The Studio Technical and Production Information
June 2019

sydneyoperahouse.com

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Architectural photographs by Jack Atley

The information contained in this document is given in good faith and is believed to be correct. All measurements are approximate and should be checked on site. While every effort is made to fulfill production requirements from in-house stock, no guarantee is made that the equipment listed will be available for a particular event. Availability is subject to the requirements of the other Opera House venues.

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Introduction

Welcome to Sydney Opera House.

Sydney Opera House is a major performing arts venue staging over 2,400 events a year across seven major venues. Guided tours, functions, bars, restaurants and shops also operate on a daily basis. One of Australia’s premier tourist destinations, and a treasured local landmark, we welcome around 8.2 million visitors annually.

A State, National and World Heritage listed masterpiece of human creative genius, the Opera House is unlike any other performing arts centre in the world. State and Federal laws are in place to protect its heritage values and these affect how we plan and stage events.

Every event must be managed carefully so that it is integrated with our other activities and those in the immediate precinct to ensure the safety and security of people, and protect the site from anything that might damage its heritage values. Once your booking has been confirmed, we will allocate members of our Event Operations team to work with you to plan every aspect of your event and ensure its success.

The Studio is an intimate and versatile ‘black box’ style theatre, offering intimate theatrical and cabaret experiences to audiences. With reconfigurable seating, staging and a mezzanine gallery floor, the Studio has played host to events ranging from club nights, cabaret, burlesque in the round, experimental theatre and children’s performances, to the APEC World Leader’s Forum.

We ask that you work with us to help protect architect Jørn Utzon’s vision for the Opera House site and conserve this iconic landmark venue for future generations to enjoy. We trust you will enjoy your experience with us at the House.
General Information

The Studio is in many respects a blank page, where your concept can be brought to life in a range of configurations. Designed primarily for contemporary music performances, The Studio is also suitable for film screenings, cocktail parties, cabaret and burlesque acts, in addition to providing the perfect venue for spoken-word and corporate presentations.

The flexible seating layout allows for standing crowds, cabaret-style seating or a tiered bank of seats. The lighting system is flexible to create unique and stunning special effects. The Opera House can provide a full production solution including dedicated recording and sound packages to capture all aspects of your event in action and stream or broadcast them to the world.

The Studio has a flat, open floor area measuring approximately 15m by 15m. Two rows of fixed seating are set on all four sides of the mezzanine level overlooking the floor space. The colour scheme is predominantly red tones with a brush box timber floor, red wool upholstered seats and red carpet. Entrance to the auditorium is via the Western Broadwalk and Western Foyer to the mezzanine level. Stairs lead down from the mezzanine to the stage (floor) level, one level below.

The Western Foyer is shared by the Drama Theatre, The Studio and Playhouse and offers unmatched views across the harbour to the Sydney Harbour Bridge. The centre part of the shared foyer space is dedicated to The Studio.

The Western Foyer’s food and beverage outlets open approximately two hours pre-theatre. The ticketing outlet and cloak room open 30 minutes prior to the first performance in the Playhouse, Drama Theatre, or The Studio, whichever is first. Outside these hours, the main ticketing outlet in the Box Office Foyer provides a point of sale for performances in all venues.
Seating

The Studio offers multiple configurations, which determine the audience size. The usual fixed seating capacity is 280, with 156 seats on four sides of the mezzanine and 124 in 'end seating' style on the floor area. A 'standing room only' option and the cabaret configuration with table seating on the floor area add flexibility to the capacity. Please discuss your needs with your Production Manager who can help establish the best seating configuration and audience capacity for your event.

The most commonly used theatrical seating configuration is the End Seating plan:

Sydney Opera House
The Studio

End Seating Plan
(not to scale)
Accessibility

The Studio is wheelchair accessible from the Western Foyer to the mezzanine level, where there is space for up to 4 wheelchair seating positions. There is a lift for patrons with limited mobility linking the mezzanine level to the stage floor level. Our Front of House staff will assist patrons using that lift.

There is a public elevator from the Lower Concourse to the Western Foyer, providing access to and from the car park and Lower Concourse restaurants and bars. The same elevator provides access to the Box Office Foyer on Level 1, where tickets can be purchased or collected when the Western Foyer box office outlet is closed.

Please discuss any other special needs with your Production Manager.

