



STATE  
THEATRE  
CENTRE

# TECHNICAL SPECIFICATIONS

## STUDIO UNDERGROUND

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174 – 176 WILLIAM STREET  
PERTH WA 6000  
(CORNER OF WILLIAM AND ROE STREETS)

**PLEASE DIRECT ALL TECHNICAL ENQUIRIES  
TO THE TECHNICAL DEPARTMENT:**

+61 8 6212 9200

+61429 365 838

[Amelia.dymond@ptt.wa.gov.au](mailto:Amelia.dymond@ptt.wa.gov.au)



## STAGE

### BRIEF STAGE DESCRIPTION

Studio Underground is a 20m x 20m (wall to wall) black box studio theatre.

Cablenet virtual flooring system installed over southern two thirds of performance space. Three 400mm x 15m box trusses on 500kg ASM Otto chain hoists over northern third of performance space using an ASM Genesis control system. The Studio Underground is primarily an end stage venue. Other seating configurations may require externally hired seating rostra.

The stage floor is constructed from a sacrificial layer of 9.5mm Weathertex impact board smooth adhesive fixed to two layers of 19mm ply lapped and screwed on 10mm resilient sleepers laid onto a precast concrete slab.

The design intention of the space is that all lighting should be rigged above the Cablenet. It is possible to rig trusses etc below the Cablenet, but time and adequate crewing must be allowed for this to be undertaken.

Please consult with STCWA Technical Management if rigging below the Cablenet is required.

Stage distributed load limit	750kg.m <sup>2</sup> (7.5kPa)
Stage point load limit	450kg (4.5kN)
Stage rake	NO

## STAGE DIMENSIONS

### END STAGE MODE

Width	16000mm
Depth	9000mm
Height	6600mm to underside of architectural soffits

### SETTING LINE

Dependant on show design and seating configuration.

### OVERHEAD OBSTRUCTIONS

Architectural soffits containing house lights	6600mm
Maximum truss trim	7100mm to bottom cord of box truss
Cablenet grid	7000mm
Balconies	3290mm to curtain track

## AUDITORIUM:

Raked seating on three fixed position retractable seating banks plus one row on balcony in standard end stage configuration to give 234 pax capacity. An additional 16 high stools are available on the side balconies to boost seating in standard configuration to 250 pax.

Alternate seating configurations are possible.

## FLYING FACILITIES

### FLY SYSTEM

NONE – Studio space under concrete slab. There is no fly tower.

## ACCESS EQUIPMENT

### ELEVATED WORK PLATFORM

Haulotte Star 10  
maximum reach is 10m

Genie 3232  
Maximum reach is 11.75m

Genie AWP30S  
Maximum reach is 11.0m

### EWP RESTRICTIONS

- Only STC staff may operate our EWPs.
- Outriggers must be used at all times on the AWP-30S.

### LADDERS

- 2 off 4.2m A Frame Fibreglass Ladder
- 2 off 2.4m A Frame Fibreglass Ladder
- 2 off 1m A Frame Fibreglass Stepladder
- 1 off 12m Fibreglass Extension Ladder

## STAGING UNITS

16 x Intellistage units. 1m x 1m "spaceframe" rostra @ 300mm or 600mm with skirts and chair stops. SHARED EQUIPMENT - must be booked in advance if required.

## STAGE COVERS

Style	Tarkett "Accoustafloor"
Dimensions	5 rolls 13000 (L) x 2000 (W)
Colour	Black (has white side also, but this side is badly marked)



## DRAPERY

Type	Material	Colour	Width	Height	Quantity
Flat Tabs	Wool	Black	9m	5.1m	2
Border	Wool	Black	13m	2.5m	3
Border	Molten	Black	13m	2.5m	1
Leg	Wool	Black	3m	6.1m	3
Cyclorama	Cotton	White	12m	7m	1

## SAFETY CURTAIN

Safety Curtain installed	No
Safety Curtain must be unobstructed at all times	N/A
Thickness of Fire Curtain	N/A
Distance from setting line	N/A

### Additional Requirements

All incoming drapes and cloths must be treated with fire retardant (unless made from wool) and retardant certificates must be provided, or treatment tags must be visible for inspection. Untreated items will NOT be hung.

