RETAIL VIDEO AND CONTROL

Example of a commercial video setup based in a Birmingham retail park.

A multi-screen video projection system with multi channel frame accurate video server, for displaying customer information, DVD, live broadcast, camera and entertainment videos.

The multiple video sources passed through upscalers to ensure a standard input and connected to a Kramer matrix. This enabled seamless switching between the sources for the projectors.

The six screens each measuring 5m x 4m were suspended 15m high to achieve a 360° line of sight throughout the venue. The frame accurate video content was synchronised to create one large video canvas enabling content to scroll around the entire venue. The projection system consisted of 6 large format Sanyo projectors for maximum brightness and suspended in custom housings.

The client required a complex and timed “event” every hour of operation. As several systems had to interact for this to be accomplished, a show controller was used. The hourly event consisted of audio and video linked to a sequenced lighting show. The lighting system utilized a PC based lighting controller

All video and lighting controls were accessed in the main management suite (situated 80m away from the main atrium) via a bespoke show controller and custom interface, consisting of physical buttons and a web page interface.

Changes to original scheme to create a central focus for video content within the venue.

External video projection with automatic scheduling of start-up and shutdown of the projector. The scheduling was achieved from the media servers RS232 output.

NIGHT CLUB VIDEO AND CONTROL

A typical night club design for the UK's leading night club owner.

The basic concept was to integrate video throughout the venue for information and advertising as well as theme enhancing usage of video. The use of video was to be as important as the music and lighting on the dance floor. The focus of the main dance area was a suspended ring with a 360° video projection facing the dance floor.

The video ring projection was created using 14 projectors linked to a DJ controlled matrix. This enabled the user to chose the appropriate output to the projection ring, including multiple different sources to appear simultaneously.

Additional video output to various projectors and flat panel displays throughout the venue was achieved through the use of passive video baluns. The baluns helped reduce the cost, as inexpensive cabling (CAT5) could be used, with the benefit of reduce interference. This video included video projection to areas to enhance the themed styling or create "virtual Windows". The additional video was supplied via solid state media players, again linked via a matrix, so choice of source could be decided by local management.

The entire system was controlled via a Phillips Pronto. With this method of control the manager could fine tune the venue throughout an operating night. With control over almost all systems within the venue, for example the manager could choose the colour of the room's LED lighting, the music source and what video screens were displaying.

All systems were connected at the main AV rack in a secure location and connected via WiFi to the Pronto.

16x16 MEDIA MATRIX

INPUT	DEVICE	OUTPUT	LOCATION
1	DISCO CAM	1	PREVIEW MONITOR
2	PRAGUE CAM	2	TO SOUNDWEB #1
3	BARCELONA CAM	3	TO SOUNDWEB #2
4	MILAN CAM	4	BARCELONA PROJ#1
5	VENUE FREEVIEW	5	BARCELONA PROJ#2
6	VENUE DVD	6	BARCELONA PLASMA
7	MILAN LOGO	7	PRAGUE PLASMA#1
8	BARCELONA LOGO	8	PRAGUE PLASMA#2
9	OCEANA LOGO	9	MILAN #1
10	PRAGUE LOGO	10	MILAN #2
11	OCEANA LOGO	11	MILAN 65"
12	PALM#1	12	X
13	PALM#2	13	X
14	PALM#3	14	X
15	ICEHOUSE CAMERA	15	X
16	ICEHOUSE DJ FEED	16	TO ICEHOUSE 8X8

