

Leach Theater

At Missouri University of Science and Technology

103 Castleman hall

400 W. 10th St.

Rolla, Mo 65409

Technical Information Packet

Leachtheater.mst.edu

Leach Theater
Missouri S&T

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Venue General Information

Overview of Venue

Leach Theater is located on Missouri S&T's main campus situated within Castleman Hall. Providing a premier performing arts venue in southern central Missouri having shown Broadway performances like Stomp and Jersey Boys as well as concerts like the Dallas String Quartet. Leach provides seating up to 550.

The Leach Theater crew consists of non-union students.

A map of the Rolla area including the locations of lodging and restaurants is available here:

<https://business.rollachamber.org/map>

Address

103 Castleman Hall

400 W 10th St.

Rolla, MO 65409-1550

Policies, Rules and Regulations

Smoking – nonsmoking building, MST is nonsmoking campus

Drugs and Alcohol – please don't be under the influence

Food and Beverages – no food or drink allowed on stage or booths at any time

Theater doors open 30 minutes before curtain

Leach reserves the right to hold 50 tickets for seat conflicts and seat moving

.

Contacts

Leach Theater

General Information and Tickets

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Stage

Proscenium:	45'-0" w x 21'-4" h
Depth:	49'-0" with lift at stage level 40'-3" with lift in orchestra position 33'-9" Plaster Line to US Wall 15'-4" Grand Drape to Apron
Width:	41'-6" center line to locking rail SL 36'-0" Center Line to Shell Storage SR (shell unable to leave stage)
Height:	53'-0" deck to grid 49'-6" deck to batten high trim

The stage floor is a suspended sprung floor covered with ¼" black Masonite usually painted flat-black in a late paint.

There are personnel access doors up-stage right and left which lead to a crossover hallway, dressing rooms, and shop. There is a door down-stage right off the apron which leads to a hallway and the orchestra pit.

Orchestra Pit Lift

The orchestra pit uses a Spiralift from Gala. It is controlled by a handheld wired remote from either the stage manager panel or a jack on the pit itself. The lift can be stopped at any level. Preset levels are listed in the table below. The stage has warning lights embedded in the floor

surrounding the pit which are controlled from the stage manager panel.

When stopped at the orchestra level, a door stage right allows personnel access to the pit via stairs to a hallway off stage right. At the basement level, double doors open into a storage area where the grand piano, chairs, and stands are stored.

The pit is rated to 50 lbs/sq ft lifting and 125 lbs/sq ft sustaining.

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Orchestra Pit Dimensions	
Depth:	7'-6" (at stage level) 12'-9" (at orchestra level with bridge installed)
Width:	37'-0" US 26'-0" DS (trapezoidal)
Height:	-8'-9" (orchestra level) -13'-0" (basement/storage level)

Stage Manager Panel

The stage manager panel is located on the downstage left wall. This panel houses a monitor for viewing stage cameras, a houselights control panel, controls and indicators for the orchestra pit, safety light controls, and a ClearComm station. The panel folds out when using the light board or when a writing surface is needed. It has two built-in dimmable work lights.

More information on what is within the stage manager panel can be found in sound and lighting.

Band/Orchestra Shell

The shell consists of 7 towers and 3 flown ceiling pieces. The towers are normally stored downstage right against the wall. They are too tall to leave the stage. The ceiling pieces fold flat vertically and fly out for storage.

Fly System / Soft Goods

General Information

Type:	Overhung Single Purchase T-Track system
# of linesets:	37 total, 11 permanent, 27 available
Batten high trim:	49'-6"
Batten low trim:	3'-0"
Batten length:	62'-0" (except lineset 6 which is 66'-0")
Locking-rail location:	stage-left at stage level
Loading gallery height:	45'-0"
Counterweight Type:	pig-iron (40 lb and 20 lb bricks)
Available Counterweight	15,000 lbs

Soft Goods

Type	Quantity	Notes
Grand Drape	1	Red with 200% fullness - Can travel or guillotine
Teaser	1	Red 200% Fullness - Full height (can be used as an act curtain)
Legs	5 sets	Black - 24'-0"H x 12'-0"W
Border	5	Black - 9'-0"H x 58'-0"W
Travelers	2	Black - 150% fullness - Permanently hung mid-stage and up-stage (see lineset schedule above)
Scrim	1	Black Sharkstooth Scrim - 26'-0"H x 60'W
Cyc	1	White - Natural muslin bounce drop - 26'H x 60'W (seamless)

Lighting

The main console is a ETC Ion Xe20 located on the 3rd floor in the light booth.

