



DSP750

IN-WALL DIGITAL ACTIVE LOUDSPEAKER  
ULTIMATE POWER AND FIDELITY



# INTRODUCTION



Welcome to the class-leading DSP750, Meridian's highest performing in-wall loudspeaker. Engineered using Meridian's core principles of sound design, the DSP750 delivers high resolution audio that is perfect for architectural installations and dedicated home theatres.

No. of drive units	5 (including Beryllium tweeter)
No. of amplifiers	10
Class-M & Dynamic Hi-Res Amps	Yes
Peak SPL @ 1m	120dB
Bass extension	30hz
Hi-Res	Yes
Frequency Response	40kHz

- Optimised for use behind a screen or grille.
- Exceptional signal to noise ratio – perfect for quiet movie moments.
- High dynamic range audio from the quietest detail to the loudest crescendo.
- Pinpoint imaging, independent of listening position, ideal for large theatre applications.
- Delivers incredible power, fidelity and accuracy for both music and movies.



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# DRIVE UNITS



**NEW custom tweeter with a Beryllium dome and diffraction expansion technology.**

- Wide dispersion and pinpoint imaging for a natural, lifelike sound, ideal for larger areas and surround-sound systems.
- Capable of reproducing frequencies in excess of 40kHz.
- High power handling and incredibly low distortion.

## Why Beryllium?

With its low mass, high tensile strength and thermal stability, beryllium is the perfect tweeter material. It is seven times more rigid than titanium or aluminium resulting in sound wave propagation three times faster than titanium. This results in pristine detail to deliver an enhanced, distortion-free high-frequency output for the most natural sound.



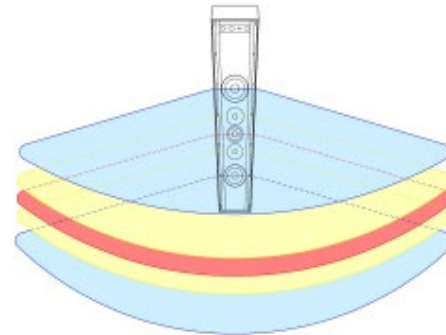
SELECT A DRIVE UNIT

TWEETER

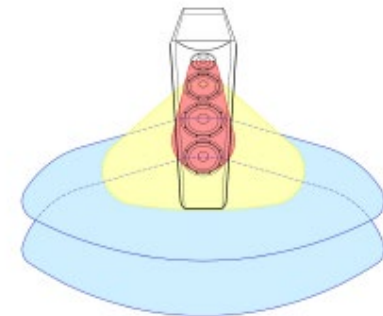
Mid-Range Driver

Bass Driver

**Beryllium tweeter with 'Diffraction Expansion Technology'**



**Conventional tweeter**



Diffraction expansion technology delivers controlled direction, wide dispersion and off-axis response giving all listeners the same experience regardless of where they are sitting.

This solution is ideal for larger areas and gives greater freedom of placement due to the controlled reduction of unwanted reflections.



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# DRIVE UNITS



**NEW design 100mm mid-range drivers contribute to a particularly flat frequency response and high power-handling.**

- Customised matte black, woven polypropylene cone with excellent internal damping and low distortion.
- The large, open weave fabric spider reflects very little acoustic energy to the cone.
- Delivers clear dialogue that punches through the screen.
- Low colouration and distortion.
- Extraordinary fidelity, clarity and off-axis performance.
- Separate mid-range driver enclosures for uncoupling and zero interaction with bass drivers.



## SELECT A DRIVE UNIT

Tweeter

**MID-RANGE DRIVER**

Bass Driver

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# DRIVE UNITS



**NEW design 160mm bespoke bass drivers - capable of producing incredibly deep, powerful and complex bass frequencies with awesome speed and accuracy.**

- Unbeatable bass performance from a 100mm deep architectural loudspeaker, perfect both music and movies.
- Stiff and lightweight aluminium cone for augmented transient response and stiffness/mass ratio.
- Titanium voice coil former with a very long copper coil winding and a bumped back-plate provides excellent force transfer, transient sound reproduction, and large linear excursion.
- Dynamic bass protection provides maximum excursion without distortion.