## LOADING DOCK

### TRUCK ACCESS RESTRICTIONS

Articulated vehicles must approach the venue from Beaufort Street or Stirling Street, turning right into Roe Street and are not to begin reversing into the loading dock until instructed to do so by STCWA traffic controllers. Approach from William Street is no longer possible due to road modifications.

The Studio loading dock is not suitable for High Cube or HGV articulated trucks.

All High Cube or HGV articulated loads MUST be brought in via the main Theatre Dock. This must be prearranged with STC Technical Management.

### STUDIO DOCK

Loading Dock Height	942mm
Floor to Lowest Obstruction	3898mm
Door Dimensions	3898mm high 3540mm wide

### THEATRE DOCK

Loading Dock Height	1309mm
Lower Door Dimensions	4686mm high 5097mm wide
Upper Door Dimensions	5428mm high 4013mm wide

### RESTRICTIONS/OBSTRUCTIONS

Any articulated vehicle requiring access to the Theatre Loading Dock will require traffic management to be put in place. This must only be carried out by MRWA licensed traffic controllers. STCWA has licensed traffic controllers on staff and three (3) are required for truck entry as per our Traffic Management Plan and permit.

We require advanced notice of the use of articulated vehicles in order to have the correct licensed staff rostered for the arrival of the vehicle.

Our traffic management permit from the City of Perth allows us to undertake the necessary traffic management between the following times ONLY:

**9.30 am - 4.15pm Monday to Friday**

**9.30am - 7.00pm Saturday**

Access by articulated vehicles outside these times is not permitted by the City of Perth without application for an Out of Hours Traffic Obstruction Permit, which can be organized by the venue on request. This may incur costs.

The City of Perth will **not** issue permits for truck access during Peak Traffic Periods (7.00 - 9.30am, 4.15 - 6.00pm weekdays, 7.00 - 9.30am Saturdays) under any circumstances.

Articulated vehicles may EXIT our dock without restriction, as this does not require traffic management.

STCWA must be notified of the impending arrival of any articulated vehicle at least 10 minutes prior in order to have traffic controllers in place.



### EQUIPMENT SIZE RESTRICTION

The equipment elevator which is used to bring all materials to the Studio has the following dimensions:

Clear Car Internals	3000mm W x 5000mm D x 3100mm H
Clear Door	3000mm W x 3000mm H
Weight Limit	3,350kg

If your production elements do not fit into the elevator car there is an alternate route available through the foyer. Please discuss this with Technical Management as there are a lot of variables affecting the ability to use this alternate route.

### ADDITIONAL RIGGING NOTES

Trusses over cablenet areas may be moved as required. Please discuss with STC Technical Management prior to submitting LX plans.

#### SWLs for Studio Underground

Handrails	Maximum 20kg/m point load, 75kg total load per span
Roof Beams	7x rigging beams may be loaded with equipment not exceeding 100kg per lineal metre over the full length of each beam. (With option for 1x 1000kg fall arrest point load)
Lock Grid	Maximum 20kg/m point load, 80kg total load per Unistrut.
Truss	44.5kg/m Distributed Load.

Rigging of truss etc. below the cablenet is possible, but very time consuming. Time and budgetary allowance must be made if this is to be done. Please consult with STC Technical Management prior to submitting plans.

### STAGING NOTES

Fire Doors – There are four doors in the corners of the room which are a part of the Fire Evacuation system, as per the WA Building Regulations (2012) these doors may not be held open and as such are not usable as patron or cast entry/exit points.

STCWA is under intense scrutiny from local authorities. Please ensure that allowances are made for any cabling, piping or similar items crossing public access or egress routes to be completely covered with approved crossovers. Taping cables to the floor or only partially covering potential trip hazards is not considered to be acceptable by the City of Perth's Environmental Health Officers who regularly inspect this theatre without prior warning. STCWA has a quantity of cable trays which will be provided as required.

