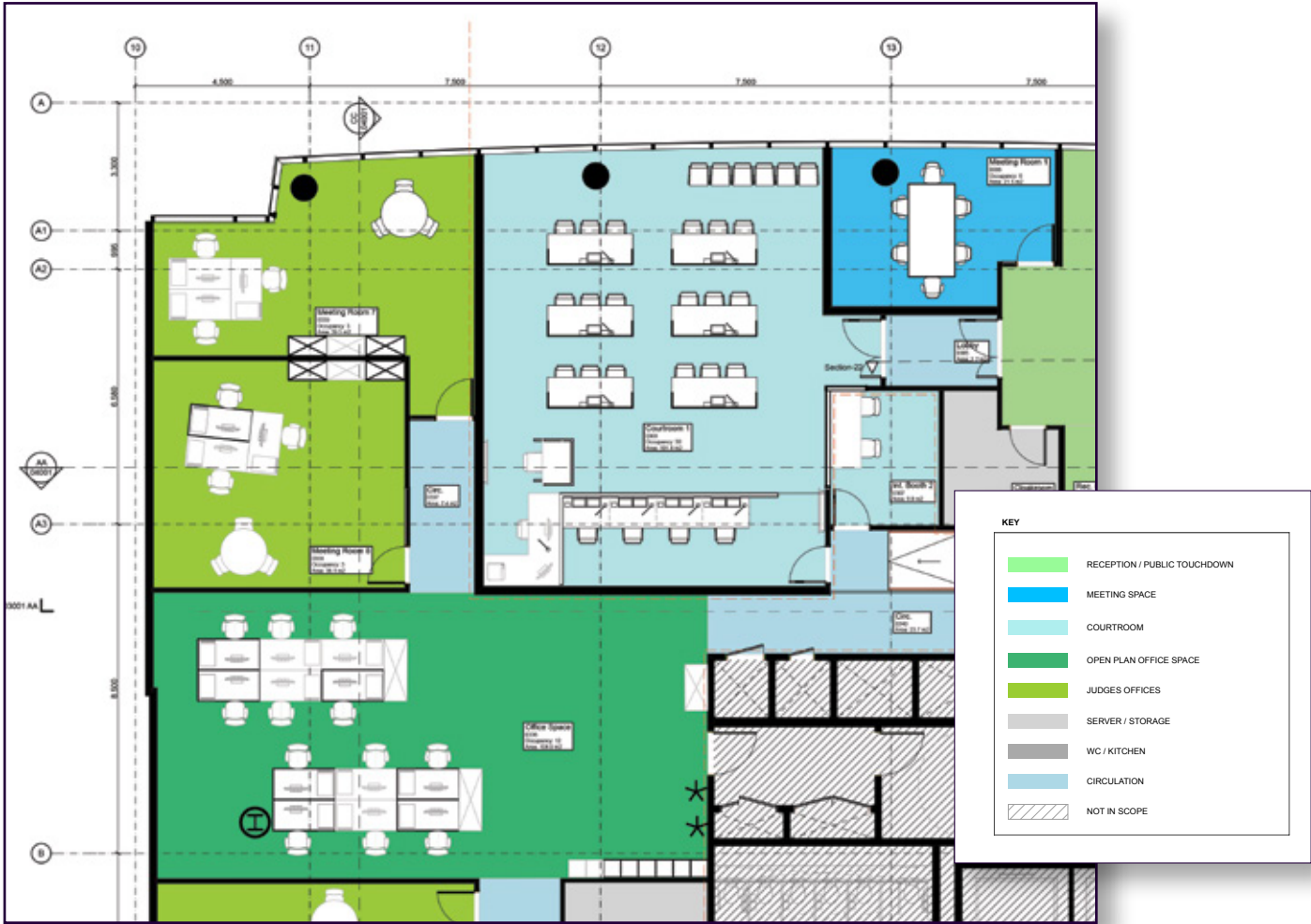


Figure 1: Floor Plan of John Doe court of law

RECEPTION

Reception design is comprised of 1 x 55" wall mounted display which shall be connected via HDMI to a BrightSign player. Content to be managed via BrightAuthor software on receptionist's PC.

An induction loop system shall be situated beneath the receptionist's desk with a microphone mounted above.

This system is to be entirely independent of courtroom designs and therefore shall not make use of the central switching equipment for the courtrooms.