Assisted Hearing System

An FM radio transmitter operates within The Studio on a dedicated frequency. Please see our Front of House staff in the foyers for assistance and to arrange a receiver. A loop system also operates in selected seats in the Studio. Patrons are advised to turn their hearing aid to the T switch to pick up the program.

Please discuss any other accessibility needs with your Account Manager in advance so that the appropriate arrangements can be made for your event.

Public Transport

Circular Quay is a six minute walk from the Opera House. Public buses, trains and ferries are all available at Circular Quay. To ensure your event's public transport needs can be met and for further information please contact:

- Transport Info line: 131 500
- TTY: 1800 637 500
- http://www.transportnsw.info

Complimentary Shuttle Bus

Designed for elderly and less mobile customers, a complimentary shuttle service operates between Circular Quay and the Opera House at certain times. The service is linked to performances in the Concert Hall and Joan Sutherland Theatre. Please check with your Account Manager to confirm the operating times during your event.

Seating is limited and available on a first come, first served basis. The bus runs between Circular Quay near bus Stand B (under the Cahill Expressway overpass) and the Opera House Vehicle Concourse.

There is no bus service for any theatres on Sunday evenings.
Indicative Shuttle Bus Schedule

Before performances:

Bus starts 75 minutes before matinee and evening performances in the Concert Hall or Joan Sutherland Theatre and runs continuously for 1 hour. Where there is no performance in the main halls, the bus service commences 45 minutes before matinee and evening performances in the Drama Theatre, The Studio or Playhouse, and runs continuously for 30 minutes.

After performances:

Bus starts 10 minutes after the performance finishes and runs continuously for 30 minutes.

Parking

The Sydney Opera House Car Park adjacent to the Opera House is operated by Wilson Parking, phone 1800-PARKING. It is not owned or managed by the Opera House. However we do have a special arrangement for a reduced daily rate for performers and staff. Parking ticket validation can be done at a machine located just inside Stage Door. There is normally no provision for parking on the Opera House site.

Accessible Parking

There are 11 accessible parking spaces on Level 1 and 12 spaces on Level 6 of the Wilson’s Sydney Opera House Car Park for holders of RMS Mobility Parking Scheme permits. Car spaces on Level 6 also have direct wheelchair access to lifts.

Vehicle Access and Delivery Schedule

Vehicle access for deliveries to the Opera House is via the Loading Dock and is by arrangement only. Deliveries must be arranged and booked in advance. It is vital that all deliveries arrive on schedule to assist us in managing the requirements of all the theatres.

The Loading Dock is a shared zone used by all the theatres and precinct operations. The Loading Dock has a height restriction of 4.3m. Other access arrangements will need to be arranged for larger vehicles.

All client staff requiring access to the Loading Dock will need to complete a safety induction and SOH procedures will need to be followed.

Please note vehicles are not to be left unattended in the dock and no parking is available.

For security reasons, all vehicles requesting access to the Opera House must stop at the security checkpoint at the main gate house, Vehicles that have not been booked in will be denied access to the site. For more information please refer to the Loading Dock Operations Manual (available on request).

In order for us to manage deliveries across all the Opera House venues, we require that a Transport Schedule for deliveries to and from your event is provided at least one week in advance. The Transport Schedule should include the type and height of each vehicle, registration number and details of the driver. Please discuss all of your vehicle access needs with the Production Manager for your event.
Load-in Area

The Studio stage is located one level below Central Passage. Our staff will assist you to unload equipment and transport it to the theatre. 2 goods lifts are available to carry equipment to the stage from the Loading Dock or Central Passage. These lifts are shared with the Concert Hall. Strict height and weight limits apply (see restrictions below).

Goods lifts:

<table>
<thead>
<tr>
<th>Internal car dimensions</th>
<th>Lift 22</th>
<th>Lift 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>2.40m</td>
<td>2.40m</td>
</tr>
<tr>
<td>Width</td>
<td>2.00m</td>
<td>1.70m</td>
</tr>
<tr>
<td>Depth</td>
<td>3.35m</td>
<td>3.35m</td>
</tr>
</tbody>
</table>

Clear door opening

| Height                  | 2.20m   | 2.20m   |
| Width                   | 1.80m   | 1.60m   |

Load capacity

| Maximum capacity        | 1800kg  | 1800kg  |
| Point load              | 1080kg  | 1080kg  |

Access into theatre from lifts

| Height                  | 2.0m    | 2.0m    |
| Width (seating bank moved) | 1.87m  | 1.87m   |

Other

| Speed                   | 1.0m/s  | 1.0m/s  |
| Doors                   | 3 panel side opening | 3 panel side opening |
| Width (seating bank not moved) | 1.2m   | 1.2m    |

Larger items need to be carried into The Studio via either standard single doors from Central Passage, or through standard double doors from the Western Foyer.