8X8 ICEHOUSE MATRIX

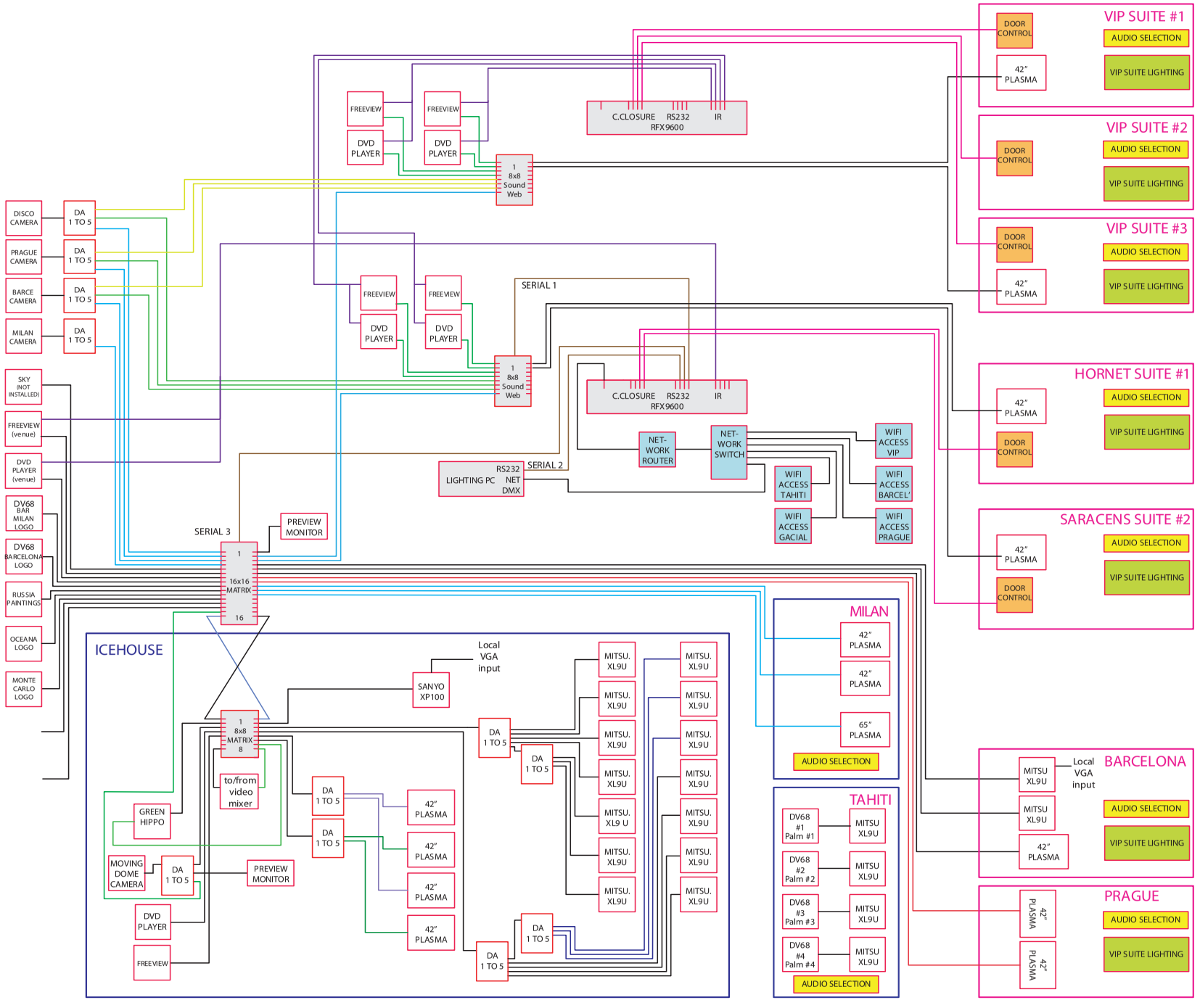
INPUT	DEVICE	OUTPUT	LOCATION
1	FROM 16X61 RACK	1	SEND TO 16X16
2	HIPPO OUTPUT	2	STAGE PROJECTOR
3	360 CAMERA	3	RIG PROJ CH#1
4	DVD PLAYER	4	RIG PROJ CH#2
5	FREEVIEW	5	PLASMAS LHS
6	X	6	PLASMAS RHS
7	X	7	TO HIPPO INPUT
8	FROM VIDEO MIXER	8	TO VIDEO MIXER

SOUNDWEB #1 MATRIX

INPUT	DEVICE	OUTPUT	LOCATION
1	SUITE #1 FV	1	SUITE #1
2	SUITE #1 DVD	2	SUITE #2
3	SUITE #2 FV	3	X
4	SUITE #2 DVD	4	X
5	DISCO CAM	5	X
6	RUSSIA CAM	6	X
7	BARCEL' CAM	7	X
8	FROM VIDEO MIXER	8	X

SOUNDWEB #2 MATRIX

INPUT	DEVICE	OUTPUT	LOCATION
1	HORNET FV	1	HORNET SUITE
2	HORNET DVD	2	SARACENS SUITE
3	SARACENS FV	3	X
4	SARACENS DVD	4	X
5	DISCO CAM	5	X
6	RUSSIA CAM	6	X
7	BARCEL' CAM	7	X
8	FROM VIDEO MIXER	8	X



