

# Perth Concert Hall

## Technical and Production Information



**February 2019**



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# Introduction and Venue Contacts

The Perth Concert Hall (PCH) is renowned as one of the finest music acoustics in the southern hemisphere. The reflective surfaces in the auditorium have been designed to maximise the acoustic music experiences for both artist and audiences.

These Technical Specifications are subject to change without notice.

Please liaise with venue technical staff to verify or enquire further regarding any of the specifications.

**Venue Address:**

Perth Concert Hall  
5 St Georges Terrace  
Perth, WA, 6000  
Australia

**Mailing Address:**

Perth Concert Hall  
PO Box 3041  
East Perth, WA, 6892  
Australia

**Website:** [www.perthconcerthall.com.au](http://www.perthconcerthall.com.au)

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# General Information

## Venue History

Perth Concert Hall was constructed between 1971 and 1973 on land that was originally part of the Government Domain. The building was officially opened on January 26<sup>th</sup>, 1973.

Since its construction, the venue has been in continuous use for musical performances and other events. It regularly hosts many school and university graduation ceremonies. The venue also holds weddings, business conventions and other civic functions.

## Seating

The Concert Hall auditorium has a maximum seating capacity of 1891.

This comprised of the three levels of auditorium seating (stalls, lower gallery and upper gallery) and choir stalls.

The stalls have a capacity of 1117. However, the installation of a half thrust requires the removal of 75 seats. Similarly, the installation of a full thrust requires the removal of 194 seats.

There are 260 seats in the lower gallery and 354 seats in the upper gallery.

The choir stalls has a capacity of 160 people, but is not suitable for sale for all shows.

All levels have removable seating for mobility-impaired patrons, when requested.