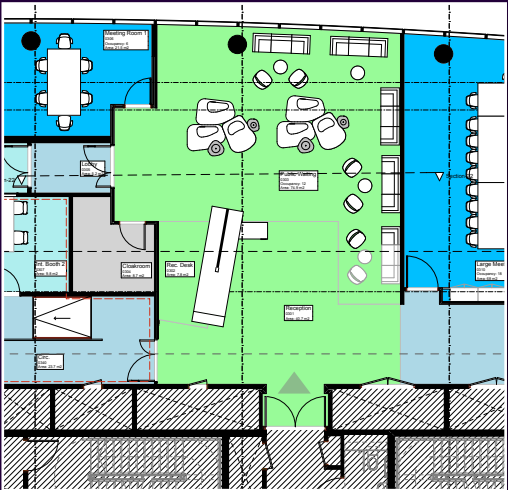


Figure 2: Reception Area





AV EQUIPMENT FOR COURTROOM ONE

The AV room shall contain all central control, and video and audio switching equipment.

At the centre of the system is an AMX DGX switch. The switch shall contain the following:

- 8 x DXLink inputs for courtroom one video sources
- 8 x DXLink outputs of which seven shall be used for display devices in courtroom one
- 16 x audio extract outputs of which seven shall be used for de-embedding audio from video sources in courtroom one
- 1 x control system

System is modular with further input and output slots available for future expansion:

- Expansion cards are hot-swappable.
- Input and output expansion cards exist for the following interface types:
  - HDMI
  - DVI
  - DXLink/HDBaseT (content transmission over category cable)

In addition, a redundant control system has been included in the event of primary control system failure.

JUDGES BENCH:

- 4 x DXLink (HDBaseT) transmitters with HDMI; VGA and audio inputs to take video and audio from laptops. Signal to be transmitted via CAT6A shielded twisted pair over distances up to 100 metres
  - AMX DGX matrix switcher in AV room to receive video signal and output to any DXLink receiver and paired display situated in courtroom one
  - AMX DGX to also de-embed audio from HDMI sources and output to audio DSP system
- 4 x 22" monitors which will display content from multiple sources. Monitors are to be desk mounted
  - Each monitor shall be paired with 1 x DXLink (HDBaseT) receivers which shall receive signals from the DGX matrix switcher over distances up to 100 metres. Interface between DXLink receivers and monitors shall be HDMI

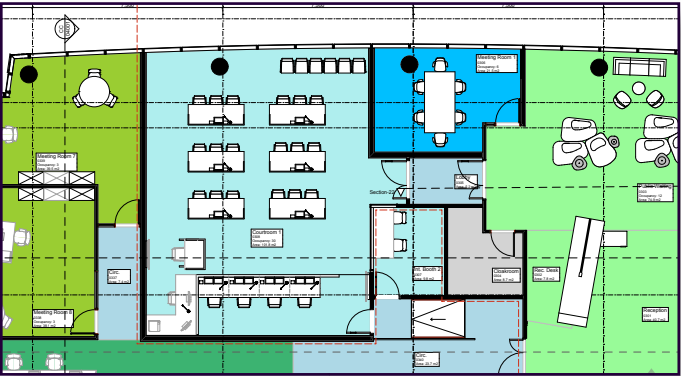


Figure 3: Courtroom 1

- 4 x gooseneck microphones which shall feed directly into courtroom one audio DSP system
- 4 x headphones and a four output headphone amplifier with individual volume control. Headphone amplifier shall receive audio signals routed through audio DSP system



ADVOCATES DESK:

- 1 x DXLink (HDBaseT) transmitters with HDMI; VGA and audio inputs to take video and audio from laptop. Signal to be transmitted via CAT6A shielded twisted pair over distances up to 100 metres
  - MX DGX matrix switcher in AV room to receive video signal and output to any DXLink receiver and paired display situated in courtroom one
  - AMX DGX to also de-embed audio from HDMI sources and output to audio DSP system
- 1 x 22" monitor which will display content from multiple sources. Monitor is to be pole mounted (third-party supplied)
  - Monitor shall be paired with 1 x DXLink (HDBaseT) receiver which shall receive signals from the DGX matrix switcher over distances up to 100 metres. Interface between DXLink receiver and monitor shall be HDMI
- 1 x gooseneck microphone which shall feed directly into courtroom one audio DSP system
- 1 x headphone and a four output headphone amplifier with individual volume control. Headphone amplifier shall receive audio signals routed through audio DSP system

WITNESS STAND:

- 1 x gooseneck microphone which shall feed directly into courtroom one audio DSP system

COURT CLERK:

- 1 x A3 document visualiser with HDMI out
- 2 x DXLink (HDBaseT) transmitters with HDMI, VGA and audio inputs to take video and audio from laptop and A3 document visualiser. Signals to be transmitted via CAT6A shielded twisted pair over distances up to 100 metres
  - AMX DGX matrix switcher in AV room to receive video signal and output to any DXLink receiver and paired display situated in courtroom one
  - AMX DGX to also de-embed audio from HDMI sources and output to audio DSP system
- 1 x 22" monitor which will display content from multiple sources. Monitor is to be desk mounted
  - Monitor shall be paired with 1 x DXLink (HDBaseT) receiver which shall receive signals from the DGX matrix switcher over distances up to 100 metres. Interface between DXLink receiver and monitor shall be HDMI
- 1 x 7" touch panel for AMX control system. Once programmed, control functionality shall include:
  - 'Kill' switch
  - Video output control
  - Video input control
  - Videoconferencing control
  - Audio output control
  - Audio input control
  - Audio volume control
  - Audio recording
- 1 x gooseneck microphone which shall feed directly into courtroom one audio DSP system
- 1 x headphone and a four output headphone amplifier with individual volume control. Headphone amplifier shall receive audio signals routed through audio DSP system



VIDEO CONFERENCING:

- **Video conferencing equipment** to include PTZ camera and codec
- **1 x DXLink (HDBaseT)** transmitters with HDMI, VGA and audio inputs to take video from video conferencing codec. Signal to be transmitted via CAT6A shielded twisted pair over distances up to 100 metres
  - **AMX DGX matrix switcher** in AV room to receive video signal and output to any DXLink receiver and paired display situated in courtroom one
  - **AMX DGX** to also de-embed audio from HDMI source and output to audio DSP system
- **2 x 55" 1080P displays** to be installed on ceiling mounted poles
  - Displays to be paired with 1 x DXLink (HDBaseT) receiver which shall receive signals from the DGX matrix switcher over distances up to 100 metres. Signal from DXLink receiver to output via HDMI to 1 x 1 distribution amplifier which shall split the same signal for input into both 55" displays via HDMI
  - Primary function of 55" displays is to receive video output from video conferencing codec
- **Camera shelf** to be installed beneath one of the 55" ceiling mounted monitors
- **Audio to the video conferencing codec** shall come from courtroom microphones which have been routed through the audio DSP

TRANSLATORS:

- **2 x gooseneck microphones** which shall feed directly into courtroom one audio DSP system
- **2 x headphones** and a four output headphone amplifier with individual volume control. Headphone amplifier shall receive audio signals routed through audio DSP system



AUDIO:

- **1 x audio recorder** for use with USB and SD card storage mediums
  - Audio input for recording from any source routed through audio DSP
  - Length of recording time to be determined by size of USB or SD card storage. 'Relay/cascade' recording is possible where longer recording times are required
  - Network access allows for network control and direct FTP access
- For security purposes, an **infra-red induction loop** has been specified
  - Audio input to induction loop shall from the audio DSP through which all audio sources shall be routed
  - When the partition between Courtroom Three and Courtroom Four is removed, one of the SZ11015T radiators must be switched off to prevent interference from the other. It is recommended that this be achieved either through a contact closure on the partition wall, or via the AMX control system switching a contact for power on or off
- **Courtroom audio** shall be output via 6 x in-ceiling speakers, powered by a single zone 100V line amplifier
- **Audio DSP** and additional break in-box provides audio inputs for up to 18 audio sources, and 8 output channels
  - All audio sources outlined above account for 16 out of 18 inputs with 2 auxiliaries
- **9 x gooseneck microphones**
- **6 x laptops** (routed via the AMX DGX switch)
- **1 x video conferencing codec** (routed via the AMX DGX switch)
  - 8 out of 8 audio outputs will be in use
- **4 x headphone amplifiers**
- **1 x audio recorder**
- **1 x induction loop**
- **1 x 100V amplifier**
- **1 x video conferencing codec**

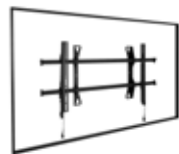
The below products have been selected following on from the demonstration meetings.



