

This technical manual contains the specific information applying to St Luke's Players equipment. In addition, it has the configurations used by the Players and manufactures' data on their equipment.

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## LIGHTING

There is one Front of House lighting bar with 12 lamp sockets, normally equipped with Source Four Jr Zoom lamps. Across the stage ceiling there are 4 tracks, each with 8 lamp sockets for LED top and back lights, LCG Dice 6 type. All 44 lamp sockets are wired to fixed plugs mounted on a patch panel on the Stage Right wall. From the patch panel cables can be connected to the 7 dimmer packs, Leviton DDS 5600 type, 1800 watt. However, the LED lights must NOT be connected to the dimmer packs but plugged into a standard 120 v. outlet.

Control of the dimmer packs is via standard 5 pin DMX 512 multiplex connectors. (Control of the LCG Dice 6 LEDs requires a 3 to 5 pin DMX connector adapter.)

The controller for the Lighting is an ETC Obsession II unit mounted on a trolley at the rear of the auditorium. Software commands for Obsession are given in the manual. An alternative but more limited controller is a Leviton MC 7024 portable unit, stored in the Glory Hole.

AC power for the dimmer packs and other outlets is via switches and circuit breakers as given below.

In addition, there are Working lights consisting of three tracks, each with 4 working LED lamps, across the stage ceiling. They are controlled via 3 switches on Stage Right middle, Stage Left proscenium wall and auditorium rear wall.

The Auditorium Overhead lights are dimmer-able LEDs controlled from 3 positions, auditorium rear wall, auditorium wall near the kitchen and Stage Right proscenium wall.

The AC power comes via outlets p3, p4, p5 and p6 located on the stage right wall.

The manufactures' equipment data sheets are given in the Appendix 1.

## Sound

Basically, there are four sub-systems:

- the Main sub-system for sound effects to the audience,
- the On-stage sub-system for special sound effects used on stage,
- the stage Microphone sub-system for amplifying the actor's voices to the audience, and
- the stage monitoring sub-system for the Dressing rooms.

The Main setup consists of four loud speakers, a shared six position speaker patch panel, four audio amplifiers, (ART types SLA-4) to drive the speakers, (Yorkville type YX 10), and a mixer at the rear of the auditorium to control the main audio (Yamaha MC 10/2) driven by two laptop computers (a PC or a Mac).

The On-stage setup consists of two older model loud speakers, a two-position speaker patch panel, two audio amplifiers (ART SDA-1) and the same mixer as the Main, to control the on-stage sound level.

The stage Microphone setup consists of two loud speakers (Yorkville type YX 10), a shared six position speaker patch panel, two audio amplifiers (ART type SLA-2), a mixer back stage to control the microphone levels (Behringer UB802) which is also used by the church and three fixed stage microphones (APEX 150).

The stage monitoring setup consists of a separate microphone on stage right and audio amplifier (MPA 20) which drive three speakers located in the Men's, Ladies dressing rooms and basement hallway. This is used by actors for monitoring stage activities.