### LIGHTING

#### CONTROL

Lighting desk	ETC Ion 1500 with 2 x 20 Fader Wing
Control channels	1500
Signal output	Streaming ACN to Pathport DMX over CAT6 System
Signal distribution	Pathport DMX over CAT6
Remote riggers available onstage	Yes

#### DIMMER RACKS

Total dimmers	180 Dimmers
Dimmer locations	Dimmer Room at SU grid level above Bio Box.
2.4Kw dimmer racks	Jands HPC-12
Total dimmers @ 2.4kw per dimmer	180
Dimmer per circuit venue - NO PATCHBAYS	

#### HOUSE LIGHTS

Independent control	YES
Control positions	From LX Console
Fade time adjustable	YES

#### PATCHING

Dimmer per circuit venue – no patchbays. Circuit maps available on request

#### POWER

- 3 Phase Outlets
- 40 A 5 pin Wilco in each corner of the space.
- 1 x 40A 5 Pin Wilco AUDIO 3 phase in SW corner
- 3 x 40A Wilco in grid
- 1 x 40A Wilco in sound lock

#### CABLING

##### 240v Extension Cable

The Studio has a good stock of 240V extension cables.

##### Looms

6 x 6 Circuit 20m Socapex Looms with 240V heads and tails.

##### 3 phase Extensions

20m Extensions available.



## STAGE LUMINAIRES

### Profiles

Make	Model	Angle	Detail/Accessories	Watt	Total
Selecon	SPX	15 – 35	B size Gobo Holder	800	42
Selecon	SPX	25 – 50	B size Gobo Holder	800	20

### Fresnels

Make	Model	Detail/Accessories	Watt	Total
Selecon	Rama HP	175mm Lens, Barndoors, Gel Frame	1200	26

### PC

Make	Model	Detail/Accessories	Watt	Total
Selecon	Rama HP	175mm Lens, Barndoors, Gel Frame	1200	26

### Par Cans

Make	Model	Angle	Detail/Accessories	Watt	Total
ETC	Source 4 Par	All	Full Lens Kits, Gel Frame, Barndoors	750	30

### Wash

Make	Model	Detail/Accessories	Watt	Total
Quartzcolor	Iris 1	Used as house lights over seating	1250	4

### Movers

Make	Model	Control Channels	Detail/Accessories	Watt	Total
Robe	Robin DLX			380	4
Robe	Robin DLF			380	4

### Followspots

Make	Model	Angle	Detail/Accessories	Watt	Total
Robert Juliat	Topaze		Stand, 8 colour colourmag	1200	1
			Bullseye Sight		

## LIGHTING NOTES

Lighting rig must be returned to standard rig as part of any bump out. This is done at outgoing hirer's expense.

If Row H is in use, moving lights may not be hung from FOH balcony bar as this presents an OH&S issue for patrons due to lack of headroom.



## AUDIO

### CONTROL POSITIONS

#### Control Room

Bio Box on balcony level, openable windows.

#### Auditorium

Centre of Row H on balcony.

Total seat allocation: **4 (H 9 – 13)**

### CONTROL & AMPLIFICATION

Primary mixer	PreSonus StudioLive 24.4.2 Firewire Digital
Amplifiers	All PA equipment is self-powered. Detail below.
EQ	In console EQ, no outboard
FX	In Console FX, no outboard
Compression/ Limiter/Gates	In console Compression/Gating no outboard

### SPEAKERS

FOH speakers	4 x Meyer UPM-1P (2 front, 2 rear) 1 x Meyer USW-1P (under seating banks)
General use speakers	8 x EV ZX-A1 Bi Amped 10" + horn (4 with flying hardware) 8 x QSC K12 Bi Amped 12" + horn (Primarily for Courtyard use – may not be available during summer season) 6 x JBL VT7210/95DP Bi Amped 10" + horn 2 x Quest QM212AS 2x12" Active Sub-Woofer 2 x JBL VP15 15" Active Sub-Woofer (Primarily for Courtyard use – may not be available during summer season)

### PLAYBACK

Item	Make	Model	Detail	Total
CD Player	Denon	DND 4500	Dual CD Player	1

### MICROPHONES

All microphone stock and stands are shared equipment and must be booked in advance.