Houselights Control

All house lights, work lights, and aisle lights are on dimmers and are addressable via DMX by either console. They may also be controlled using the ETC Analog Address system. There are 8-channel slider stations located in the sound booth and the lighting booth. In addition, there are work light buttons at both upstage personnel doors and panic buttons (for houselights and work lights) at all house doors. All work light and panic buttons may be disabled using a key-switch at the stage manager panel.

Dimming and Roadshow Power

The house dimming system consists of 4 full racks of ETC Sensor+ Dimmers. 356 - 2.4k dimmers are available. Power is provided by an 800-amp 3-phase disconnect.

A roadshow disconnect is located upstage right and provides three legs at 400 amps with Cam lock ends. Bare ends tie-in is available with a campus electrician required to lug on and off the disconnect. An additional 100-amp disconnect is also available with Cam lock. Bare tie-in connections may be possible, please make arrangements with the Technical Director if needed.

Follow Spots

Two Lycian ZOT 12 HP 1200-watt HMI follow spots are available. They are located on the 3rd floor in the light booth.

Instrument Inventory

Type	Beamwidth	Wattage	Quantity	Notes
ETC Source IV Ellipsoidal	see notes	575w	45	There are 67 Source-IV ellipsoidals total. The following lens tubes are available: 28 @ 19° 42 @ 26° 16 @ 36° 12 @ 50°
ETC Source IV PAR	see notes	575w	24	There are 24 Source-IV PARs total. Each with a full lens kit: VNSP, NSP, MFL, WFL
Colortran Ellipsoidal	20°, 30°, or 40°	1000w	30	These instruments have movable lenses, and can be configured for 20°, 30°, or 40°. These are not zoom instruments.
Colortran 8" Fresnel	variable	2000w	24	
Colortran 6" Fresnel	variable	1000w	20	
Colortran Par-64	variable	1000w	6	
Colortran Far Cyc		1000w	8	These are two-color units
Altman Ground Cyc		1000w	8	These are single-color floor units with adjustable tilt.
Lycian ZOT Follow Spots		1200w	2	Located on the 3rd floor on either side of the light booth.

Circuit Locations

Location	Circuit Count	Notes
FOH Catwalk 'A'	10	Some of these circuits run through a patch-bay on upstage right.
FOH Catwalk 'B'	39	
Box Booms	8 each	There are 8 box booms total: 4 near, 4 far, each with an upper and lower level. There are two pipes at each location.
1st-electric	34	
2nd-electric	16	These circuits are typically cabled to the downstage-left and right wall pockets and are run via multicable.
3rd-electric	33	
4th-electric	30	This is the cyc electric, and all circuits are located in groups of 3.
Downstage Wall pockets	12 per side	These circuits are located on the downstage wall about 6 feet from the proscenium.
Upstage Wall pockets	8 per side	
Floor pockets	4 each	There are a total of 6 floor pockets, 3 on each side of the stage. They are located roughly beneath the 1st-3rd electrics.
Orchestra Pit Wall / Floor	4 total	These are located in the stage floor and on the wall at orchestra level and are divided into 2 wall pockets left and right and two floor pockets left and right. Each location has 4 circuits. All 4 locations have the same 4 circuits.

Projection

A Panasonic PT-DZ21KU Projector is at center state with an accompanying screen that can be dropped down. Two Christie D13WU2-HS Projectors on each side of the stage are utilized as sponsor recognition screens.

Sound

House Mix Position

The house mixing position is centered in the last row of seating at the rear of the house. It is completely open to the stage. Access is through a door in the upper lobby. There is no elevator. All equipment must be carried up the stairs in the house. If a snake is used, approximately 125' is required to reach the downstage edge of the stage.

Mixing console

The main mixing console is the Allen & Heath SQ7, a 48-channel, 36-bus digital mixer with 33 motorized faders. It offers powerful onboard processing, including 11 auxiliary sends, flexible EQ controls, and intuitive touchscreen navigation for seamless live sound management. [More Info](#)

Source Equipment

- (1) Sony CDP-D11 Professional CD Player w/ wireless remote
- (1) Sony MDS-E12 Professional Minidisc Player/Recorder w/ wireless remote
- (1) Dell Computer, Win XP Pro, 256MB Dual output video, P4 3.0GHz, 1Gb RAM

Processors / EQs

- (1) Behringer Ultra-Curve Pro DSP-8024 (House EQ)
- (2) DbX12 series dual analog EQ
- (1) TC Electronic M-One XL
- (1) Echo3G LAYL

Input Locations

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XLR jacks are located throughout the facility. On stage, there are 8 inputs each USR, USL, DSL, and DSR. A total of 16 inputs are located in the pit. There are 2 inputs in the lower lobby, 2 in the FOH lighting catwalk, and 2 on the catwalk in the loading gallery. All inputs connect to a patch bay at the house mix position. An Allen and Heath DX168 stage box is tied to the main console and adds 16 inputs and 8 outputs. [More Info](#)