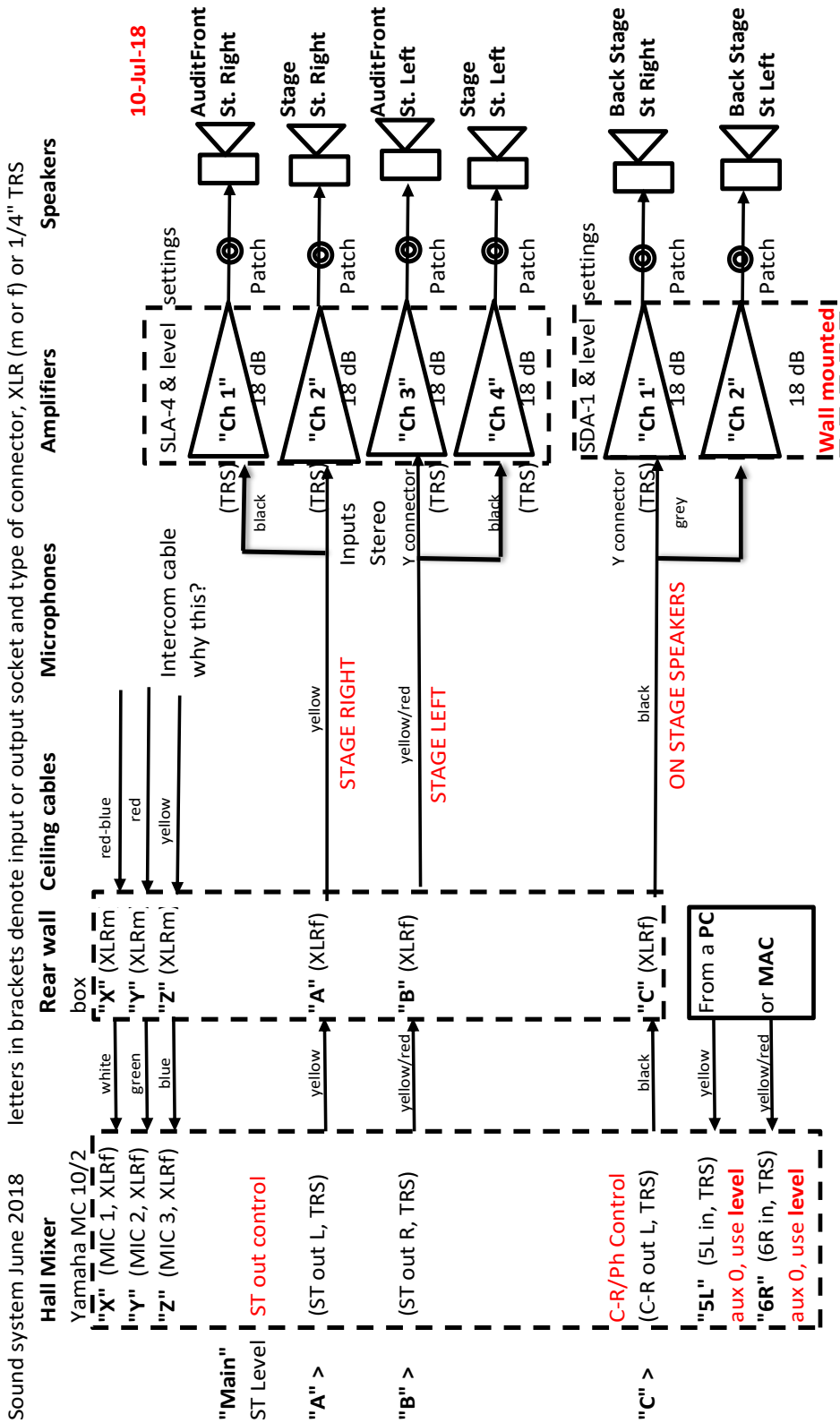
The circuit layout of the equipment is given below and a copy is pinned on the right down stage wall. The required speaker patch panel and the amplifier input arrangements are shown below followed by the control settings of the Auditorium and Back stage mixers

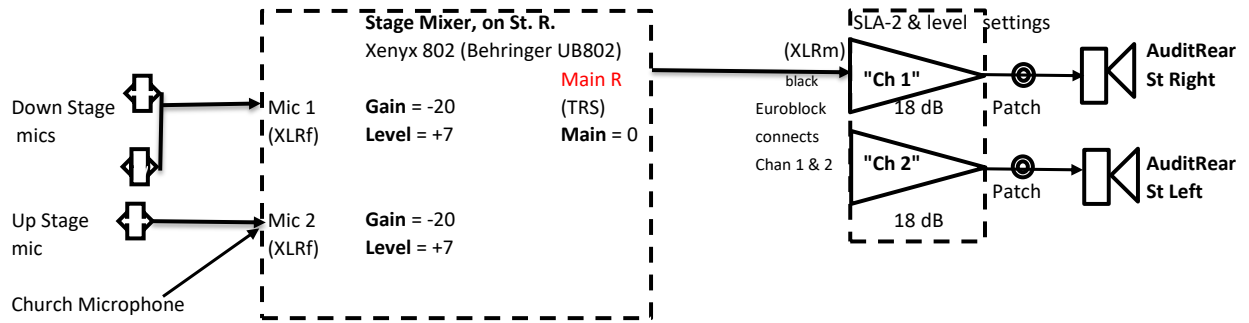
With this equipment configuration and using the control settings of the Auditorium and Back stage mixers, the gain and inputs of the audio amplifiers, and the speaker patch panels, the following arrangements are available.