16 x 16 Matrix

Input		Output	
1	DISCO CAM	1	Preview Monitor
2	RUSSIA CAM	2	BSS Soundweb #1
3	BARCELONA CAM	3	BSS Soundweb #2
4	MILAN CAM	4	BARCELONA PROJ#1
5	CLUB FREEVIEW	5	BARCELONA PROJ#2
6	CLUB DVD	6	BARCELONA PLASMA
7	MILAN LOGO	7	RUSSIA PLASMA #1
8	BARCELONA LOGO	8	RUSSIA PLASMA #2
9	OCEANA LOGO	9	MILAN #1
10	RUSSIA PAINTINGS	10	MILAN #2
11	M'CARLO LOGO	11	MILAN 65"
12	X	12	X
13	X	13	X
14	X	14	X
15	ICE CAM	15	X
16	ICE FEED	16	TO ICEHOUSE DJ

8 x 8 Matrix

Input		Output	
1	FROM MEDIA RACK	1	SEND TO MEDIA RACK
2	HIPPO OUTPUT	2	STAGE PROJECTOR
3	360 CAMERA	3	RIG PROJ CH#1
4	DVD PLAYER	4	RIG PROJ CH#2
5	FREEVIEW	5	PLASMA LHS
6	X	6	PLASMA RHS
7	X	7	TO HIPPO INPUT
8	FROM VIDEO MIXER	8	TO VIDEO MIXER

SOUNDWEB #1

Input		Output	
1	SUITE #1 FREEVIEW	1	SUITE#1
2	SUITE #1 DVD	2	SUITE#2
3	SUITE#2 FREEVIEW	3	
4	SUITE#2 DVD	4	
5	DISCO CAM	5	
6	RUSSIA CAM	6	
7	BARELONA CAM	7	
8	FROM VIDEO MIXER	8	

SOUNDWEB #2

Input		Output	
1	HORNET FREEVIEW	1	HORNET SUITE
2	HORNET DVD	2	SARACENS SUITE
3	SARACENS FREEVIEW	3	
4	SARACENS DVD	4	
5	DISCO CAM	5	
6	RUSSIA CAM	6	
7	BARELONA CAM	7	
8	FROM VIDEO MIXER	8	

Pronto: Unit 0

IR		RS232		Contact Closures		Network	
1	VIP#1 DVD,FV	1		1	VIP suite#1 door	HUB	192.168.0.01
2	VIP#3 DVD, FV	2		2	VIP suite#2 door	WAP#1	192.168.0.10
3	HORNET DVD,FV	3		3	VIP suite#3 door	WAP#2	192.168.0.20
4	SARACEN DVD,FV	4		4	X	WAP#3	192.168.0.30
						WAP#4	192.168.0.20
Pronto: Unit 1						WAP#5	192.168.0.30
IR		RS232		Contact Closures			
1	CLUB DVD, CLUB FV	1	Soundweb	1	HORNET DOOR	Pronto 0	192.168.0.80
2	X	2	Lighting PC	2	SARACENS DOOR	Pronto 1	192.168.0.81
3	X	3	16x16 Matri	3	X	Control#1	192.168.0.101
4	x	4		4	X	Control#2	192.168.0.100

16 x 16 Matrix

Input				Output			
1	DISCO CAM	01	81	1	Preview Monitor	81	81
2	RUSSIA CAM	01	82	2	BSS Soundweb #1	82	81
3	BARCELONA CAM	01	83	3	BSS Soundweb #2	83	81
4	MILAN CAM	01	84	4	BARCELONA PROJ#1	84	81
5	CLUB FREEVIEW	01	85	5	BARCELONA PROJ#2	85	81
6	CLUB DVD	01	86	6	BARCELONA PLASMA	86	81
7	MILAN LOGO	01	87	7	RUSSIA PLASMA #1	87	81
8	BARCELONA LOGO	01	88	8	RUSSIA PLASMA #2	88	81
9	OCEANA LOGO	01	89	9	MILAN #1	89	81
10	RUSSIA PAINTINGS	01	8A	10	MILAN #2	8A	81
11	M'CARLO LOGO	01	8B	11	MILAN 65"	8B	81
12	X	01	8C	12	X	8C	81
13	X	01	8D	13	X	8D	81
14	X	01	8E	14	X	8E	81
15	ICE CAM	01	8F	15	X	8F	81
16	ICE FEED	01	90	16	TO ICEHOUSE DJ	90	81