### UPPER GALLERY SEATING

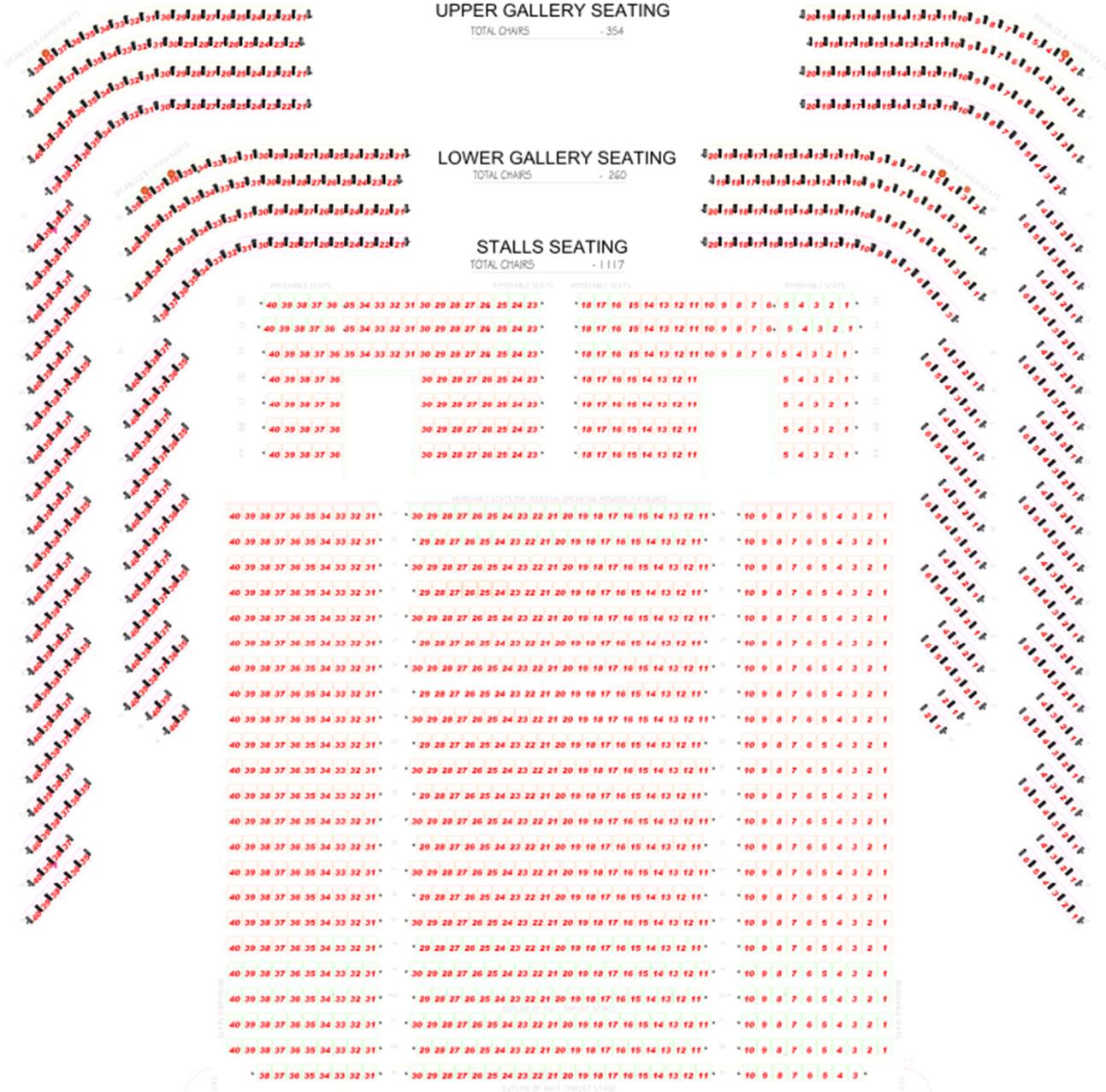
TOTAL CHAIRS - 354

### LOWER GALLERY SEATING

TOTAL CHAIRS - 260

### STALLS SEATING

TOTAL CHAIRS - 1117



## STAGE

### A FLOOR PLAN - ALL LEVELS

<b>STALLS SEATING:</b>		<b>LOWER GALLERY</b>		<b>UPPER GALLERY</b>	
	FIXED CHAIRS - 812		TIP UP CHAIR BEAMS (1, 4 & 6 SEATER)		TIP UP CHAIR BEAMS (1, 4 & 6 SEATER)
	FIXED REMOVABLE CHAIRS - 305		TIP UP CHAIRS (High) - 144		TIP UP CHAIRS (High) - 236
	TOTAL CHAIRS - 1117		TIP UP CHAIRS (Low) - 106		TIP UP CHAIRS (Low) - 110
			TIP UP REMOVABLE CHAIRS (Low) - 10		TIP UP REMOVABLE CHAIRS (Low) - 6
			TOTAL CHAIRS - 260		TOTAL CHAIRS - 354



## Accessibility

Perth Concert Hall has a lift that operates to all levels and the underground car park below, which has ACROD parking nearby. All levels have removable seating to make positions for mobility-impaired patrons.

## Public Transport

With bus stops directly located in front of The Perth Concert Hall on St Georges Terrace, transport to and from the venue is readily available. The central Perth train station is a short distance from the venue.

For bus and train timetables, please refer to the following link: [www.transperth.wa.gov.au](http://www.transperth.wa.gov.au)

Taxis are able to drive down the side driveway to deliver and collect patrons.

## Public Parking

City of Perth Parking operate an underground parking area at The Perth Concert Hall, having 399 standard parking bays, 5 ACROD bays and 12 motorcycle bays. Access to this parking area is off Terrace Road.

Another large open air parking area is located off Terrace Road having 776 standard bays, 8 ACROD bays and 26 motorcycle bays.

A short walk down St Georges Terrace, there is the Council House parking area which has 92 standard bays, 2 ACROD bays and 2 motorcycle bays.

For further information on rates and height restrictions please check [www.cityofperthparking.com.au](http://www.cityofperthparking.com.au)

## VIP Parking

Access to Perth Concert Hall's VIP Parking area is via St Georges Terrace, using the driveway to the east of the building. Upon travelling down the access ramp, the large white gate secures the parking area.

Clients hiring the main auditorium are entitled to 6 parking bays during the day and 20 at night.

## Loading Dock

Access to Perth Concert Hall's loading dock is via St Georges Terrace, using the driveway to the east of the building. The easiest way for trucks is to travel west along Adelaide Terrace until it becomes St Georges Terrace at the Victoria Avenue intersection. Then taking the driveway immediately after the Duxton Hotel. A ramp or tail lift is required to unload and load equipment from trucks. The loading dock has a fixed height of 620mm and width of 2750mm.