Mic Inventory

- (3) Shure SM58s
- (14) Shure SM59s
- (6) EV RE-10s w/floor pads
- (4) EV N/D 408As
- (5) Crown PCC-160s
- (2) Shure Microflex MX418D/C (podium mic)
- (8) Shure ULX1 wireless lapels (flesh colored mic buds)
- (6) Shure SLX1 wireless lapels (black mic buds)
- (4) Countryman E6 I headset microphones
- (6) Shure SM58 Wireless Handhelds

Speaker Cluster

The house cluster consists of 15" JBL subs and horns. The main cluster is located directly above the downstage edge of the stage. The satellite cluster is located over the middle of the house and is delayed to cover the last 10 rows. The cluster is mono. Amplification is by Crown PS-200 and PS-400 amps. The system uses a 70v distribution network to feed the cluster. Amps are located in the amp room on the third floor behind the light booth.

(2) QSC KW181 18", 1000 watt, active ported subwoofer cabinets are also available.

The amps and all the equipment at the house mixing position are powered from an isolation transformer located in the amp room on the third floor.

Stage Monitor System

(8) Behringer Eurolive B212D and 8 Galaxy Hot Spot stage monitors are available. Outputs are located for each channel on the wall USR, USL, DSR, DSL, on the orchestra pit, and two sets are available in the orchestra pit.

Backstage / Lobby Monitoring Facilities / Paging

Separate feeds are available for ceiling monitors located throughout the lobby and backstage. Both feeds run through a digital delay and compressor/limiter.

The lobby feed sends audio to the upper and lower lobby as well as the box office and entire 3rd floor (light booth and spot booths).

The backstage line feeds two quick change rooms, the scene shop, ATD's office, both dressing rooms, the green room, the costume shop, and the theater lab (black box). Pots are located on the wall in each room backstage to control the volume.

Intercom System

A ListenTALK Two-Way wireless system with 6 headsets

Hearing Impaired Listening Facilities

A ListenWIFI system is available over Wi-Fi with individuals utilizing an app on their device.

Acoustic Curtains

Motorized curtains are located on either side of the house and along the back wall. These curtains retract to reveal drywall and give the house a more live sound. Curtain controls are located in the house sound mix position. The curtains are typically opened for small instrumental or choral groups.

Accessories

- (3) Table stands
- (3) Boom stands
- (7) Straight stands
- (2) direct box (one is a powered DI with 8 inputs/outputs)
- (1) XLR/TRS/BNC cable tester
- (20) 50' XLR mic cables
- (25) 25' XLR mic cables
- (6) Various length 1/4" instrument/monitor cables
- A wide variety of mic clips including shock-mount clips

- Various couplers, adapters, turnarounds, etc.

Facility Support Spaces

Dock

The loading dock is located at the corner of 11th and Main. The dock is 44 inches high and is level with the stage. One truck can park at the dock at a time and may normally remain parked in the dock as long as necessary. The loading dock door is approximately 8'0" wide by 9'0" tall. The Dock has direct access to the stage through the Scene Shop through two more doors that are 13'-0" tall by 8'-0" wide with a distance of 50' dock door to stage. One 90-degree turn is required.

Scene Shop

The scene shop is located beyond the up-stage wall of the theatre. Stage access is through a set of 13'-0" tall by 8'-0" wide doors and the crossover hallway. The shop opens out to the loading dock.

Dressing Rooms & Star Rooms

There are (2) Chorus Dressing Rooms and (2) Quick-Change rooms. The Chorus Dressing Rooms are located off upstage right at the end of the cross-over hallway featuring lighted mirrors, power outlets at each station, and a bathroom with a shower. The room capacities are 12 and 18. The Quick-Change Rooms are immediately outside the upstage left stage door and can each accommodate 1 person comfortably or 2 if necessary. The Quick-Change Rooms feature a private

bathroom with shower and a lighted mirror.

Green Room

The green room is located adjacent to the chorus dressing rooms. The room is equipped with a refrigerator, coffee pots, couches, chairs, tables, an upright piano, and monitors to hear on-stage activity and pages.

Black Box

The Black Box Theatre is located off stage right. This space is not directly under the control of Leach Theatre but can be made available for use by special request. This space also has a monitor for listening to on-stage activity and pages.

Additional Facilities

A 9' Stein way Concert Grand (Model D) piano is available upon request. Tuning can be arranged given adequate notice.

Approximately 100 chair and 50 music stands are available upon request.