Safety is of the highest priority. In order to ensure the safety of all people using Central Passage, we require that pedestrians remain within the marked paths. Anyone working in the Central Passage or Scenery Dock area are required to wear high visibility vests and protective footwear.

Height Restrictions

Transport contractors must check to ensure that load heights do not exceed the maximum:

- Height of Concourse: 3.45m *safe clearance*
- Loading Dock: 4.3m high *safe clearance*
Smoke Management System

The Studio's smoke management system consists of 4 smoke curtains located around the perimeter of the auditorium, providing protection from smoke rising to the balcony level. In the event of the fire alarm system being triggered, the curtains will automatically lower from the ceiling, stopping just above the handrail level of the balcony. This is designed to contain any smoke and allow patrons to leave the theatre without undue delay.

At the same time all the emergency panic lighting will automatically switch on, the smoke exhaust fans located above the stage will start and make-up air (sourced from Central Passage) will be delivered via the grill located at the north end of the east wall on the balcony level.

Special conditions associated with the Smoke Management system:

- No technical equipment or scenic elements should be placed in front of the air supply duct on the balcony level.
- To ensure that this make-up air can replace the air that is extracted from the stage area, there must always be at least 15m² of open space below the top of the gallery handrail on the eastern side. This requirement needs to be considered before any plans for installing drapes are finalised.
- Before any work is done that could impede the travel of the smoke curtains, arrangements must be made with the Emergency Planning & Response Group to isolate the smoke curtains to avoid any damage should the curtain drop onto any scenery or other equipment. All impediments must be removed and the curtains returned to operation before any audience enters the theatre.
- No cables should be installed that will interfere with the travel path of the smoke curtains. Any cables that need to be installed between the catwalk level or stage area and the gallery level (including the Control Room) must use the special conduit paths installed at each corner of the catwalk or the special path from the catwalk into the top of the Control Room.

Your Production Manager or Production Safety Officer can assist with meeting all of these requirements.
Risk Management

In accordance with NSW WHS legislation, a comprehensive risk assessment is required during pre-production for all shows and events. The Risk Assessment needs to consider the risks associated with your specific event. It should be delivered to your Opera House Production Manager at least seven days before the event. Our staff can assist you with this process.

Things to consider include:

- Equipment may be subject to safety checks by Opera House staff
- All mains-connected electrical equipment requires a current compliance test tag from a suitably licensed person
- Overhead equipment (including lighting and scenery) must be rigged by a qualified rigger, using appropriately certified equipment
- Lighting equipment rigged overhead must be secured with a safety chain or similar
- Scenery and large props must be of a fire retardant fabric or treated with a fire retardant. A certificate of such treatment must be produced on request
- Polystyrene, plastic and other such materials that cannot be treated with fire retardant are not permitted
- Approved drapes must be of a fire retardant fabric or treated with an approved fire retardant and with an appropriate label attached to the drape
- Compressed air may only be used by suitably trained operators
Workshop Space

The Studio has no workshop space. Support staff may be available to assist with emergency repairs.

Storage Space

Storage space in and around The Studio is very limited. Please discuss your needs as early as possible.
Venue specifications

Stage Dimensions

<table>
<thead>
<tr>
<th>Specification</th>
<th>Measurement</th>
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<tr>
<td>Floor Area</td>
<td>17.8m x 17.1m between floor level columns</td>
</tr>
<tr>
<td></td>
<td>up to 2m height</td>
</tr>
<tr>
<td></td>
<td>15m x 15m at Gallery level</td>
</tr>
<tr>
<td>Ceiling height</td>
<td>7.5m to bottom of ceiling beams</td>
</tr>
<tr>
<td>Roof truss height</td>
<td>7.0m above stage floor</td>
</tr>
<tr>
<td>Winch height</td>
<td>6.8m above stage floor</td>
</tr>
<tr>
<td>Gallery Level</td>
<td>2m above stage floor</td>
</tr>
<tr>
<td>Catwalk Level</td>
<td>6.0m above stage floor</td>
</tr>
</tbody>
</table>