## SELECT A DRIVE UNIT

Tweeter

Mid-Range Driver

◀ **BASS DRIVER**

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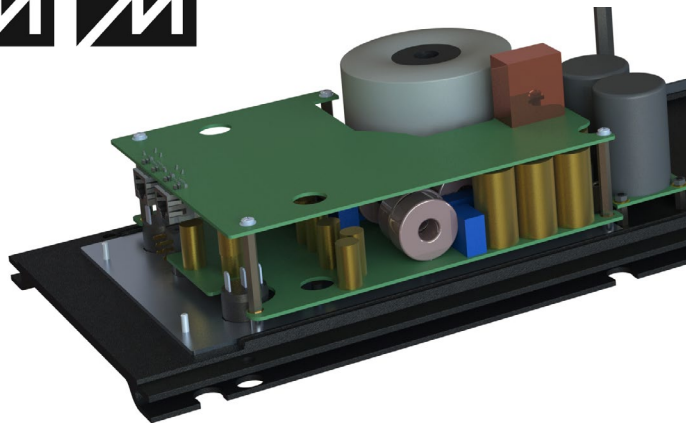
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# AMPLIFIERS

**NEW drive unit designs each powered by a pair of High Definition Class-D amps (10 amps in total). Each pair is bridged for 100W into 8 Ohms.**

- Each drive unit unleashes the full potential of the Class-M DSP engine and Dynamic Hi-Res amplifiers.
- Enhanced design includes feedback around the output inductor which lowers the output impedance to levels rivalling good Class-AB designs, for perfect cone control and maximum detail.
- Electronics pack features 40000uF of Nichicon's highest grade reservoir capacitors which give an awesome transient response and deeper bass.
- Each amplifier channel monitors itself and shuts down independently if a fault occurs. The speaker electronics are protected by self-resetting electronic fuses which only require the speaker to be put into standby to reset.



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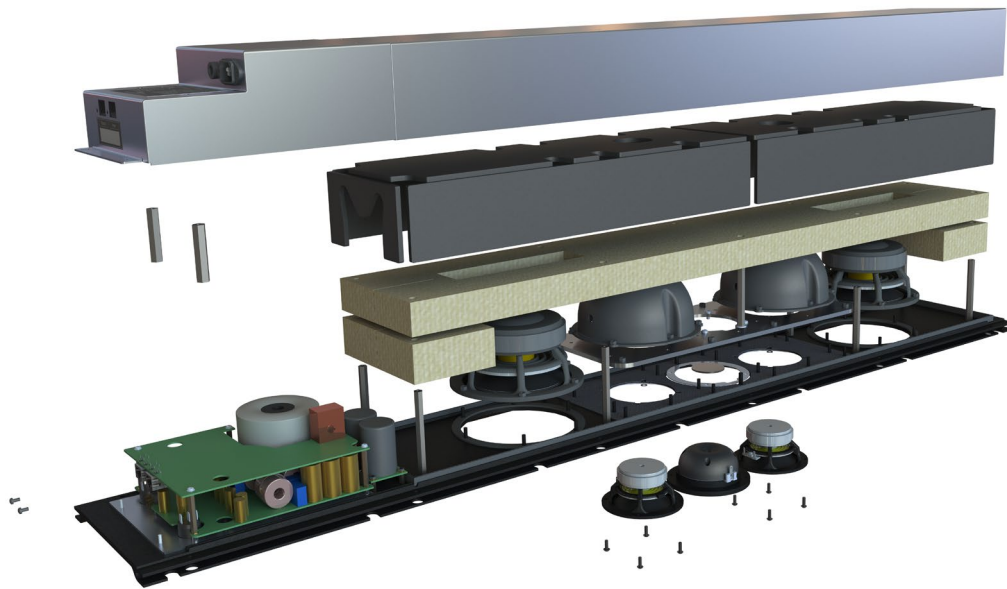
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# CONSTRUCTION



A sealed enclosure and back box provide a fully-engineered solution that eradicates vibrations and ensures a reliable and repeatable performance for every installation.

- “Double-baffle” aluminium enclosure design minimises unwanted resonances and colouration.
- Separate mid-range driver enclosures for decoupling and zero interaction with bass drivers.
- Huge thermal capacity.
- Grille design to match 520.2 and 640.2 - 1.1mm circular perforations.
- Grille-mounts are compliantly mounted neodymium magnets, to prevent vibrations.