BARCELONA	CLUB FV	CLUB DVD	ICE FEED	ICE CAM	OCEANA LOGO	BARCEL' LOGO	X	X
PROJ #1	01 85 84 81	01 86 84 81	01 90 84 81	01 8E 84 81	01 89 84 81	01 88 84 81		
PROJ #2	01 85 85 81	01 86 85 81	01 90 85 81	01 8E 85 81	01 89 85 81	01 88 85 81		
PLASMA	01 85 86 81	01 86 86 81	01 90 86 81	01 8E 86 81	01 89 86 81	01 88 86 81		

MILAN	CLUB FV	CLUB DVD	ICE FEED	ICE CAM	OCEANA LOGO	MILAN LOGO	X	X
PROJ #1	01 85 89 81	01 86 89 81	01 90 89 81	01 8F 89 81	01 89 89 81	01 87 89 81		
PROJ #2	01 85 8A 81	01 86 8A 81	01 90 8A 81	01 8F 8A 81	01 89 8A 81	01 89 8A 81		
PLASMA 65	01 85 8B 81	01 86 8B 81	01 90 8B 81	01 8F 8B 81	01 89 8B 81	01 87 8B 81		

VIP SUITE #1	CLUB FV	CLUB DVD	ICE FEED	ICE CAM	OCEANA LOGO	MC LOGO	MILAN CAM	MEDIA RACK	DISCO CAM	RUSSIA CAM	BARCEL' CAM	DVD PLAYER	FREEVIEW
PLASMA	01 85 82 81	01 86 82 81	01 90 82 81	01 8F 82 81	01 89 82 81	01 8B 82 81	01 84 82 81	SW	SW	SW	SW	SW	SW

VIP SUITE #3	CLUB FV	CLUB DVD	ICE FEED	ICE CAM	OCEANA LOGO	MC LOGO	MILAN CAM	MEDIA RACK	DISCO CAM	RUSSIA CAM	BARCEL' CAM	DVD PLAYER	FREEVIEW
PLASMA	01 85 82 81	01 86 82 81	01 90 82 81	01 8F 82 81	01 89 82 81	01 8B 82 81	01 84 82 81	SW	SW	SW	SW	SW	SW

HORNETS	CLUB FV	CLUB DVD	ICE FEED	ICE CAM	OCEANA LOGO	HORNET LOGO	MILAN CAM	MEDIA RACK	DISCO CAM	RUSSIA CAM	BARCEL' CAM	DVD PLAYER	FREEVIEW
PLASMA	01 85 83 81	01 86 83 81	01 90 83 81	01 8F 83 81	01 89 83 81	01 8B 83 81	01 84 83 81	SW	SW	SW	SW	SW	SW

SARACENS	CLUB FV	CLUB DVD	ICE FEED	ICE CAM	OCEANA LOGO	SARACEN	MILAN CAM	MEDIA RACK	DISCO CAM	RUSSIA CAM	BARCEL' CAM	DVD PLAYER	FREEVIEW
PLASMA	01 85 83 81	01 86 83 81	01 90 83 81	01 8F 83 81	01 89 83 81	01 8B 83 81	01 84 83 81	SW	SW	SW	SW	SW	SW

RUSSIA	RUSSIA PAINTINGS
PLASMA #1	01 8A 87 81
PLASMA #2	01 8A 88 81

Lighting Control		Cue List (NIGHT TIME)						
Location	Cue	Red	Blue	Magenta	Orange	Scroll	Off	
MILAN								
BARCEL'								
RUSSIA								
HORNETS								
SARACENS								
MONTE CARLO	ALL BELOW							
VIP SUITE #1								
VIP SUITE #2								
VIP SUITE #3								

Lighting Control		Cue List (DAY TIME)						
Location	Cue	Red	Blue	Magenta	Orange	Scroll	Off	
MILAN								

Pronto: Unit 0

IR		RS232		Contact Closures	
1	VIP#1 DVD,FV	1		1	VIP suite#1 door
2	VIP#3 DVD, FV	2		2	VIP suite#2 door
3	HORNET DVD,FV	3		3	VIP suite#3 door
4	SARACEN DVD,FV	4		4	X

Pronto: Unit 1

IR		RS232		Contact Closures	
1	CLUB DVD, CLUB FV	1	Soundweb	1	HORNET DOOR
2	X	2	Lighting PC	2	SARACENS DOOR
3	X	3	16x16 Matrix	3	X
4	x	4		4	X