- Independent level control of the St R speaker and front Auditorium St R speaker
- Independent level control of the St L speaker and front Auditorium St L speaker.
- Independent level control of the On stage speakers
- Independent level control of the stage microphones that feed the two rear Auditorium speakers

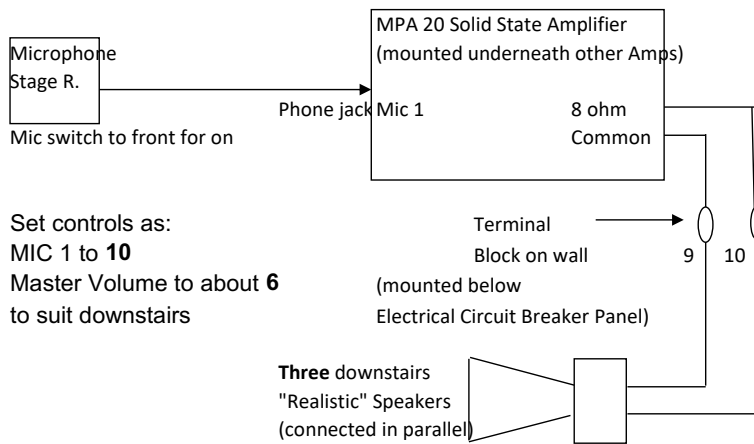
The AC power required for the main amplifiers, back stage mixer and monitor amplifier comes via outlet p1 which is stage right front and under the breaker panel.

For rehearsal purposes a portable Bluetooth battery-powered speaker is available, a Taotronics TT-SK06 model. It can be driven by any Bluetooth enabled computer or tablet. This is especially useful for Panto rehearsals. The manufactures' equipment data sheets, which include some circuit diagrams, are given in the Appendix 2





**Downstairs monitor, for Dressings rooms**



The audio patch panels enable the various Amplifiers to be patched to the different Speakers  
They consist of two wall plates, with fixed cables for Amplifiers and patch cables for Speakers  
Connections below allow sounds from speakers for Stage Left and Right to be independant  
In addition the On stage (Back stage) can be used for special effects -door rings, sirens, etc  
Also the Auditorium rear speakers are used for stage mics

**SPEAKER** Wall patch panel plate, MAIN

Wall Plate Markings	Amplifier Connection	Speaker Connection	Wall Plate Markings	Amplifier Connection	Speaker Connection
Front Left	Ch 1 of SLA-4	Auditorium, Front, St R	Rear Left	Ch 2 of SLA-4	Stage, St R
Front Centre	Ch 3 of SLA-4	Auditorium, Front, St L	Auxillary	Ch 4 of SLA-4	Stage, St L
Front Right	Ch 1 of SLA-2	Auditorium, Rear, St R	Rear Right	Ch 2 of SLA-2	Auditorium, Rear, St L

**SPEAKER** Wall patch panel plate, for Amplifier on Right Wall

Wall Plate Markings	Amplifier Connection	Speaker Connection	Wall Plate Markings	Amplifier Connection	Speaker Connection
Front Left	Ch 1 of SDA-1	On stage, St Right	Rear Left	Ch 2 of SDA-1	On stage, St Left
Front Centre	No connection		Auxillary	No connection	
Front Right	No connection		Rear Right	No connection	

**AMPLIFIER** Inputs

Ch 1 of SLA-4	<b>A</b> of Hall Mixer, Input connected to Ch 2	Y connector used
Ch 2 of SLA-4	Input connected to Ch 1	
Ch 3 of SLA-4	<b>B</b> of Hall Mixer, Input connected to Ch 4	Y connector used
Ch 4 of SLA-4	Input connected to Ch 3	
Ch 1 of SLA-2	<b>Main L</b> of Stage Mixer, Input connected to Ch 2	Euroblock connector used
Ch 2 of SLA-2	Input connected to Ch 1	
Ch 1 of SDA-1	<b>C</b> of Hall Mixer, Input connected to Ch 2	Y connector used
Ch 2 of SDA-1	Input connected to Ch 1	

**DO NOT** use the Bridge switch of the SLA & SDA amplifiers. Bridges 1 with 2, etc  
That bridge switch makes the amplifiers in parallel and disables the outputs

Setting of 'no' means no connection, 'ccw' means counter-clockwise, 'mid' means middle. '0' also means counter-clockwise.