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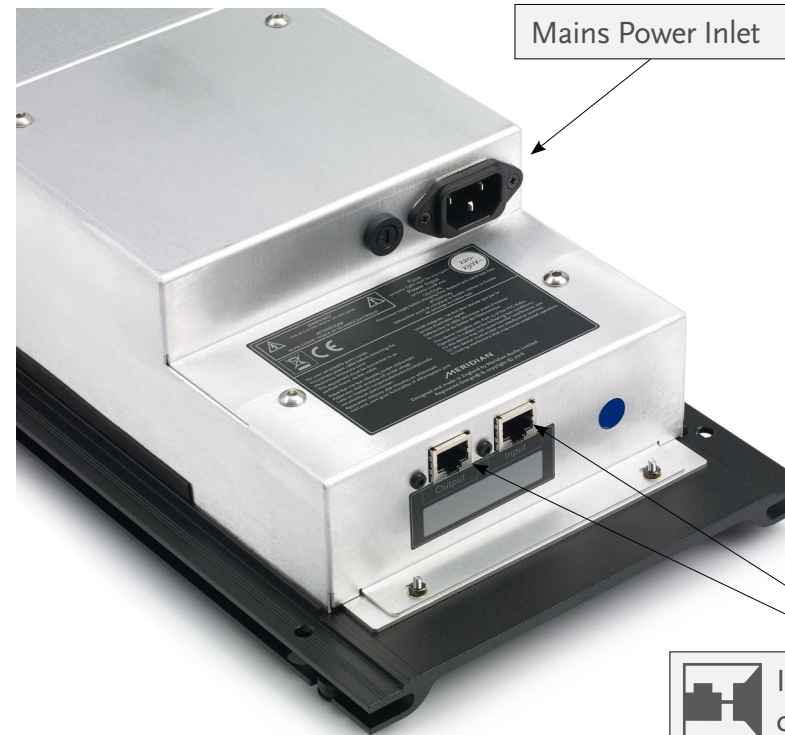
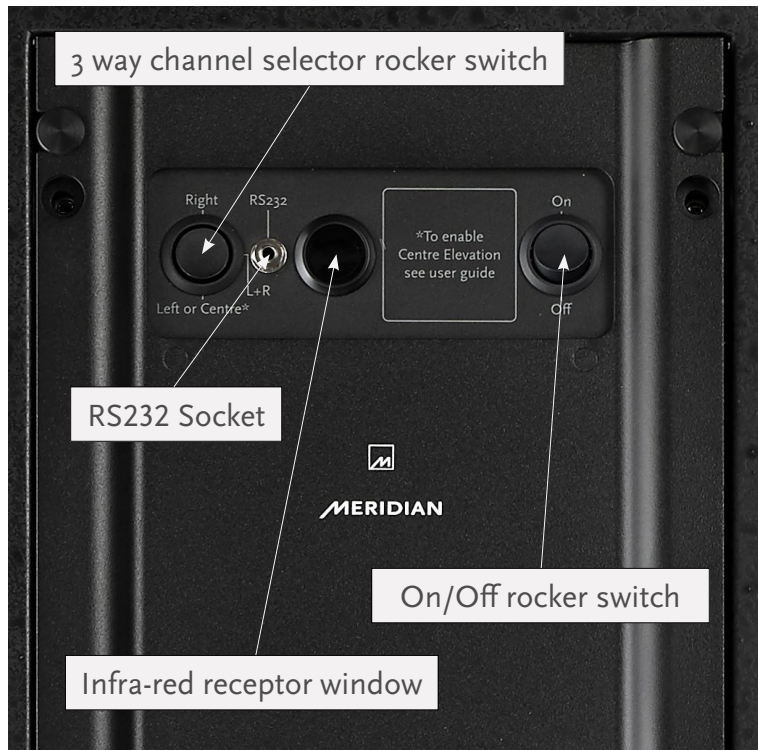
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# USER FEATURES

The front of the loudspeaker carries the on/off rocker switch, an infra-red receptor window with power status lights, an RS232 socket and a three-way channel selector rocker switch. When switched to L + R, the loudspeaker plays a balanced mix of left and right audio which is ideal for soundbar applications - especially when combined with the on-board Centre Elevation Technology.



- Advanced configuration via RS232 socket on front panel or via the SpeakerLink input.
- IEC mains connector included in the back-box connects to flying lead attached to enclosure.

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# TECHNOLOGIES

DSP provides us with a microscopic level of control over the audio signal, enabling us to design advanced technologies that can enhance the listening experience in any context.



## CLASS-M DSP ENGINE

Phase-linear DSP crossovers with text-book performance ensure the drive-units remain in phase with each other across their crossover regions. The DSP engine also provides thermal and dynamic bass protection while retaining very accurate transients, ensuring that when the loudspeaker is played at high levels – even over prolonged periods of time – it always delivers a clean, detailed and accurate sound.