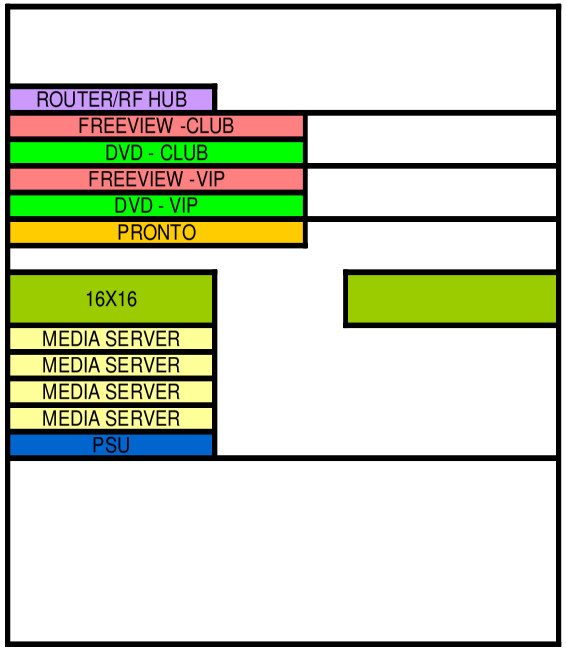
Network	
HUB	192.168.0.01
WAP#1	192.168.0.10
WAP#2	192.168.0.20
WAP#3	192.168.0.30
WAP#4	192.168.0.20
WAP#5	192.168.0.30
Pronto 0	192.168.0.80
Pronto 1	192.168.0.81
Control#1	192.168.0.101
Control#2	192.168.0.100

FRONT VIEW

U		CONNECTIONS	qty	POWER
1	<<<<< BLANK >>>>>>		0	
2	<<<<< BLANK >>>>>>		0	
3	<<<<< BLANK >>>>>>	RF CO-AX	1	LOW
4	NETWORK ROUTER / RF HUB	RJ45	2	LOW
5	FREEVIEW - CLUB	PHONO/SCART	1	13A
6	DVD - CLUB	PHONO/SCART	1	13A
7	FREEVIEW - VIP	PHONO/SCART	1	13A
8	DVD - VIP	PHONO/SCART	1	13A
9	PRONTO	RS232, IR (3.5MM)	1	LOW
10	<<<<< BLANK >>>>>>		0	
11	16x16	BNC,RS232	1	IEC
12				
13	VODKA#1 / TV #1	BNC, PHONO	x	LOW
14	VODKA#2 / TV #2	BNC, PHONO	x	LOW
15	VODKA#3 / V LOGO / TV #3	BNC, PHONO	x	LOW
16	VODKA#4 / OCEANA / TV #4	BNC, PHONO	x	LOW
17	PSU 1 / PSU 2 / PSU3	JACK	3	IEC
18	Each PSU powers 4 media servers			
19				
20				
21				
22				
23				
24				

Required sockets 12

SIDE VIEW



_____ MEANS A SHELF.

Pronto: Unit 1

IR	
1	VIP DVD, VIP FV
2	CLUB DVD, CLUB FV
3	SKY
4	x
RS232	
1	Soundweb
2	Lighting PC
3	16x16 Matrix
4	
Contact Closures	
1	VIP suite door
2	
3	
4	
Network	
HUB	192.168.0.1
WAP#1	192.168.0.10
WAP#2	192.168.0.20
WAP#3	192.168.0.30
WAP#4	192.168.0.40
Pronto	192.168.0.80
Control#1	192.168.0.101
Control#2	192.168.0.100

16 x 16 Matrix

Input		Output	
1	SKY	1	Preview Monitor
2	FV -CLUB	2	BSS Soundweb
3	DVD -CLUB	3	VIP PLASMA #1
4	VODKA1	4	VIP PLASMA #2
5	VODKA2	5	VODKA PLASMA
6	VODKA3	6	VODKA PROJ#1
7	VODKA4	7	VODKA PROJ#2
8	V.LOGO	8	VODKA WIDE #1
9	OCEANA	9	VODKA WIDE #2
10	TV #1	10	VODKA TV#1
11	TV #2	11	VODKA TV#2
12	TV #3	12	VODKA TV#3
13	TV #4	13	VODKA TV#4
14	X	14	ENTRANCE PROJ
15	ICE CAM	15	TO RHYTHM DJ
16	ICE FEED	16	TO ICEHOUSE DJ