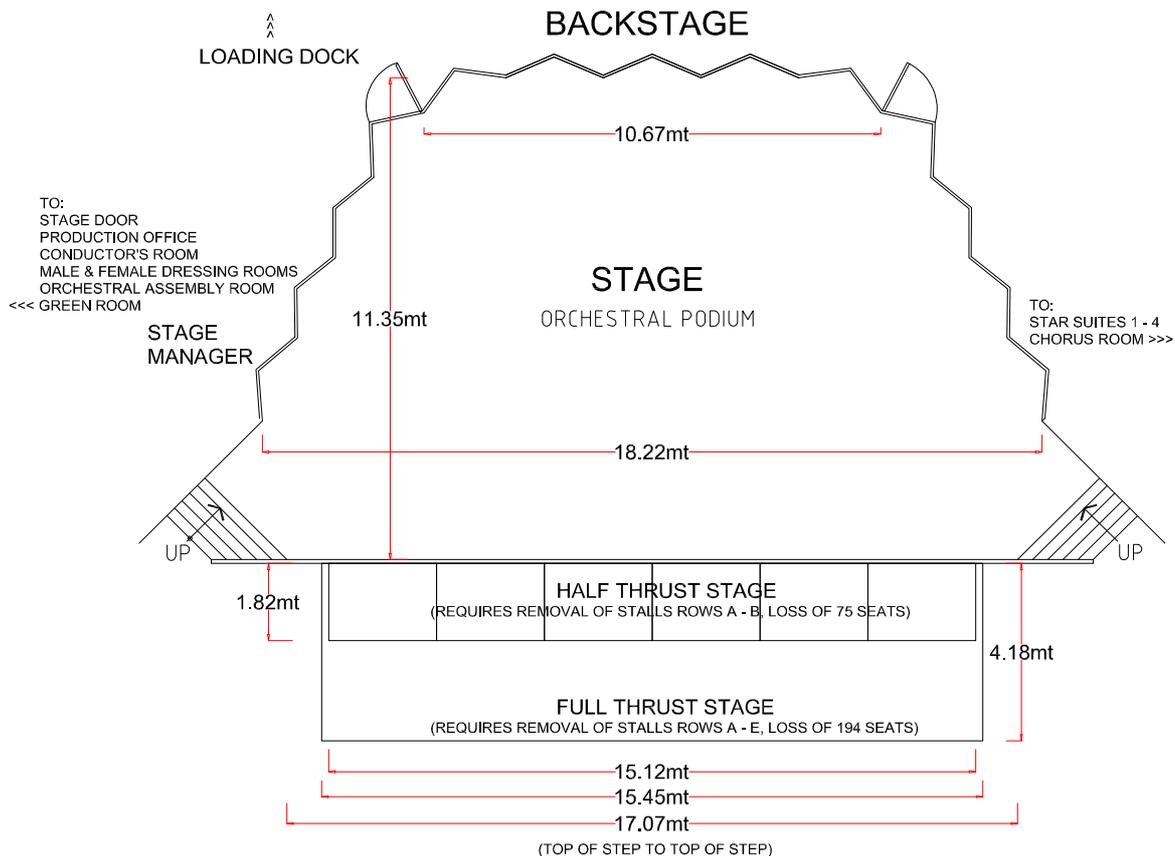
## Risk Management

As part of the risk management process, all electrical equipment brought into the venue must have a current test tag compliance attached. A qualified rigger must rig all overhead equipment and we reserve the right to refuse to rig an object if it is deemed to not be safe. Lighting equipment must have a safety chain attached.

# Stage Specifications

## Physical Dimensions

All measurements should be confirmed for any critical planning. See the below plan for the stage plans



Stage height:	86cm
Distance from mix position to front edge of stage:	21m
Distance from back of auditorium to stage:	29m
Distance from follows spots to front edge of stage:	30m
Height from stage to auditorium ceiling:	16.5m

Height from stage to top of choir stalls ashtray: 3.78m  
 Width of auditorium: 23.8m

## Stage Extensions

There are two possible extensions that can be installed to increase the stage size.

The half thrust, made from 6 individual platforms are rolled into place. These have a timber surface that matches the main stage. The half thrust adds an extra 1.82m to the front edge of stage and is 15.12m wide. This requires the removal of 75 seats from A & B rows of stalls.

The full thrust is a hydraulic platform with a black surface. The full thrust adds an extra 4.18m to the front edge of stage and is 15.45m wide. This requires the removal of 194 seats from A – E rows of stalls.