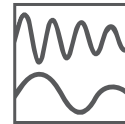
## MERIDIAN DYNAMIC AMPLIFIER DESIGN

Hi-Res power amplifiers include feedback on the output inductor which lowers the output impedance to levels rivalling good Class-AB designs, for perfect cone control and maximum detail.



## CENTRE ELEVATION

Meridian's Centre Elevation technology which is based on psychoacoustic research raises the perceived image location from an under-screen loudspeaker so that it appears to come from the centre of the screen.



## ENHANCED BASS ALIGNMENT (EBA)

Meridian's innovative Enhanced Bass Alignment (EBA) technology time-aligns high, mid and upper bass frequencies with the low bass, resulting in audibly improved bass transients and added life and clarity.



## DIFFRACTION EXPANSION TECHNOLOGY

The innovative tweeter design delivers controlled directivity, wide dispersion and consistent off-axis response. This means all listeners get the same experience, turning the listening-room into one large "sweet-spot". As well as providing greater freedom of placement due to controlled reduction of unwanted reflections, this also makes the loudspeaker ideal for larger areas.

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# INSTALLATION

The cabinet is designed for mounting into new-build partition and stud style walls or be retrofitted into stud or brick/stone-built walls. The solid aluminium back box ensures repeatable performance in any wall cavity.

- Easy-to-install, 'fit and forget' solution.
- Install friendly 100mm (4") mounting depth to fit within standard stud walls.
- Box dimensions 1230mm(h) x 203mm(w).
- Weight 16kg (35lbs).
- Magnets allow easy removal of grille and access to front panel switches.
- Rough-in boxes supplied separately.
- Installation video. [Click to play](#).



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# USE CASES

## SOUNDBAR SYSTEM

### EXAMPLE INSTALLATION SYSTEMS

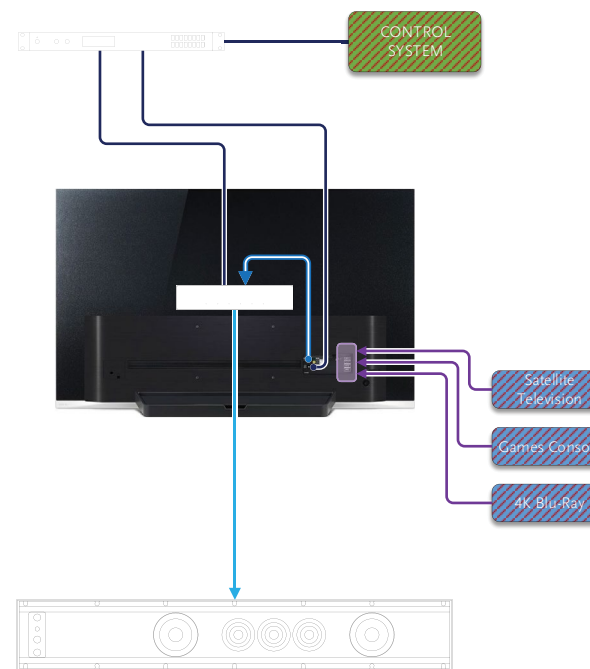
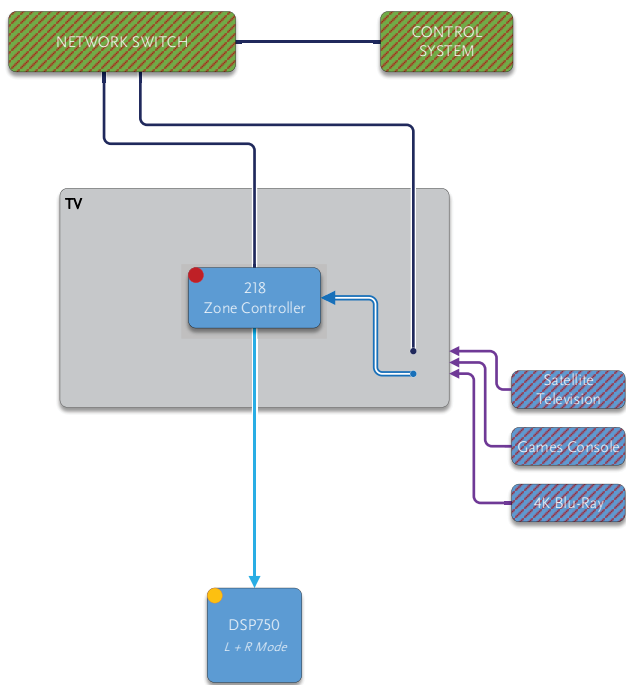
#### ◀ SOUNDBAR SYSTEM