Patch Panel Media Rack

1	TO SOUNDWEB	7	OUT - VODKA WIDE #1	13	OUT - ENTRANCE PROJ	19	TO VIP SUITE (WIFI)
2	OUT -VIP PLASMA BA	8	OUT - VODKA WIDE #2	14	TO RHYTHM DJ (VIDEO)	20	TO VIP BAR (WIFI)
3	OUT - VIP PLASMA BA	9	OUT - VODKA TV#1	15	TO ICEHOUSE DJ	21	TO VODKA (WIFI)
4	OUT - VODKA PLASMA	10	OUT - VODKA TV#2	16	IN - ICE CAMERA	22	TO VIP DOOR
5	OUT - VODKA PROJ#1	11	OUT - VODKA TV#3	17	IN - ICE DJ FEED	23	OUT - RS232 SOUNDWEB
6	OUT - VODKA PROJ#2	12	OUT - VODKA TV#4	18	TO RHYTHM DJ (WIFI)	24	OUT-RS232 RHYTHM DJ

Patch Pannel DJ Rack

1	FROM 16 x 16	7	X	13	X	19	X
2	TO 16 x16	8	IN - MOVING DOME CAMERA	14	OUT - RS232 PROJECTOR RIG	20	X
3	OUT - STAGE PROJEC	9	OUT - PLASMA LEFT	15	X	21	X
4	OUT - PROJECTOR RI	10	OUT - PLASMA LEFT	16	X	22	X
5	OUT - PROJECTOR RI	11	OUT - PLASMA RIGHT	17	X	23	X
6	X	12	OUT - PLASMA RIGHT	18	X	24	X

HOME AUTOMATION AND CONTROL

A home automation system was implemented to control all aspects of modern living within a high end residence.

Control systems were to include multi-room audio, lighting, multi-room video, heating and mechanical control (blinds, gates and garage door etc.).
Another major requirement was that no AV hardware was to be visible except for the output displays. This resulted in a decision to centralize all hardware and sending video (standard definition and 1080p) to remote screens around the home.
Video transmission was accomplished via active video senders (via CAT6) which are required to contend with the high definition HDCP protection system.

All systems were controlled via a handheld Philips Pronto controller. These handheld controllers link to the system utilizing a WiFi connection. These were connected to a rack mounted base unit that connects to various devices via it's inputs and outputs (IR, RS232 and contact closures).

Integration with the electrical distribution board was achieved with the use of Clipsal units (dimmers, switch relays etc using the Cbus protocol) and controlled by a PAC logic controller. The PAC can be programmed with a script based program and uploaded into the units memory for conditional logic and other applications.
Although the Philips Pronto does not natively communicate with Clipsal, a passer script created in the PAC enabled 2-way control across the systems.

The multi-room audio was controlled via a BSS Soundweb processor to fine tune the sound and distribution around the house. It was also used as the main audio matrix, again controlled by the Pronto.

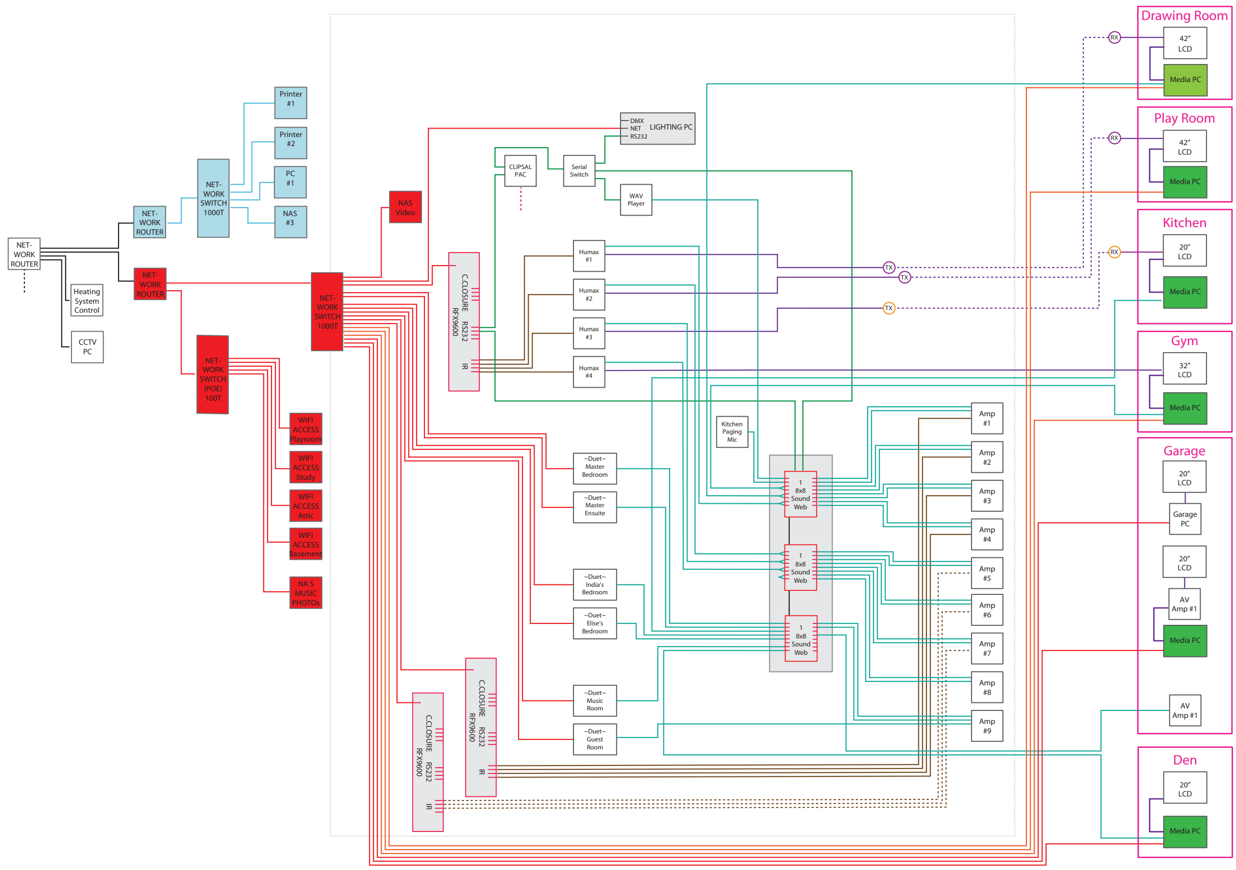
The multi-room video consisted of video upscalers and matrix. Source selection could easily be controlled by the user without worrying about it's format. The use of media servers was also employed enabling both audio and video content to be chosen and played either via the Pronto or iPhone.