Settings of the Main auditorium mixer. Use PAN/BAL of Ch 5/6 for left or right control

1	2	3/4	5/6	7/8	9/10	2TR IN	ST		C-R Phone	
input	input	input	input	input	input	input	output, L	output, R	output, L	output, R
XLR, 'X' connector	XLR, 'Y' connector	XLR, 'Z' connector	MIC, no				TRS, 'A' connector	TRS, 'B' connector	TRS, 'C' connector	
LINE, no	LINE, no	L, no	L, connector, yellow	L, no	L, no					
INSERT, no	INSERT, no	R, no	R, connector, red-yellow	R, no	R, no					
GAIN, ccw	GAIN, ccw	GAIN, ccw	GAIN, 8	GAIN, ccw	GAIN, ccw	Control, ccw				
HI, mid	HI, mid	HI, mid	HI, mid	HI, mid	HI, mid					
MID, mid	MID, mid	MID, mid	MID, mid	MID, mid	MID, mid					
LO, mid	LO, mid	LO, mid	LO, mid	LO, mid	LO, mid					
AUX, mid	AUX, mid	AUX, mid	AUX, 0	AUX, mid	AUX, mid					
PAN, mid	PAN, mid	PAN/BAL, mid	PAN/BAL, mid	BAL, mid	BAL, mid					
LEVEL, 0	LEVEL, 0	LEVEL, 0	LEVEL, 8	LEVEL, 0	LEVEL, 0		LEVEL, 7		LEVEL, 7	

If required the "X, Y & Z" circuits between the stage and the Main mixer could be used as extra sound channels

Settings of the Back Stage mixer

<b>1</b>	<b>2</b>	<b>3/4</b>	<b>5/6</b>	<b>CTRL ROOM OUT</b>		<b>MAIN OUT</b>	
<b>input</b>	<b>input</b>	<b>input</b>	<b>input</b>	<b>output, L</b>	<b>output, R</b>	<b>output, L</b>	<b>output, R</b>
XLR, Down Stage Mics	XLR, Up Stage Mic						<b>TRS,</b>
LINE IN, no	LINE IN, no						
<b>GAIN, -20</b>	<b>GAIN, -20</b>						
HI, mid	HI, mid						
MID, mid	MID, mid						
LO, mid	LO, mid						
FX, ccw	FX, ccw						
BAL, mid	BAL, mid						
<b>LEVEL, 7</b>	<b>LEVEL, 7</b>	LEVEL, -oo	LEVEL, -oo	PHONES, -oo		<b>MAIN MIX, 0</b>	



## INTERCOM

The Intercom is a cable connected system using a base station from Showcom ICM 2, located at Down Stage Left. The cables run to Down Stage Right and the Rear of the Auditorium and use XLR 3 pin for the main cable connectors to the two belt packs. The belt packs are powered from the base station, 24 to 30 volts dc, and are “daisy-chained” together for the required party-line effect.

There are three headsets, Showcom K 800 E, which plug into the belt packs or the base station. The headsets use XLR 4 pin connectors.

Note: The Showcom ICM 2 base station is similar to the Clear-Com CS-702 base station, which is a more well known company, and its manual is included in Appendix 3.

In addition, there are two wireless headsets, a Blue Parrot B250-XT and a JK Audio BSET-HS1. These require an Interface, a Blue Set F4 from JK Audio, to connect them to the base station via its headset connector. These use Blue Tooth technology and are at present limited in range to the stage area. (The wireless headset with the Interface could be used with any other headset that uses XLR 4 pin male connector.)

## INTERCOM WITH BLUE TOOTH HEADSET

2 JULY 2018

Consists of ShowCom Base Station, Blueset Headset Interface and Blueset Headset. The Interface is plugged into the ShowCom headset connector on the front panel. Make sure the Interface and headset chargers are on and the ShowCom is switched on. The switch on the Headset Interface unit must be set to Headset.

**Switch on.** If the Headset and Interface are paired then press the Headset **Answer** button for 2 seconds and the Interface **Connect** button for 3 seconds. The LED's will be flashing green (Headset) and blue and flashing 1 second on and 2 second off (Interface).

**Switch off.** Press the Headset **Answer** for 4 seconds and the Interface **Connect** for 5 to 10 seconds. The LED's flash red 3 times (Headset) and blue off (Interface)

Most activities require pressing the Connect button on the Interface unit as summarized below. However, must first enable the Headset itself by holding the **Answer** button for 4 to 5 seconds until its LED flashes red and green.