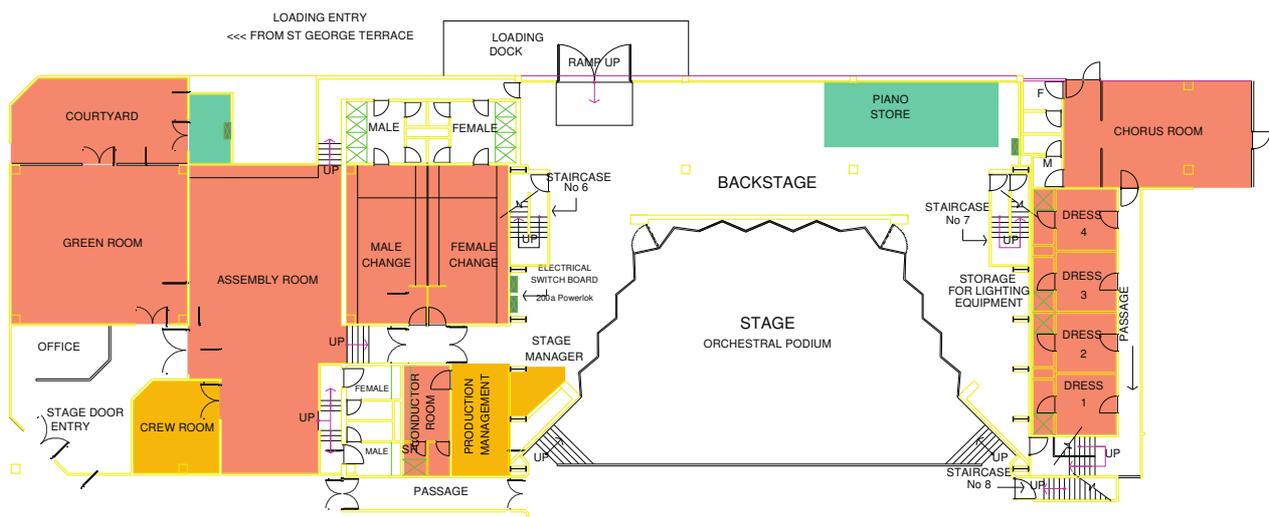
Ticketing must be made aware of which stage option is being used, in order to only sell the appropriate seats.

## Access

The loading dock at The Perth Concert Hall is 600mm high. Any truck delivering heavy equipment will need to have a ramp or tail lift. The loading dock doors are 2.49m high and 3.62m wide, opening directly into the backstage area via a small ramp. The height of the ceiling at the edge of stage is 2.46m and the height of the concertina doors that close the stage are 2.82m high.

## Backstage Layout

The image below shows the layout of the backstage area of the Concert Hall.