Stage Floor

<table>
<thead>
<tr>
<th>Specification</th>
<th>Description</th>
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<tr>
<td>Surface</td>
<td>oiled brush box timber</td>
</tr>
<tr>
<td>Stage Rake</td>
<td>0 degrees (flat)</td>
</tr>
<tr>
<td>Material</td>
<td>brush box timber tongue-and-groove flooring</td>
</tr>
<tr>
<td>Maximum loading</td>
<td>7.5 kPa (750 kg/m²) - distributed</td>
</tr>
<tr>
<td></td>
<td>4.5 kN (450 kg) - concentrated</td>
</tr>
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Care of Building Surfaces

The Opera House is a world heritage listed property of exceptional significance and the building surfaces, including the rare white birch laminate timber used in the seats must be protected from damage.

No holes or permanent marks of any kind (including cello or double bass spikes) may be made on any timber surface in The Studio. Equipment and scenery can be weighted, clamped or hung on approved rigging points, but may not be anchored into the timber. The use of gaffer tape is to be minimised, and any stage mark-up must be done using removable "spike tape" only, which is available from the Stage Manager.

Stage Plans

A basic stage plan is available at [sydneyoperahouse.com](http://sydneyoperahouse.com)

To scale plans can be requested through Event Operations as PDF’s or as Vectorworks files, please email [techspec@sydneyoperahouse.com](mailto:techspec@sydneyoperahouse.com) or through your Production Manager.
Catwalk Level with Hanging Points
(not to scale)
Lighting Rail Load Ratings

(not to scale)
Staging

Stage Machinery

Self Climbing Hoists

The Studio is equipped with 18 Strand self-climbing hoists, configured in six bays of three. These hoists are permanently wired with four 10A dimmed lighting circuits, one speaker outlet, one DMX outlet and one DMX-controlled 10A general power outlet.

The hoists are adaptable for suspending scenic elements and each has a maximum total load capacity of 140kg evenly distributed. They are controlled by the KINESYS system operated from the floor by a hand-held unit that can be taken onto the stage. This system also controls the installed chain hoists.

Chain Hoists

Three rows of four STAGEMAKER chain hoists are semi-permanently installed from the north/south load beams to suspend three 15m long trusses running east/west. These may be used for a variety of purposes and are controlled by the KINESYS system. The individual hoists have a maximum load capacity of 500kg each.

Staging Equipment

Black wool masking drapes surround the main space. These are suspended from a track installed near the upper gallery and may be hauled up when not in use.

A range of staging equipment is available, including flat black or gathered wool drapes, borders & legs or gathered red velvet drapes. These are suitable for masking some of the east and west sides and the complete north side of the space, which is adjacent to the dressing rooms and is often used as the upstage wall in many configurations.

Flat truss and other rigging equipment is also available to support any hung cloths or scenic elements. Please discuss rigging or other equipment needs with your Production Manager.
**Hanging Facilities**

The static hanging grid is capable of 3 tonne point loads, at a height of 7.00m. There are 4 north/south runs (between the hoists), joined by an east/west run at the southern end. A separate hanging rail is installed at the north end which can be used for curtains if required. A small black curtain is installed at the northern end to mask the alcove leading to the Stage Manager’s Desk and dressing rooms. This curtain can be drawn aside out of view if not required.

**Orchestral Furniture**

Adjustable Megadeck rostra and orchestral furniture can be supplied if required. Orchestral furniture includes adjustable orchestra chairs, bass stools, music stands, adjustable rostra and conductor’s podium. The rostra have a non-slip, timber top measuring 1m x 2m. The minimum height is 200mm, then adjustable in 200mm increments from 400mm to 1000mm. The load capacity per rostrum is 500kg/m².

**Floor Coverings**

Composite timber sheets of black 9mm Weathertex are available. The sheeting cannot be fixed to the floor – it is usually gaffer taped at the joints. The flooring sheets may be painted a different colour but must return to black at the end of the season.

Black Tarkett dance floor is available. The rolls are in lengths to run the full east/west width of the stage floor and cannot be cut.
Pianos

There is a choice of Steinway 9’ D series concert grand pianos, Yamaha CFX 9’ concert grand piano, Yamaha baby grands and Yamaha upright pianos (subject to availability). Our production staff will normally select the most suitable piano for your event. However, provided time is set aside in your production schedule, it is possible for your pianist to play and select from the available options. Please advise your Event Operations contact if you require a piano selection session at the time of confirming your production schedule. Venue hire fees do not include piano hire or tuning costs.