Desired activity	Action	Blue LED response
<b>Pairing</b> , if unit has been off for several days. The unit needs to pair to Headset	Press <b>Connect</b> for 6 plus seconds	Fast flashing on and off
<b>Idle</b> , connects to headset if unit has been switched off for less than three days	Press <b>Connect</b> for 3 seconds	Short on flash then off for 2 seconds.
<b>Turning off</b> , the Interface unit	Press <b>Connect</b> for 5 seconds but less than 10	LED goes out
<b>Clearing connection history</b> , removing the memory of the paired units.	Press <b>Connect</b> for 5 seconds but less than 10.	LED goes out
First turn off the unit. After memory reset it goes to pairing	Press <b>Connect</b> for at least 20 seconds.	Fast flashing on and off

**Notes from 2 July 2018.** Results with Paul, Dave and self. Tried Mikes notes as given in e-mail. No success.

Tried my notes of above, Switch On and Switch Off. Limited success, seemed best without charger into Blue Tooth headset. At one point had comms with a headset plugged into belt pack at rear of hall but could only talk and listen one-way, Rear to Bluetooth headset, nothing Bluetooth to Rear.

Indications are that the Bluetooth headset is OK and behaving as expected but Interface unit has an intermittent connection to the base station headset connector.

## SET CONSTRUCTION TOOLS AND PARTS

This section lists the tools, jigs and parts available for set construction. The two major tools are:

A DeWalt 12-inch Double Bevel compound Mitre saw, DW 716, complete with the crown moulding fence, DW 7084.

A DeWalt 10-inch Compact Table saw, DWE 7480.

Minor tools include:

- Mikita hand-sander
- Zzz, hand planer
- Www, wood chisels
- DYMO label maker LetraTag
- Door mortise kit, sss

**Parts** available are drill bits, screw driver bits, wood screws (3/4 to 3 1/2 inch), various odd size screws, a few different machine screws, and so on. A multitude of different tapes, masking, double-sided and so on.

Special Stanley door hinges with # 9 screws

## AC POWER WIRING OF AUDITORIUM AND STAGE

The AC power is via a circuit breaker branch panel and is located Down Stage Right. The circuit breakers are colour code and the blue tape apply to stage (the red marked breakers typically apply to the kitchen). The table below shows the circuit breakers

### Circuit Breaker Panel

September 10, 2014

Left	Right
1 Basement and store room	Exits and Emergency 2
3 Outlet p20, Hall back wall + Rear storage room lts/plugs	House Lights 4
5 Basement lights	House Lighting Controller (Attic) 6
7 Stage Working Lights	Outlet p19, Auditorium, house left wall 8
9 Stage Outlets, p12 + p14 + p15	Outlet p21, Auditorium, house right wall 10
11 Stage Outlet p1 (20 Amp)	Parking flood lights 12
13 Stage Outlet p6 for Dimmer Packs #1 and #2	Furnace 14
15	Stage Outlets, p7+ p8 16
17 Stage Outlet p5 for Dimmer Packs #3 and #4	Stage Outlets, p9 + p10 18
19	Stage Outlets, p2 + p11 + p13 20
21 Stage Footlight Outlet, p18	Stage Outlet p4 for Dimmer Packs #5 and #6 22
23 Stage Footlight Outlets, p16 + p17	24
25 Range, 40 Amps	Stage Outlet p3 for Dimmer Pack #7 26
27	Stage Outlet p3 for Hall rear, high outlet via "Spot" 28
29	30

There is a switch panel attached to the breaker panel which control the AC power to various outlets as shown below

## Switch Panel at DownStage Right

1	2	
3	4	
5	6	
7	8	9
10	11	12
<b>13</b> Channels 17-20, 21-24	<b>14</b> Channels 25-28	15
<b>16</b> Channels 1-4, 5-8	<b>17</b> Channels 9-12, 13-16	18
<b>19</b> Footlights	<b>20</b> Footlights	<b>21</b> Footlights
<b>22</b> Stage Left Centre	<b>23</b> Stage Right Wall, Downstage	
<b>24</b> Back wall, Top	<b>25</b> Back wall, bottom	

Colours correspond to those of the Wiring  
No colour means no switches installed