Stereo System

5.1 Surround

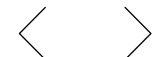
7.2 Reference

16 Channel Immersive System



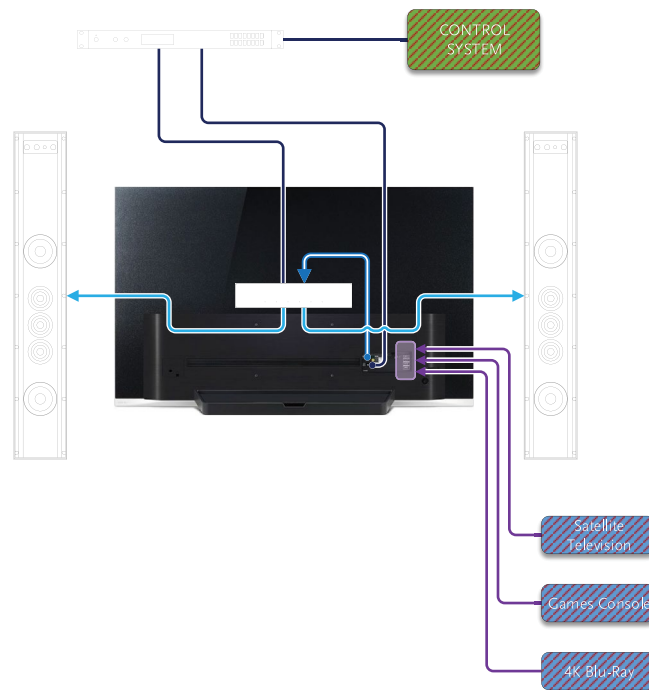
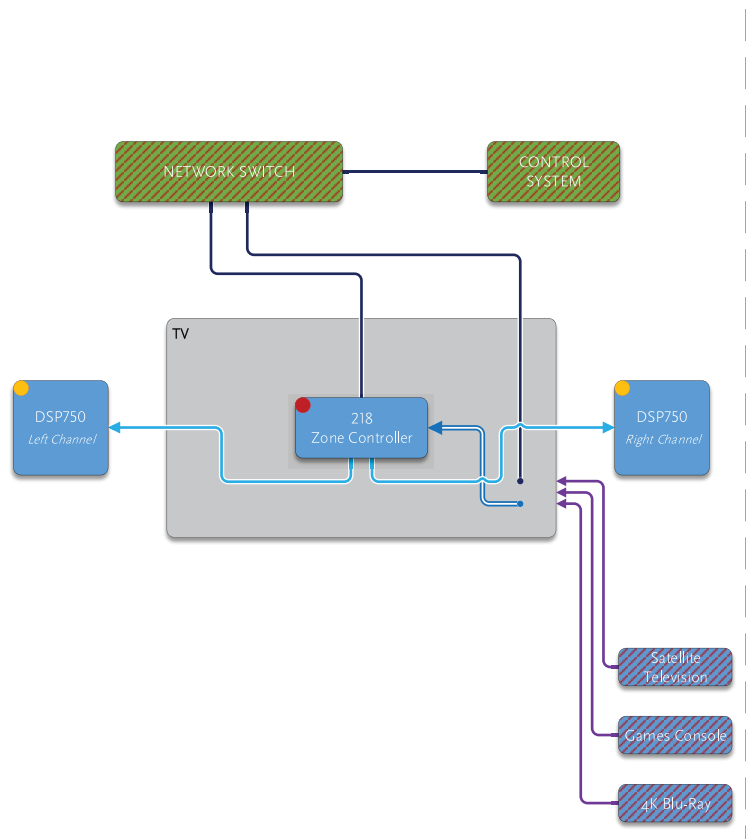
**KEY**

- Located in Room (Blue box)
- Non Meridian Equipment (Hatched box)
- Located in Rack (Green box)
- SpeakerLink (Light blue arrow)
- HDMI (Purple arrow)
- Optical Digital S/PDIF (Double blue arrow)
- Network Connection (Dark blue arrow)