Pitch

Our pianos are tuned just above the A440 standard concert pitch to A441 (A = 441 Hz). Tunings for Opera House pianos are arranged through our contracted piano tuner. Only slight variations to the tuning pitch will be considered. Please discuss any special requirements with your Event Operations contact as early as possible so they may be discussed with our tuner.

Care

Mechanisms of instruments may not be tampered with (or “prepared”) in any way without our express permission. Please provide detail of any preparation required to your Production Manager for our consideration. No food, liquid or substantial props are to be placed on the instruments.
Stage Lighting

Control
Stage lighting in The Studio is controlled by an ETC Gio console with an ETC Remote Processor Unit 3 tracking backup system. Both systems have 24k channels and use an ELC DMX over Ethernet system for DMX distribution.

An ETCNomad Puck Interface is available for use with designer’s monitors at the Production Desk. Various remote control units are available for rigging and focusing on stage.

A stand-alone grandMA2 Lite control system is available (shared with other venues) which can be added to the network and used for plotting.

Data
The building has an ELC DMX over Ethernet system. It utilises sACN to distribute an almost infinite number of DMX universes. In The Studio DMX nodes appear in the Control Room, the Dimmer Room, the stage area and on the catwalk. Some points have permanently installed Ethernet to DMX nodes, extra nodes can be installed on request. Alternate protocols such as ArtNet are not permitted to run on the House network. If protocols other than sACN are required please discuss with your Production Manager.

External network devices must be approved by us prior to installation onto the network. Please discuss your needs with your Production Manager.

Power
All general and dimmed electrical power supplies are 240V AC @ 50 Hz.

Additional 3-phase supplies (415V AC) are available with Wilco pattern 5-pin connectors. Two are located on the catwalk and two on the stage level.

The supply of any additional power must be discussed with your Production Manager well in advance of the event.

Dimmers
The Studio has 146 x 2.4kW State Automation APC dimmers. There are 72 dimmers located on the 18 self-climbing hoists, 50 encircle the space from the catwalk, and 24 are located in traps on the stage floor.

House Lights
The high-level house light system consists of 32 ETC Source4 PAR lamps which can be independently dimmed to provide either audience house lighting or down light for the performance area. The fittings have been modified and cannot be individually focussed or coloured. The house lights can be controlled by the lighting desk or a manual system on a highest-takes-precedence basis.
Lighting

The Studio is fitted with a standard lighting rig incorporating a small Moving Light rig. Please contact your Production Manager for a copy of the current rig plan.

Additional Lighting Equipment

A wide range of other equipment (including traditional theatrical lamps and, moving lights, etc.) is available, subject to the demands of the other theatres. Our staff can also assist with hiring in additional equipment on your behalf, if required. Please discuss your requirements with your Production Manager in advance.

Music Stand Lights

24V LED sconce lights are available to fit our music stands. Please discuss your needs with your Production Manager.

Colour

A large range of LEE and Rosco Filters are available.

Lighting Pre-Visualisation Suite

Capture Visualisation Software and interface with ETC or Grand MA2 lighting desk to pre-plot lighting states prior to bump in to the venue. Access to the suite is not included in the standard venue booking and is subject to availability. Please discuss your requirements with your Production Manager.
Effects

Smoke and fog machines
A number of haze machines are available, subject to requirements in other theatres. Any smoke / haze, dry ice machines that are brought into the Opera House must be approved prior to use. A 'material safety data sheet' will be required for any machine that has not been previously approved for use within the Opera House. The Production Manager must be consulted whenever any smoke, fog or haze effects are intended to be used. The Stage Manager must also be informed prior to each use of an effect, as arrangements must be made to isolate the automatic fire alarm system.

Strobes
For audience comfort and safety, the use of strob ing lighting fixtures may require warning notices to be displayed in the foyer. Please discuss this with your Production Manager.

Pyrotechnics, naked flame and lasers
Pyrotechnics, naked flames and lasers may only be used with prior written approval. Your Production Manager can assist with submitting an application.

Our staff can also assist with hiring in additional equipment on your behalf, if required. Please discuss your requirements with your Production Manager in advance.
Sound & Audio Visual

Acoustics
The Studio was designed primarily for music and contemporary performance. It is also suitable for cabaret, small theatrical productions, kids shows and spoken word presentations.

Operating Positions
The standard operating and mixing position is from the open Control Booth, situated centrally on the Southern mezzanine. This booth also houses lighting control. This position is permanently set up and ready to use with an installed Midas Pro2 audio console.