RECEPTION:



55" NEC LED display 1920 x 1080 Full HD 16:9 black bezel  
2 x 10w Speakers VESA 300x300 Wall Mount compatible  
NECLCDV552



Large fusion fixed wall display mount  
CHIEFLSA1U



Networked interactive player with live HDTV  
BSXD1132



Counter loop system with microphone  
Maximum r.m.s. output current: 2.1A input maximum r.m.s. output current: 2.1A, unbalanced outreach: -10dBV  
balanced 1 years warranty  
SIGNETPDA102C



AV ROOM:



Enova DGX 6400 Enclosure is a digital media switcher that is ready to support 4K and Ultra High Definition (UHD) content  
AMXFG1061-64



AVS-ENOVADGX32-VI-DXLINK  
Enova® DGX DXLink™ twisted pair input board  
AMXFG1058-570

AVS-ENOVADGX32-VO-DXLINK  
Enova® DGX DXLink™ twisted pair output board  
AMXFG1058-580



Audio insert / extract board  
AMXFG1058-705



NetLinX NX-1200 integrated controller  
AMXFG2106-01





## Complete Project Bid Response



### COURTROOM ONE:



DXLink multi-format transmitter module  
AMXFG1010-310



22" LED Monitor The ProLite E2283HS is an excellent 22" Full HD LED-backlit monitor with 1920 x 1080p resolution  
IIE2283HSB



DXLink HDMI receiver module  
AMXFG1010-500



MicroLine® condenser gooseneck microphone  
12" long  
AUTES915ML12



4 Channel headphone amplifier  
BEHHA400



Visualiser, Full HD, LED lamp included  
ELPDC21



7" Modero S tabletop touch panel  
AMXFG2265-061



1 x 2 HDMI distribution amplifier  
ATL-HDDA-21



Lifesize Icon 600-10x Optical PTZ camera  
LIFEICON600PTZ



## Complete Project Bid Response



Pin connection Offset ceiling plate  
CHIEFPA330



Pin connection column 150cm weight capacity 226.7Kg black  
CHIEFPAE150

FUSION Large flat panel ceiling mount  
CHIEFLCM1U

FUSION lower component/vc shelf Install this shelf to place AV components below a flat panel TV.  
CHIEFFCA500



Lifesize Icon 600 - LAMS (1-year)  
LIFEICON600LAMS



Passive-commercial ceiling speaker, 6" speaker, 88db sensitivity 100W maximum. power  
CLOUDCSC6W



DSP processor /w AEC and telephone hybrid  
BSSBLU1021



Break-in box/input expander 8 channel  
BSSBLUBIB



The P-2240 - A power amplifier suited for broadcasting paging or background music  
TOAP2240