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## STEREO SYSTEM



### EXAMPLE INSTALLATION SYSTEMS

Soundbar System

◀ **STEREO SYSTEM**

5.1 Surround

7.2 Reference

16 Channel Immersive System

KEY

- Located in Room
- Non Meridian Equipment
- Located in Rack

SpeakerLink

HDMI

Optical Digital S/PDIF

Network Connection

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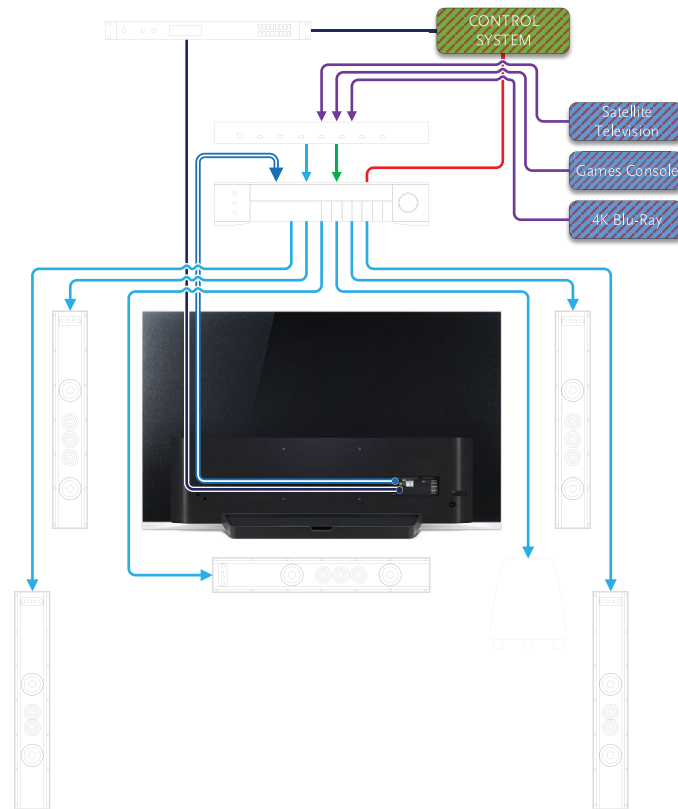
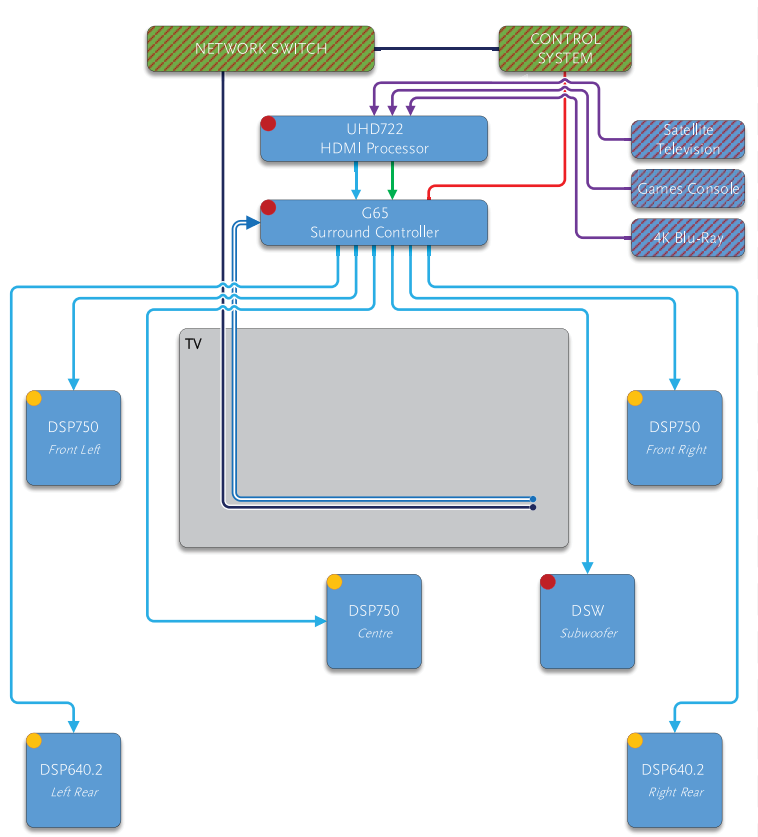
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## 5.1 SURROUND SYSTEM