Console
There is a Midas Pro2 audio console installed in The Studio. There are options available for I/O please discuss your requirements with your Production Manager.

Front of House PA System
The speaker system gives good coverage throughout the theatre, being able to deliver anything from subtle and natural sounding reinforcement to high SPL across the audio spectrum.

   Main Left Right PA
   • L/R d&b audiotechnik Q1 Line Array hung from the grid, consisting of four elements per side
   • 2 d&b audiotechnik 8s’s are hung off the side of the main L/R PA for side coverage on the mezzanine.
   • d&b audiotechnik Q10 positioned on top of the subwoofers either side of stage
   • d&b audiotechnik Y-Sub positioned either side of stage

   Front Fill
   • 4 x d&b audiotechnik E6 can be added to the downstage edge of the stage area to lower the image of sound and to fill the first couple of rows if required.

Amplifiers/Control
   • 4 x d&b audiotechnik D12
   • 2 x d&b audiotechnik D6
   • 2x d&b audiotechnik 10D’s

System control via D&B R1 software can be accessed by a laptop at FOH sound.
Additional Equipment

The following equipment belongs to a house-wide inventory and can be allocated to your production, subject to the demands of the other theatres. Please discuss your needs with your Production Manager.

Mixing Consoles
- Midas Pro2
- Midas Pro1
- Yamaha PM5D RH V2

Additional Outboard
- Lexicon PCM 91
- Lexicon PCM 80
- Lexicon MPX1
- DBX 160SL Stereo compressors
- DBX 1066 Stereo compressors
- Drawmer 501 Stereo gates
- Yamaha SPX990
- TC Electronics M5000
- TC Electronics M3000
- TC Electronics M2000
- TC Electronics D2

Stage Monitors
- d&b audiotechnik M4
- d&b audiotechnik E15X SUB
- EAW SM200ih

Microphone Selection
The Opera House has a wide range of microphones from brands such as Sennheiser, Shure, AKG, DPA, Beyer and Rode. Please discuss with Production Manager and discuss desired microphones.

Radio Microphones

Shure Axient Wireless System
- Shure AXT 100 Belt packs
- Shure AXT 200 Handhelds with Shure KSM9, Beta 58 and SM58
- DPA D:Fine
- DPA D:Fine 66
Shure In-Ear-Monitors

- Stereo PT10T Dual Wireless Transmitters
- Stereo channels hard-wired Shure PSM700 in-ear-monitors
- Shure SE425 Earpieces

Additional Speakers

- d&b audiotechnik Q10
- d&b audiotechnik JSUB
- d&b audiotechnik E12
- d&b audiotechnik E8
- d&b audiotechnik E6
- d&b audiotechnik E4
- d&b audiotechnik E15X SUB
- Fostex 6301BX Powered Monitor

Additional Playback

- MacBook Pro running QLab
Video Replay

The Sound & Audio Visual department has a range of playback options and switchers. Opera House vision equipment is shared between all theatres and its use in the Playhouse is subject to availability. Please consult your Production Manager as early as possible in regard to booking this equipment.

Switchers

- Barco Image Pro II
- Blackmagic Design ATEM 2 M/E Production Studio 4K

Vision Playback

- MacBook Pro
- Sound Devices Pix 270i

Our staff can also assist with hiring in additional equipment on your behalf, if required. Please discuss your requirements with your Production Manager in advance.
**Projection**

There is one standard projection position.

This position is from a motorised truss rigged to the rail above the control booth, which works well with a long throw lens and can fill a screen as wide as the stage.

**Projectors**

- Barco HDX14

**Screens**

- Stumpfl 7.3m x 4.1m (24ft x 13.5ft) 16:9 ratio fastfold - this frame comes standard with options of front, rear and perforated screens
- Stumpfl 6.1m x 3.4m (20ft x 11.3ft) 16:9 ratio fastfold - this frame comes standard with options of front and rear projection screens
- Stumpfl 4.8m x 2.7m (16ft x 9ft) 16:9 ratio fastfold - this frame comes standard with options of front and rear projection
- Stumpfl 3.6m x 2.1m (12ft x 7ft) 16:9 ratio fastfold - this frame comes standard with options of front and rear projection

**Video Monitors**

There are long view and conductor view cameras installed for backstage video monitoring. LCD 75” and 55” display monitors can be supplied, or other equipment hired in as required, for presentations to the audience or monitoring back to the stage. Please discuss your needs with your Production Manager.