House Specifications:

Control Systems:
Clipsal PAC.
Soundweb
Artist DMX lighting control.
Philips Pronto (TSU9800 and RF9600).
Heating System.
Bespoke Mechanical Controller (PLC type).

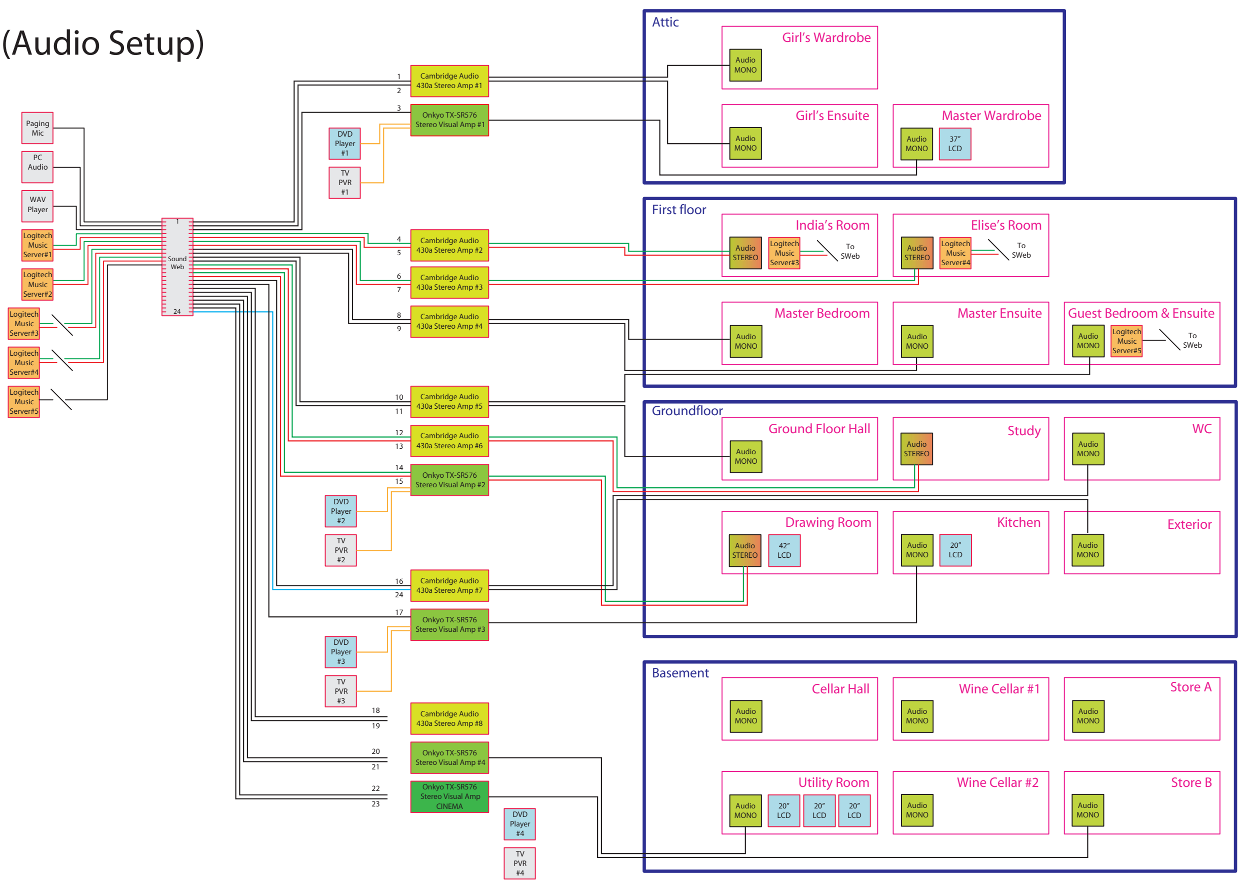
Network:
Multiple Wifi Access Points for full coverage.
Internal Wired segmented LAN 1000-BaseT
CAT6 cable infrastructure for IP data and transmission of "other signals" e.g. Video and/or Audio