### EXAMPLE INSTALLATION SYSTEMS

Soundbar System

Stereo System

◀ **5.1 SURROUND**

7.2 Reference

16 Channel Immersive System

KEY

- Located in Room
- Non Meridian Equipment
- Located in Rack

- SpeakerLink
- MMHR
- HDMI

- Optical Digital S/PDIF
- Network Connection
- RS232 Control

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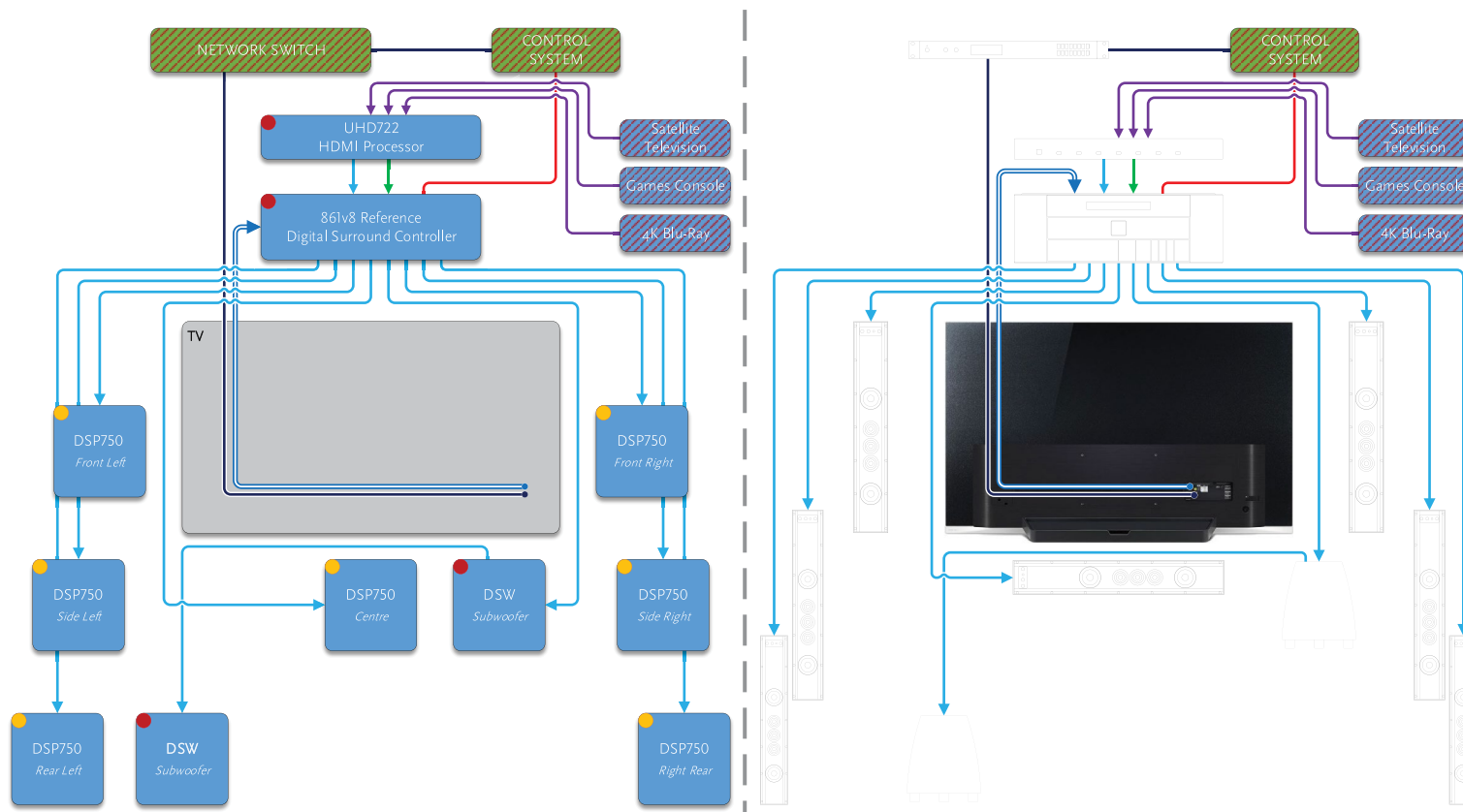
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## EXAMPLE INSTALLATION SYSTEMS

### 7.2 REFERENCE SURROUND SYSTEM



- Soundbar System
- Stereo System
- 5.1 Surround
- 7.2 REFERENCE**
- 16 Channel Immersive System