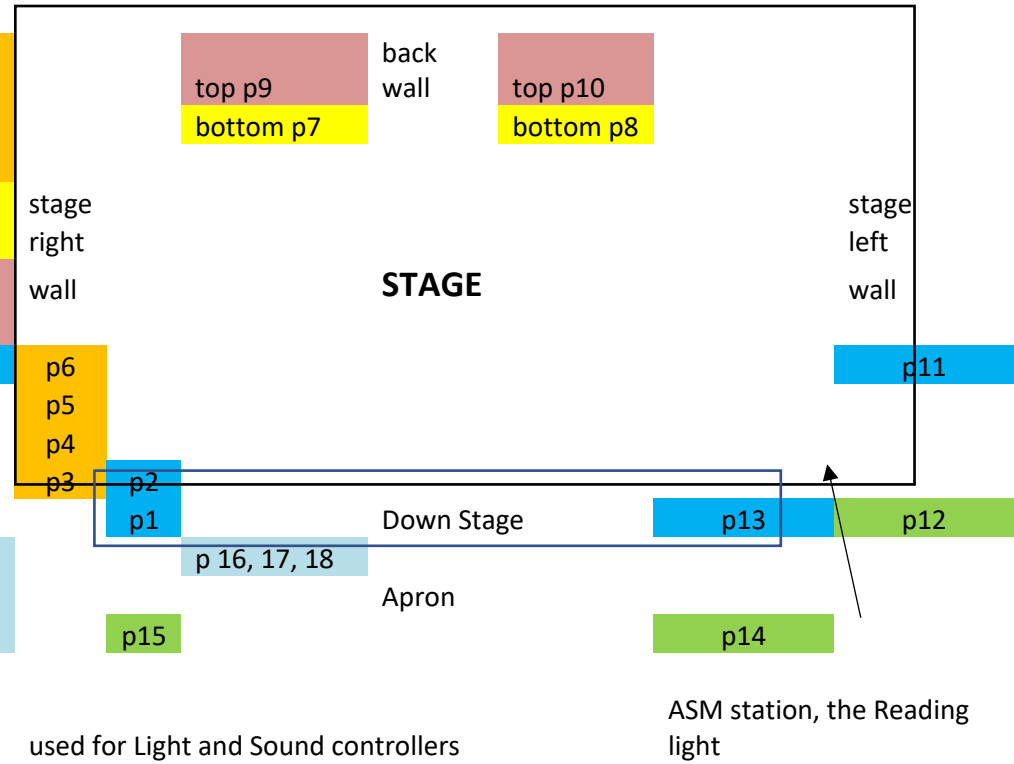
The wiring diagram for the outlets is shown below

## St Luke's Auditorium wiring

As rewired by Mori, July/Aug by 2014

As of : 9/10/2014

Socket		Circuit		
Outlet #	Location	Breaker	Switch	
Outlet #	Location	Number	Number	Colours show socket outlets locations, circuit breakers numbers and switch numbers and - means no switch
p1	Under breaker panel	11	-	
p2	stage right wall, downstage	20	23	
p3	Dimmer pack 7 + hall rear, high socket	26/28	14	
p4	Dimmer packs 5 and 6, channels 17-24	22/24	13	
p5	Dimmer packs 3 and 4, channels 9-16	17/19	17	
p6	Dimmer packs 1 and 2, channels 1-8	13/15	16	
p7	back wall, stage right, bottom	16	25	
p8	back wall, stage left, bottom	16	25	
p9	back wall, stage right, top	18	24	
p10	back wall, stage left, top	18	24	
p11	stage left wall, centre	20	22	
p12	stage left, downstage wall	9	-	
p13	stage left, downstage wall	20	-	
p14	front of apron stage left	9	-	
p15	front of apron stage right	9	-	
p16	footlights, upstage	23	19	
p17	footlights, centre	23	20	
p18	footlights, downstage	21	21	
p19	Auditorium House left wall	8	-	
p20	Auditorium back wall	3	-	used for Light and Sound controllers



<b>p21</b>	Auditorium House right wall	10	-	and intercom use p12
	<b>Stage working lights</b> (three rows of four LED lights)	7	<b>Three switches, mid-Stage Right, down Stage Left and Auditorium rear</b>	
	<b>Auditorium LED ceiling lights</b> (two rows of five fixtures, each fixture with four LED tube lights)	4	<b>Three switches, Auditorium door, down Stage Right and Auditorium rear</b>	
	<b>Sound Amplifiers and Church Mixer wired to p1</b>			