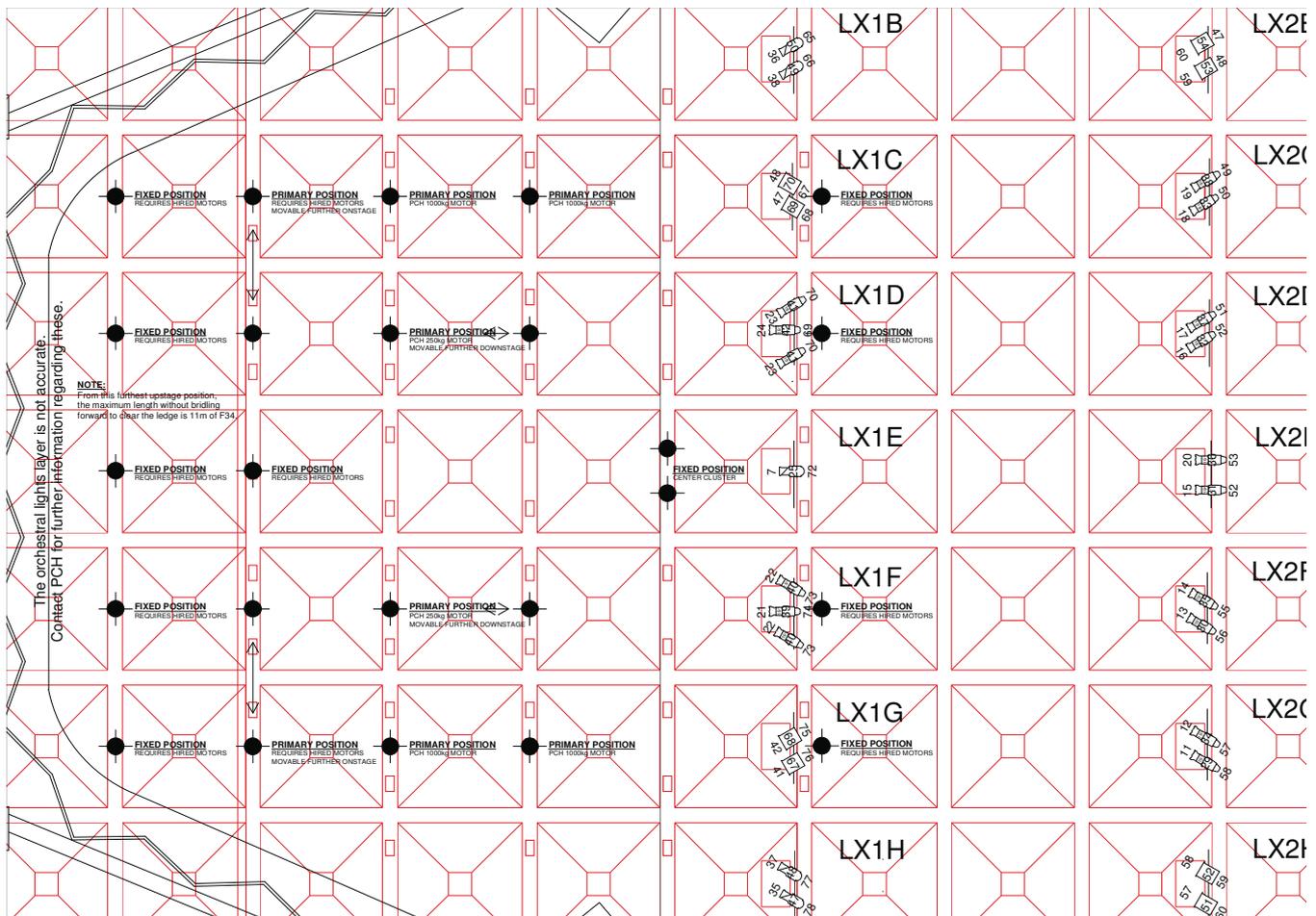
# Rigging Facilities and Equipment

**Special Note:** The Perth Concert Hall does not have a theatrical fly gallery!

The ceiling is 16.5m high from the stage and has limited rigging positions. See the plan below for locations in which objects can be rigged above the stage.

A front of house truss can also be rigged approximately 1.5m from the downstage edge of stage. Please contact us for further information regarding rigging in the venue.

The plan below shows all rigging positions that are regularly used in the venue. Please note that some of these points require us to hire in chain climbers at the hirers expense. If your production requires rigging in a different location than shown, please discuss with technical staff to ascertain that it can be achieved.



The Concert Hall has two D8+ motors permanently mounted for securing the audio line array. There is an additional four C1 motors mounted to a monorail system giving limited positions of use, for the positions that can't be covered by these motors there are an additional six C1 chain climbers.

## Drapes

The Perth Concert Hall has the following drapes available on request:

Organ blue blacks:	Used to mask the organ pipes.
Large black drapes:	Used to mask the upstage area. Good for more intimate performances.
Choir blacks:	These hang from the top of the choir stalls to the stage floor.
Ashtray border:	These hang from the top of the choir stalls to mask the white concrete.
Black theatre border:	1 only
Black theatre legs:	1 set only
Cyclorama:	10m x 2.4m

## Instruments

### Pianos

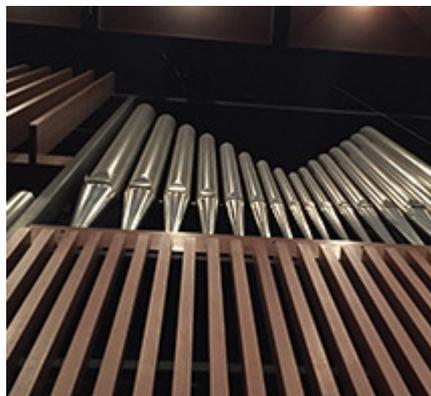
There are 2 Steinway concert grand D models stored at stage. The piano assigned to your production will be determined by venue management dependant on the type of show and use of the piano. Under no circumstance is there to be any direct contact with the strings on any of the Perth Concert Hall pianos. If any of the repertoire being played includes this as a requirement, Perth Concert Hall reserves the right to substitute an alternative piano at our discretion. If prior notice is not provided, post event repair charges may apply. Tuning is mandatory.

### Harpsichord

The harpsichord was made by Michael Johnson Harpsichords and is strung to A. 415. The soundboard artwork was designed and painted by Kyle Turner with Australian wildlife and flowers.

### Pipe Organ

The organ was designed by Ronald Sharp of Mortdale (New South Wales). The organ contains over 3,000 pipes, of which 66 are visible from the auditorium and are constructed of zinc and tin. The balance are made of zinc, tin, lead alloy and wood.