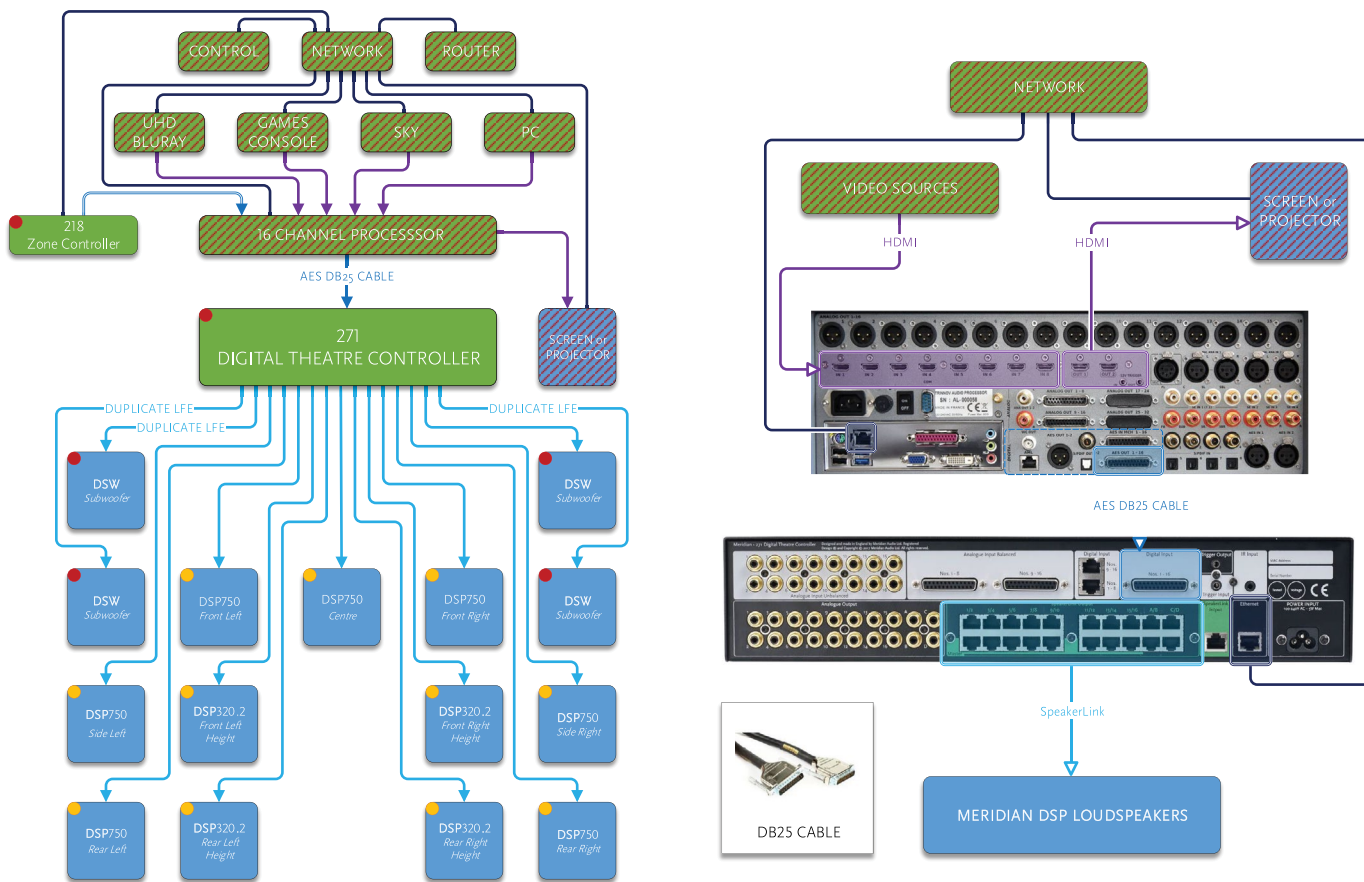
**KEY**

	Located in Room		SpeakerLink		Optical Digital S/PDIF
	Non Meridian Equipment		MMHR		Network Connection
	Located in Rack		HDMI		RS232 Control

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## EXAMPLE INSTALLATION SYSTEMS

### 16 CHANNEL IMMERSIVE SYSTEM



- Soundbar System
- Stereo System
- 5.1 Surround
- 7.2 Reference
- 16 CHANNEL IMMERSIVE SYSTEM**

KEY	Located in Room	SpeakerLink	DB25 Digital Cable
	Non Meridian Equipment	MMHR	Optical Digital S/PDIF
	Located in Rack	HDMI	Network Connection