There is no specific allocation for our performance spaces. A list of microphones is available on request.

### LINE PATCHING

Distributed patch system – patchbay maps available on request.

## CABLING

### Audio cable

The theatre has a good stock of signal cable which is allocated as required.

### AUDIO NOTES

Bio Box position is not recommended for live mixing. We recommend using the balcony position which will remove 4 seats as noted above.

Speakers may be relocated as required.

### Potential cross venue and external noise bleed

STCWA, like most venues, is designed to operate with all doors closed to effect soundproofing. Any door not shut changes the effectiveness of the design intent.

If you require any door to be open, even slightly, during your rehearsals or performances, STCWA cannot guarantee that there will not be noise bleed into the space.

These include all acoustic doors (such as the sound lock between RR1 and the Studio Underground), auditorium doors & pass doors.

In the event of noise bleed occurring, please inform venue staff and/or venue management and we will endeavour to minimise this where possible; however, it must be noted that there are multiple spaces at the STCWA that are often utilised at the same time.

Other departments, such as food & beverage, still need to complete work tasks while performances are taking place.

## AUDIO VISUAL

### PROJECTION ROOM

No dedicated projection room.

### PROJECTORS

Type	Model	Detail / Accessories	Total
Sanyo Data Projector	PLC WTC 500L	5000 ANSI Lumen with LNS-S11 , LNS-W10 and LNS T10 lens options	1
Sanyo Data Projector	PLC WTC 500AL	5000 ANSI Lumen with LNS-S11 , LNS-W10 and LNS T10 lens options	1



## SCREENS

### Projection Screen

2 x STUMPFL 16' x 9' (4.87m x 2.74m) Fastfold Screen FP and RP surfaces available.

## AV PLAYBACK EQUIPMENT

Item	Model	Detail / Accessories	Total
Denon Blu Ray Player	DBP 2012UD	Professional Blu Ray player	2
Sony Blu Ray Player	BDP-S390	Domestic Blu Ray Player	1
Sony Blu Ray Player	BDP S370	Domestic Blu Ray Player	1
Philips DVD Player	DVP 3020	Domestic DVD Player	1
Samsung DVD Player	DVD- C350	Domestic DVD Player	1
Dick Smith DVD Player	GH 4951	Domestic DVD Player	1

## PROJECTOR RIGGING POINTS

Projectors are usually mounted FOH on the balcony lighting bar.

## CABLING

The Theatre has a good stock of VGA, RGBHV, DVI and HDMI cabling.

## AUDIO VISUAL NOTES

- The theatre has a stock of video over Cat6 Baluns of various types.
- 1 x Kramer VP747 Switcher/Scaler
- 1 x Kramer VP728 Switcher/Scaler
- Installed Optic Fibre (Multimode ST Connectors) Bio Box to Grid level.

## BACKSTAGE

### COMMUNICATIONS

#### Stage Managers Desk

SM console is portable. It may be connected in either the NW or NE corners of the room. Stage Management and show call is normally done from the Bio Box.

## TALKBACK

Master Unit	Telex 2 ring system – Master station is in SM console
Total sub stations	6
Total headsets	6
Radio Units In-house	None
Talkback patching located at all technical panels	

## PAGING/SHOW RELAY

Paging to Dressing Rooms and Wardrobe is available at SM console and in Bio Box.

All Dressing Rooms have audio and video show relay.

Wardrobe has audio show relay only.

## STAGE MONITOR

Monitors in Green Room, Foyers, Stage Door Office, Technical Management Office, and Venue Management Office.

Camera is mounted on balcony lighting bar FOH.