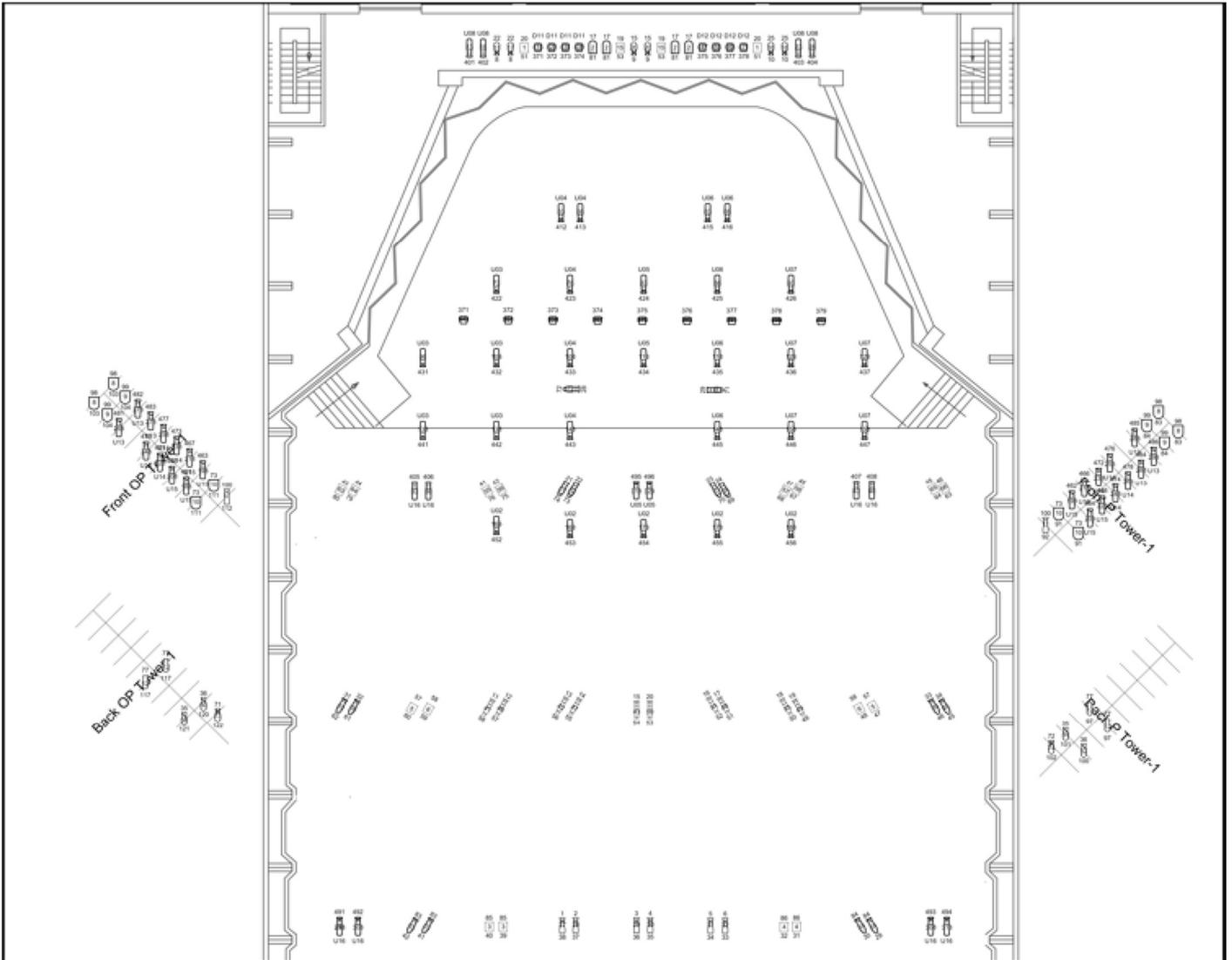


# Lighting

## In-House Console

The desk used as standard is a GrandMA2 Light digital console.

## Standard Lighting Rig



The Perth Concert Hall has approximately 151 fixtures of varying types in use within the main auditorium. Given the enormous labour cost involved, in general, fixtures are not physically moved. Wherever possible, it is preferable to work within the standard rig and refocus where applicable. Lighting gel needs to be arranged beforehand to ensure that we have the specific colours available. The height of the ceiling from stage is 16.3m.

**Front of House:** There are three lines of lights, constructed within the ceiling of the auditorium.

10 x Source 4 14° profiles with frost for O/W full stage wash arranged in two horizontal lines. The down stage and mid stage areas are lit with this degree fixture.

4 x Source 4 19° profiles with frost for O/W full stage wash arranged in two horizontal lines. The up stage area is lit with this degree fixture. With the positions available in the venue, the front of house wash is relatively 'topy'.

2 x Source 4 14° profiles with frost for miscellaneous use.

8 x Source 4 15°-30° zoom profiles for miscellaneous use. When a full thrust stage is used, four of these are required to supplement the O/W full stage wash to ensure proper coverage.

4 x Source 4 Lustr 2 15°-30° zoom profiles for miscellaneous use. These are located almost directly above the edge of stage. They are suitable for top gobo washes or tight orchestral light.

6 x Source 4 Lustr 2 19° profiles for miscellaneous use. Two are directly over the central edge of stage for specific orchestral light. Four are located at the back corners of the auditorium.

6 x Pacific 5.5°-13° zoom profiles for specials.

6 x Cadenza 2k Fresnels O/W to fill the full stage wash and choir stalls.

**Backlight Bar:** Single bar upstage above organ pipes at a 16 meter trim height. If any overhead truss or draping is hung, this position will most likely be obstructed. Due to the angle this position is and the overhanging ledge around the stage, it is impossible to backlight the very far upstage edge of stage.

6 x Warp 12°-30° zoom profiles for miscellaneous use. They are suitable for back gobo washes. When aisle lighting for processions are needed, these fixtures are required.