Our staff can also assist with hiring in additional equipment on your behalf, if required. Please discuss your requirements with your Production Manager in advance.
Recording, broadcast or photography of an event may require a separate Recording Agreement to be made with the Opera House and may incur a recording fee. Please discuss recording plans as early as possible. Written permission must be sought before recording an event for any purpose.

The Recording & Broadcast Studio is equipped to produce world-class content for trans-continental live broadcast, live streaming, cinema, SVOD, as well as capture for completion in post. It has access to Australia’s leading creatives and technicians and can tailor a team to realise your creative and artistic vision across genres including: contemporary music, orchestral, jazz, dance, ballet, drama, comedy, talks, corporate.

Commercial Audio Recording

A commercial recording is any recording made for the purpose of streaming, sale, broadcast, exhibition or distribution by any means. Audio recordings can be made from the Concert Hall control room or in the Sydney Opera House Recording Studio via an advanced optical fibre based network. Multi-track digital recording is available on ProTools.

The Recording Studio is located two levels below the Concert Hall and is equipped with a Euphonix System 5 Digital Console.

Location and brand licence fees may apply as well as a payment fees apply to technical crew working on the event.

Archival audio recording (where no part of the recording is to be distributed by any means) is available as a digital file.

Video Recording

An ‘Archival Recording’ is a recording made for the sole purpose of documenting technical and performance aspects of a production. Archival Recordings are exclusively for the use of creative and management employees directly associated with a Company, Artist or the House. Archival Recordings are not intended to create a direct commercial benefit for the owner of the recording, and are not to be used for broadcast, exhibition, distribution or sale in any form. For all Archival Recordings, application should be made to the House for waiver of any recording fee.

The standard archival recording format is digital file via download or hard drive. Broadcast standard recordings can be arranged. Any special requirements should be discussed with your Production Manager.
Outside Broadcast

There is one outside broadcast interconnect point at the northern end of Central Passage: - OB West. Vehicles up to 4.2m high and 8m long may be accommodated via the north door.

The OB point is equipped with three 40A 3-phase Wilco outlets and six single-phase 10A GPOs, with a total available power supply of 100A across all outlets.

Outside links can also be arranged using the AARNet IP network. Presenters are encouraged to discuss their requirements with our Technology department before committing to an OB design.

Communications system integration between OB trucks and the Studio stage and two-way radios is also possible.

Please consult your Production Manager when scoping your broadcast. Activity and resource utilisation at the Opera House is complex. The use of OB vehicles will be dependent on how well they can be integrated with wider Opera House activities, early consultation is essential.

Signal Transport

A comprehensive optical fibre network interconnects all venues, the OB positions, and the Recording Studio. This allows broadcast-quality audio and video to be transported using Riedel MediorNet, network bridges from Klark Teknik, or the Stagetec Nexus network. The Opera House also broadcasts using video conferencing and web streaming equipment.
Communications

Stage Manager’s Desk
A state-of-the-art Stagetec Stage Manager’s Desk (SMD) is located in the corridor between the 2 dressing rooms. The desk is fully programmable, includes four broadcast-quality show relay screens, two integrated Riedel Artist communications panels and dynamically assignable tactile LED buttons.

The SMD controls audio and video relay to both front-of-house and back-of-house spaces, and can be used to broadcast live or pre-recorded announcements to backstage or foyer spaces. There is an automatic message stacking facility to prevent conflict with other venues when announcements are simultaneously sent from other theatres to common areas of the building, such as the Green Room. Features include dynamic allocation of paging, program audio relay, cue lights, and foyer bells. Front-of-house functions are generally managed by the theatre manager from a touch screen in the foyer, however these functions are also accessible at the SMD.

Show Relay

Longview
A colour image of The Studio stage is distributed to the Stage Manager’s Desk (SMD), lighting and sound control, Green Room, and venue foyers. The Stage Manager has pan, tilt, and zoom control of the longview camera. A low-light camera is also permanently installed and sends vision to the SMD.

Longview and low-light feeds can be sent to most parts of the building by arrangement and can be sent to the Recording Studio for archival recordings.

Headset Communications

The Opera House provides a Riedel Artist wired intercom system that operates across all venues. Permanent talkback stations are available in lighting and sound control locations. Wired headset tie lines are installed at all regular operating positions. Additional headsets and desktop stations can be supplied. Please consult your Production Manager for details.