## Q LIGHT SYSTEM

In house Q light system available	YES. Shared equipment - must be booked in advance.
Number of units	10 x Leon Audio QLS Mk3B Cuelight Stations

## LAUNDRY/WARDROBE

Shared space at all times

Washing machines	2 Speed Queen Commercial Washers
Dryers	2 Speed Queen Commercial Dryers
Drying room	1 Asko Drying Cabinet
Iron/ironing board	2 Electric Steam Irons 2 Ironing Boards 3 Steamer Units
Clothes rack	6 "Z" Racks
Cutting table, overlocker and commercial sewing machine	

## PRODUCTION FACILITIES

### Production Desk

Production desk in centre of Stalls Row (4 person maximum).

### Production Office

No designated production office — small dressing room may be used.

### Phone

Dressing rooms have phones. Unrestricted phone available in Technical Management Office on request.



### Fax

Located in Venue Management Office.

### Internet access

Wired access to internet in dressing rooms available on request.

### GREENROOM

Our Greenroom is a shared space at ALL times - as such, it is not a good place for notes or meetings.

Tea/coffee facilities	YES
Fridge/freezer	YES (communal)
Microwave	YES
Running water	YES

### STAGE DOOR

Stage Door access is from Roe St adjacent to the loading docks.

## ADDITIONAL FACILITIES & INFORMATION

### ORCHESTRAL

(All shared equipment, must be booked in advance)

Our pianos are not permitted to be used for "prepared piano" pieces.

- 1 x Yamaha C5 Grand Piano
- 1 x Yamaha U3-PEQ Upright Piano
- 1 x Yamaha Clavinova Electric Piano
- 24 x Orchestra Chairs
- 24 x Manhasset Symphony Music stands
- 4 x Manhasset Symphony Tall Music Stands
- 1 x Manhasset Conductors Stand
- 24 x Galactic Dual Head LED Sconce Lamps

### VENUE PLANS

Venue plan (Vectorworks or AutoCAD) available on request from Technical Management.

### Venue section available

Venue section (Vectorworks or AutoCAD) available on request from Technical Management.

### REHEARSAL SPACES

Rehearsal spaces are not included with performance space hire and must be booked in advance.

### REHEARSAL ROOM 1

Located in the basement level of the building directly under the HLT substage area. It is 13.4m x 22m and has similar flooring to the HLT stage. There is a small fixed lighting grid with limited hanging capacity installed in the roof (5.5m trim height). This room has no allocated technical equipment. There are ballet barres and mirrors installed along the North and west walls, with a full room curtain system.

### REHEARSAL ROOM 2

Located on level 2 of the building, between the HLT Foyer and dressing rooms. This room is 17m x 9.8m and has a similar floor to the Studio Underground. There are floor to ceiling windows on the southern end of the room and mirrors and ballet barres installed on the eastern wall. There is a curtain system to cover the windows, mirrors and Northern wall of the room. There is an installed projector (VGA only). There are no rigging or hanging points in this room and there is no allocated technical equipment. There is an installed PA system in this room, it is not high SPL capable and has no subs.

Unless noted, there is no equipment allocation for rehearsal spaces.

### MORE INFORMATION

If you have any questions regarding technical specifications, please contact the Centre's Technical Manager:

#### Amelia Dymond

+61 8 6212 9214

+61429 365 838

[amelia.dymond@ptt.wa.gov.au](mailto:amelia.dymond@ptt.wa.gov.au)

### STAFF CONTACTS

Head of Lighting	Sam Elbery
Head of Staging	Peter Carr
Head of Audio	Dylan Crosbie
Switchboard/Stage Door	T: +61 8 62129200 F: +61 8 62129207
Ticketek	1300 364 001 <a href="http://www.ticketek.com.au">www.ticketek.com.au</a>

This document contains general information only and is current at the time of going to print. All critical measurements should be checked on site. Availability of equipment and space is subject to performance schedules. Please check with the technical manager when booking the space for your performance.



 Accessible seating

STAGE