4 x Source 4 Lustr 2 15°-30° zoom profiles for back colour wash.

8 x Arri L10-C LED Fresnel wash units. They are used for full stage washes.

**Front Perch Towers:** There are two perch towers fixed to the auditorium walls approximately in line with the down stage edge of stage proper. The towers are arranged symmetrically, and the information below relates to one side. They are best suited for front high side colour when there is no truss flying.

6 x Par 64 MFL paired side by side. One pair is dedicated in O/W for the choir stalls. Two pairs in O/W are dedicated to extra audience/applause lights.

11 x Source 4 Lustr 2 26° profiles for miscellaneous use. Four at the top are dedicated to the organ (two open, and two gobo breakup). Two are dedicated to the choir stalls. Two are dedicated to gobos on the black walls of the auditorium. Three on the bottom are roaming.

1 x Pacific 23°-50° zoom profile at the base of the tower. This is usually used to project sponsor gobos onto the walls to the side of the organ. However, they can be moved to be focused onto stage.

**Rear Perch Towers:** There are another two perch towers fixed to the auditorium walls approximately 5 meters in the down stage direction from the front perch towers. Both towers are arranged symmetrically, and the information below relates to each tower. They are rarely used as there are limited angles to stage from this position due to the upper gallery seating obstructing a lot of the stage.

1 x Warp 15°-30° zoom profile for miscellaneous use. They are best suited for specials in the choir stalls. If the organ is in use, this fixture provides the special for the player. In addition, if an AV screen is in use, this fixture may be required to fill the up stage shadow created by the screen.

2 x Source 4 14° for miscellaneous use. If an AV screen is in use, this fixture may be required to fill the upstage shadow created by the screen.

**Orchestral Downlights:** There are Lustr 2 profiles arranged within the ceiling to act as orchestral downlights onto stage from directly overhead. They are permanently mounted within the ceiling and are not able to be refocused or gelled.

27 x Source 4 Lustr 2 19° profiles for Orchestral Downlight only. Of these, five are dedicated to full thrust and six for half thrust stages.

## **Follow Spots**

There are 2 x Robert Juliat Victor's available for use. Please note that operators are an additional cost.

## **Additional Equipment (cross-hires)**

The staff at The Perth Concert Hall are happy to arrange any extra equipment that you require for your production.

Advice can also be provided by our lighting department as to what would work best for your show in the venue.

## **Special Effects**

Special effects, such as strobes and haze, can be arranged for any show. We have a Unique hazer in house, additional costs apply. We require advice of this in advance so that patrons can be advised. For pyrotechnics, a licensed operator must be present and in control.

# Sound & Audio Visual

## Acoustics

Perth Concert Hall is renowned as having some of the finest music acoustics in the southern Hemisphere. The reflective surfaces in the auditorium have been designed to maximise the acoustic music experience for both artist and audience.

## Speaker System

### Line Array

10 x d&B Q1

**Out Fill** (flown either side of line array) these speakers address side of stage Upper Gallery

1 x d&B Q7 per side

1 x d&B Q10 per side

### Left & Right Stalls Level

1 x d&B Q7 per side

1 x d&B Q-Sub per side

Please note: The Left/Right Stalls Level can be augmented to suit your event. Extra charges apply. Suggested configurations, depending on the nature of the concert or event, are available.

3 x d&B Q1 with 2 x d&bB 2Sub per side or

3 x d&B J8 with 2 x d&B J-Sub per side

### Front Fill Downstage Edge

8 x d&B E3

### Delays Under Balcony Stalls Level

3 x pairs d&B E3

### Monitors

4 x d&b MAX12 (4 x sends)

All PA controlled by proprietary d&B power amplifiers and processors with tablet PC.

A centre cluster is our preferred PA hang due to the nature of the Concert Hall's high reflective surfaces on all four concrete walls. It has been found that using the single point source of the centre cluster helps reduce these reflections from the upper part of the hall. A stereo image is achieved in the stalls seating with the Left/Right stacked speakers onstage.

## In-House Console

Perth Concert Hall has a Digidesign Venue Profile Digital Console with 5 x DSP Cards that can be supplied for use in the front of house mix position.

## **Microphones & DIs**

Sennheiser Digital 9000 series (Radio Microphone)

Sennheiser 2000 series (Radio Microphone)

Neumann KM184

AKG C414

Shure B52A

Shure B56A

Shure B58A

Shure MX412

Rode NT5

DPA4061

ARXDI

Please note: Quantities are limited so please check with technical staff to ensure we have the numbers required for your production.