A Riedel Acrobat CC-120 wireless beltpack system operates in The Studio. This integrates seamlessly with the Riedel Artist wired intercom system. 8 WB-2 wireless beltpacks are reserved for the venue, with additional units available by arrangement with your Production Manager.
Backstage Facilities

Dressing Rooms
Two dressing rooms, with adjoining toilets and showers, are located on the north side of The Studio at stage level. Each dressing room accommodates up to 6 performers and includes tea and coffee making facilities and a small refrigerator. A filtered water tap is located in the laundry.

Rehearsal Rooms
There is no rehearsal space dedicated to The Studio. Rehearsal space is very limited across the Opera House. Requests should be discussed as early as possible to determine availability.

Wardrobe and Laundry Facilities
A laundry with a washing machine and tumble dryer adjoins one of the dressing rooms. Ironing equipment, steamer and wardrobe racks are available on request.

Wi-Fi
Complimentary Wi-Fi is available back-of-house in the Green Room and The Studio dressing rooms, and front-of-house in the Western Foyer and Lower Concourse. Log in as SOH_Guest.
Staff & Artists

Sydney Opera House Staff

Our staff are covered by the Sydney Opera House Enterprise Agreement (2016 - 2019), and remain under the direction of Sydney Opera House management at all times.

The Agreement is designed to ensure a safe working environment and staff wellbeing. For this reason, certain restrictions apply to hours of work, the allocation of specially qualified staff to specific tasks, minimum crew numbers on certain tasks, and mandatory rest breaks.

Sydney Opera House management reserves the right for our staff to access our venues at any time for any reasonable purpose.

In order to ensure safety, the correct operation of specialist equipment and/or the protection of the Opera House from damage, certain tasks may only be performed by Opera House staff using our equipment. The Account Manager and/or Production Manager assigned to your event will advise you of the staffing arrangements suitable to your event.

Green Room

The Green Room is located two levels above The Studio floor. Offering a Harbour view to the north, the Green Room includes a cafeteria, a licensed bar, complimentary Wi-Fi, a lounge area and a small games area with a pool table. The Green Room is common to all theatres in the Opera House and is for the exclusive use of artists, crew, staff and their guests. It is intended to be a private environment for performers and crew to rest, enjoy a meal, prepare and socialise before and after the performance.

Any visitors must be signed in at Stage Door and escorted to the Green Room by the host artist or staff member and remain with their host at all times. Access to the Green Room is not available to the general public or patrons. For the privacy of artists and staff, photography is not permitted in the area.

Access and Other Conditions

- All Opera House staff, members of performing companies, other authorised personnel and all back-of-house visitors must enter or exit the building via the Stage Door, located on the ground floor level off the Vehicle Concourse, at the southern end of Central Passage
- Identification cards must be worn at all times, except by artists when on stage
- Access will only be granted to contractors and production staff after attending an Opera House safety induction
- All visitors must be signed in at the Stage Door, be issued with and wear a Visitor’s pass and be accompanied by their host at all times. It is the responsibility of the host to escort the visitor to Stage Door when leaving and return the Visitor’s pass
• Smoking is not permitted in any of the interior areas, or any of the designated exterior smoke free areas of the Opera House. Refer to Sydney Opera House Smoke Free Environment Policy.

• Smoking, matches, pyrotechnics and other naked flames are prohibited on stage unless written permission is granted – please discuss your production needs with your Account Manager.

• Artists and management should keep their particular areas clean, tidy and secure.

• Access for visiting staff and artists is restricted to only those areas connected to the hired venue, common back-of-house areas and public spaces.

• The use of Central Passage and the Green Room is common to all theatres.

• The Green Room is for the exclusive use of artists, presenters, Opera House management and staff and their visitors. Members of the public or media are not permitted to use these facilities.

• No food is to be prepared in dressing rooms, locker rooms or other back-of-house areas.

• No crockery or eating utensils may be left in any area other than the Green Room.

• No filming, recording or photography, is allowed on-site unless formal permission has been obtained from the Opera House.

• Pets, including animals to appear on stage are not permitted in the building without special permission in accordance with the relevant regulations.

• Artists, staff and management must comply with the regulations in the Sydney Opera House Trust By-Law (2015) made under the Sydney Opera House Trust Act 1961.

“Playing at Sydney Opera House is definitely an amazing experience... it’s a hub of imagination and creativity.”

EMILY HAINES
METRIC LEAD SINGER