IR Hi-band modulator/emitter  
SENSZI1015T

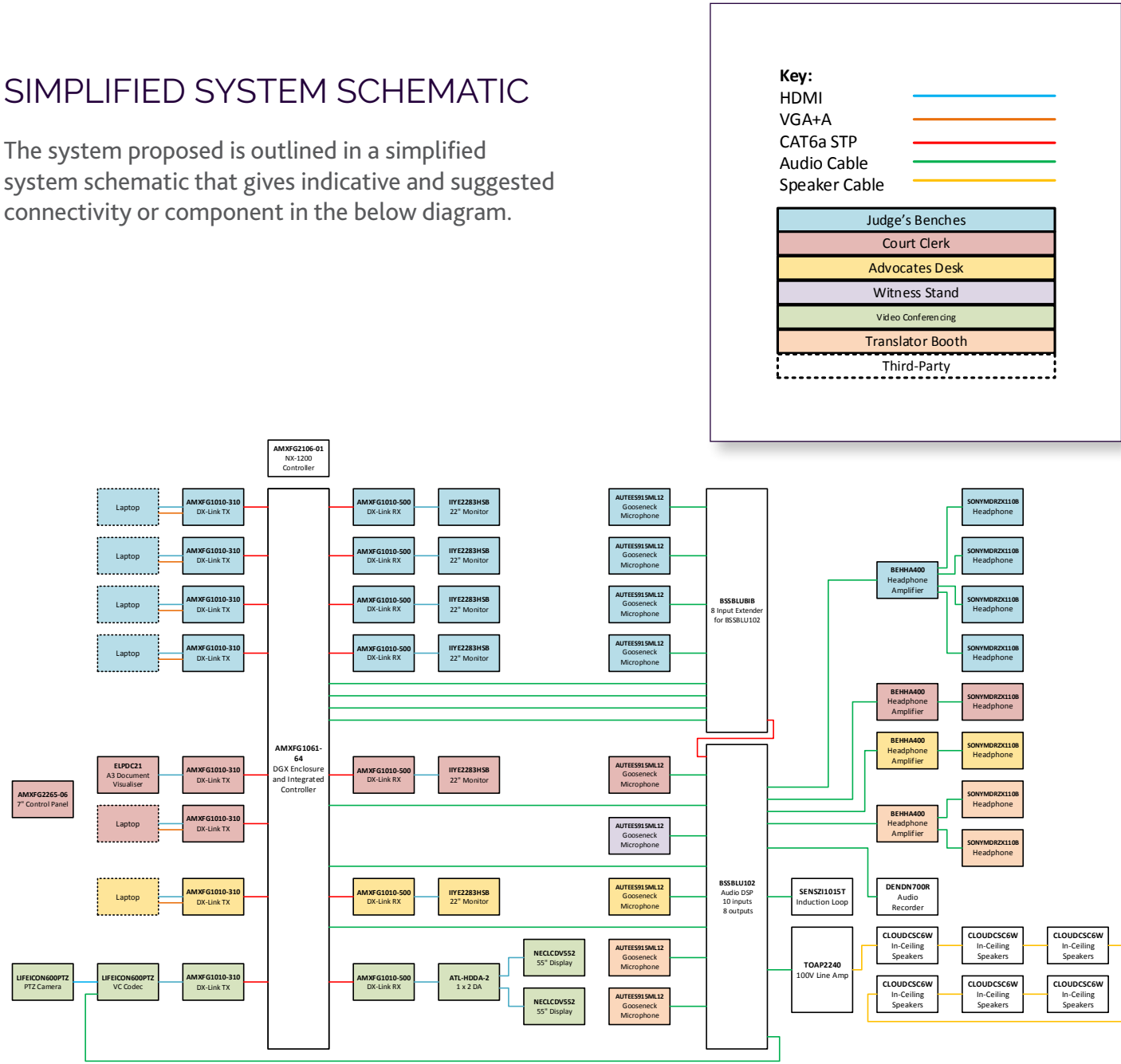


Network SD/USB Audio recorder recording capacity determined by SD card / USB used  
DENDN700R



SIMPLIFIED SYSTEM SCHEMATIC

The system proposed is outlined in a simplified system schematic that gives indicative and suggested connectivity or component in the below diagram.



THIS DOCUMENT HAS BEEN DESIGNED WITH THE INSTALLER IN MIND, HELPING TO INTEGRATE THE RIGHT SOLUTION WITH THE CLIENT.

Added Extras:

As well as the offerings within this document we have the capabilities to deliver you onsite training or offsite training at our regional offices in Crowthorne and Manchester. We have specialist teams in place to support you from system design drawings to delivering the final element, ensuring your solution benefits you every step of the way.

PROPOSED ITEMS FOR THE SOLUTION SUMMARY

This Proposal includes estimations in the following categories:

Videowall	£ 0.00
Audio	£ 0.00
Video Conference Room	£ 0.00
Audio Conference Room	£ 0.00
Video and Control	£ 0.00

**Grand Total £00,000.00**

An X% discount can be applied to the total job cost upon receipt of an order for all of the contents listed.

Please note all pricing exludes VAT



EXCLUSIONS:

The specification and pricing is prepared on a product supply only basis. This proposal is based on the information provided, additional products unavailable from Midwich may be required to meet the full specification.

Midwich is only able to guarantee the compatibility of components they supply. Compatibility of products with legacy equipment or third party supplied products is not guaranteed. All prices included in this document exclude services, unless expressly stipulated; configuration, programming, commissioning and onsite support are excluded, however can be quoted for separately on request. As a trade only distributor, Midwich is unable to integrate or provide integration services therefore any associated costs are excluded but required to deliver this system. Please see full terms and conditions for details, visit [www.midwich.com/solutionsT&C](http://www.midwich.com/solutionsT&C)

# Complete Project Bid Response .....

## Notes:

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## BENEFIT FROM A VARIETY OF VALUE ADDED SERVICES:



Technical Know-How



Site Visit



Project Specification



System Design



Specialist Knowledge



Proposal

## OUR ~~EX~~PERTISE IS YOUR ADVANTAGE

We understand the value of being brand agnostic and do not have an 'own-brand' product range. You can be 100% assured that our knowledgeable support teams will always provide totally objective advice on the best combination of products for your projects.

Please contact our Solutions sales team on **01379 647599**

**midwich**