## **Show Feed and Backstage Announcements**

Every room backstage has individually controlled speakers that have a feed direct from the stage so occupants can hear what is happening. There are a number of monitors set up with a feed from our FOH camera running to them. Announcements can be made to all areas backstage from the Stage Manager's Desk. In the foyers, there are also three monitors on the second level allowing latecomers to view the show until they can enter the auditorium. At the FOH desk there is a microphone to address patrons in the foyers.

## **Headset Communication**

Communications backstage is handled by a newly installed Riedel system. There are cables installed to all the regular places used for a production, including FOH mix position, lighting operator and follow spot operators, audio and AV booths.

## **Projector**

The Perth Concert Hall has one main projector for the auditorium which is a Panasonic PT-RZ120BE 12k ansi-lumens.

## **Screen**

The screen available from Perth Concert Hall is a Stumpfl fastfold 20' x 11' (16:10 ratio screen).

## **Functions**

There is a number of LED TV's and small projector available for functions. Please contact the venue for further details.

## **Additional Equipment (cross-hires)**

The Perth Concert Hall staff are happy to help you arrange alternative equipment. We can give advice on what is regularly used and works best in the venue. Please contact operations staff for further assistance.

# **Backstage Facilities**

## **Stage Manager's Desk**

It is important to note that the Stage Manager's Desk at the Concert Hall is located on the OP side of stage, not Prompt side. The stage manager's position is where the main communication units and controls for the main camera feed are located.

## **Greenroom**

Located just off the stage door foyer, the Greenroom is conveniently located yet out of the way. It makes for a great location to hold "meet and greets".

## **Orchestral Assembly Room**

The Orchestral Assembly Room is located between stage door and the entrance steps leading to the stage area. This room is as the name suggests used by orchestras as a break room and is generally the room of choice of touring companies for catering.

## **Main Dressing Rooms**

There are two main dressing rooms both located next to each other on the stage right side of stage. These rooms have plenty of bench space and make-up mirrors. Both dressing rooms have showers and toilets built in.

## **Conductor's Dressing Room**

The Conductor's Dressing Room is a small room located off the production office. It has a built-in shower and toilet. It is ideally located for conductors due to the close proximity to stage and used largely by touring crews as a production room.

## **Production Office**

Keeping the production team close to everything important, the production office is situated right behind the stage manager's desk. This room has bench space to allow up to 4 people to work comfortably.

## **Star Dressing Rooms**

The Star Dressing Rooms are located away from all other spaces on the stage left side of stage. There are 4 star dressing rooms at the Concert Hall, each of which have their own toilet and shower facilities. These rooms also make for a great space for individuals to rehearse.

## **Chorus Room**

The Chorus Room is located at the end of the star dressing room corridor. It is the furthest room backstage from the stage area, so is the best for noisy rehearsals or warm-ups while a show is in progress. This room also backs onto the kitchen area, so there can be some noise spill if the kitchen is in operation. Please note this room is often setup up as a rehearsal space for percussionists from the West Australian Symphony Orchestra, for large productions requiring this space advanced notice may be required.

## **Internet Access**

The Perth Concert Hall has a wireless WIFI network over the entire ground floor. This area covers backstage, the main foyer, Wardle Room and Café. Please ask at stage door for the access code.

# **Function Spaces**

## **Main Stage**

The main stage within the auditorium can be impressively constructed into a 3-tiered gala ballroom to seat 300 guests. Our highly-skilled technical crew can help enhance your event with props, staging and special effects – from the glamour of Hollywood to somewhere from outer space (or anywhere in between), we'll tie in the perfect performer or act for an unforgettable evening.

## **Foyers**

Perfect for registration, trade displays, welcome cocktail receptions and speaker lectures. Using both levels, the foyers can comfortably house an exhibition of 44 booths while also allowing enough floor space for catering stations. Both levels have floor to ceiling glass windows that provide plentiful natural light.

## **Wardle Room**

Whether you require a room to start the day with breakfast, or finish the day with dinner and dancing, the Wardle Room is incredibly versatile and seats up to 330 guests.

## **Corporate Lounge**

With an abundance of natural light this is an ideal small meeting room, breakout area, VIP cocktails area, committee or exhibitor lounge.

## **VIP Lounge**

This area is extremely versatile with magnificent views over the Swan River. Most commonly used for informal meetings, workshops, poster displays and pre-show catering.

## **Corner Stage**

Used by a large number of hirers for pre-concert and even post-concert talks the Corner Stage is situated on the second level of the building. It has views over the government house gardens and down to the swan river. This area is generally setup with tables and chairs so patrons can sit down and enjoy a drink while not in the auditorium.

## **Veranda**

The Veranda is located on the southern side of the building and looks down upon the government house gardens and has a wonderful view of the Swan River. This area makes for a great space to hold functions during the warmer months. Regularly festoon lighting is hung