Video and Audio:
Multiroom audio setup to zoned ampiflers.
Multi-room up to 1080p video access via streaming files from NAS devices to media servers.
Video transmission via passive and active video senders.
HD DVR satelite systems.
CCTV integration and transmission via CAT6 cable with video Baluns.



Drawing Room
Play Room
Kitchen
Gym
Garage
Den
42" LCD
20" LCD
32" LCD
37" LCD
Media PC
Garage PC
AV Amp #1
RX
TX
NET-WORK ROUTER
NET-WORK SWITCH 1000T
NET-WORK SWITCH (POE) 100T
Printer #1
Printer #2
PC #1
NAS #3
NAS Video
NAS MUSIC PHOTOS
Heating System Control
CCTV PC
WIFI ACCESS Playroom
WIFI ACCESS Study
WIFI ACCESS Attic
WIFI ACCESS Basement
LIGHTING PC
DMX
NET
RS232
CLIPSAL PAC
Serial Switch
WAV Player
Humax #1
Humax #2
Humax #3
Humax #4
C.CLOSURE RFX9600
RS232
IR
Kitchen Paging Mic
8x8 Sound Web
~Duet~ Master Bedroom
~Duet~ Master Ensuite
~Duet~ India's Bedroom
~Duet~ Elise's Bedroom
~Duet~ Music Room
~Duet~ Guest Room
Amp #1
Amp #2
Amp #3
Amp #4
Amp #5
Amp #6
Amp #7
Amp #8
Amp #9

(Audio Setup)



Attic
Girl's Wardrobe
Girl's Ensuite
Master Wardrobe
First floor
India's Room
Elise's Room
Master Bedroom
Master Ensuite
Guest Bedroom & Ensuite
Groundfloor
Ground Floor Hall
Study
WC
Drawing Room
Kitchen
Exterior
Basement
Cellar Hall
Wine Cellar #1
Store A
Utility Room
Wine Cellar #2
Store B
Audio MONO
Audio STEREO
Logitech Music Server#1
Logitech Music Server#2
Logitech Music Server#3
Logitech Music Server#4
Logitech Music Server#5
To SWeb
Paging Mic
PC Audio
WAV Player
Sound Web
Cambridge Audio 430a Stereo Amp #1
Onkyo TX-SR576 Stereo Visual Amp #1
Cambridge Audio 430a Stereo Amp #2
Cambridge Audio 430a Stereo Amp #3
Cambridge Audio 430a Stereo Amp #4
Cambridge Audio 430a Stereo Amp #5
Cambridge Audio 430a Stereo Amp #6
Onkyo TX-SR576 Stereo Visual Amp #2
Cambridge Audio 430a Stereo Amp #7
Onkyo TX-SR576 Stereo Visual Amp #3
Cambridge Audio 430a Stereo Amp #8
Onkyo TX-SR576 Stereo Visual Amp #4
Onkyo TX-SR576 Stereo Visual Amp CINEMA
DVD Player #1
TV PVR #1
DVD Player #2
TV PVR #2
DVD Player #3
TV PVR #3
DVD Player #4
TV PVR #4
42" LCD
37" LCD
20" LCD