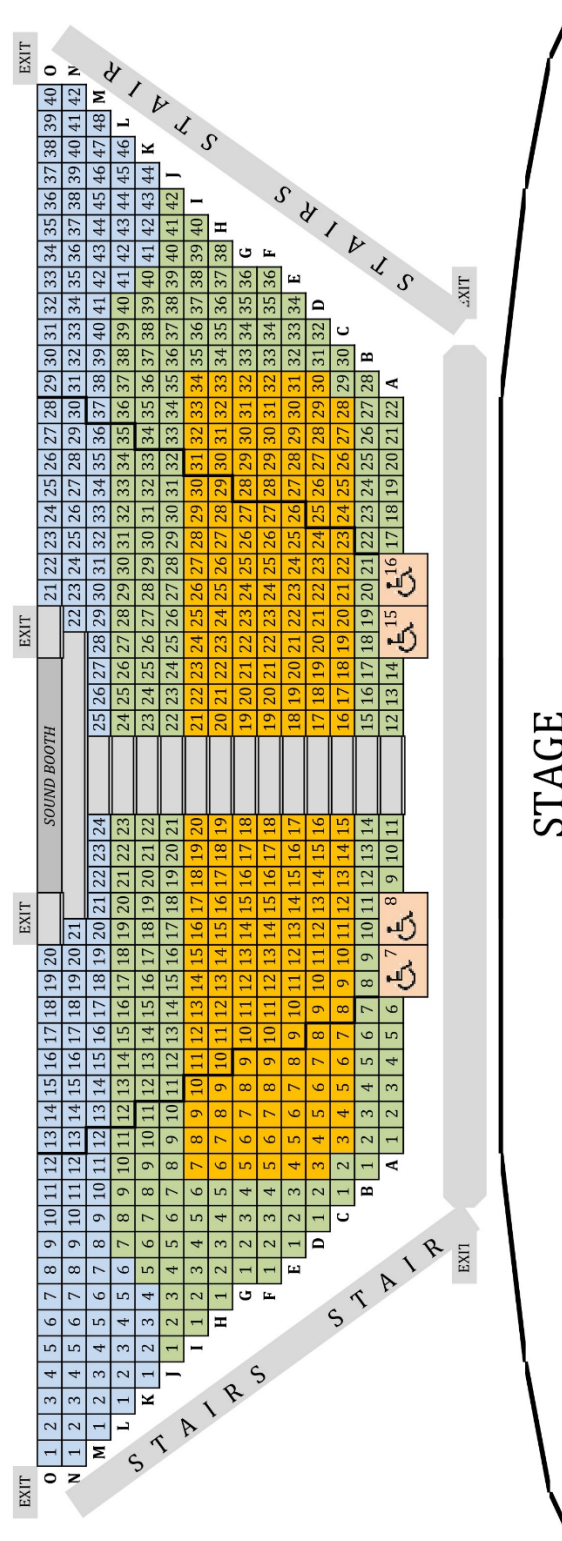
There is a washer and dryer on the premises that is available for use by touring personnel.

A costume shop is located in the basement but is not directly under the control of Leach Theatre. Contact the technical director for details and to arrange use of the costume shop.

Appendix I: Lineset Schedule

Lineset Number	Function	Distance to Proscenium	Notes
--	Fire Curtain	0'-3"	Permanent
1	Teaser	1'-2"	Full height, Burgundy
2	Grand Drape	1'-10"	Travels or Guillotines, Bugundy
3	1 st Electric	3'-2"	Permanent
4	Shell ceiling #1	4'-6"	Permanent
5	1 st Boarder	5'-10"	
6	1 st Legs	6'-6"	(66' batten)
7		7'-2"	
8		7'-10"	
9		8'-6"	
10	2 nd Boarder	9'-2"	
11	2 nd Legs	9'-10"	
12	2 nd Electric	10'-6"	
13	Shell Ceiling #2	11'-10"	Permanent
14	3 rd Boarder	13'-2"	
15		13'-10"	
16	Mid-stage Traveller	14'-6"	
17		15'-2"	
18	3 rd Electric	16'-6"	Permanent
19	Shell Ceiling #3	18'-6"	Permanent
20		19'-10"	
21		20'-6"	
22	5 th Boarder	21'-2"	
23	4 th Leg	21'-10"	Permanent
24		22'-6"	
25		23'-2"	
26		23'-10"	
27		24'-6"	
28	5 th Boarder	25'-2"	
29	5 th Leg	25'-10"	
30	Black Scrim	26'-6"	
31	4 th Electric	27'-10"	Permanent
32	Traveller	29'-2"	
33		29'-10"	
34		30'-6"	
35		31'-2"	
36		31'-10"	
37	Seamless Cyc	32'-6"	Permanent

Appendix II: Seating Chart



Appendix III: Theater Photos



View in scene shop showing dock door (to the left) and one of two doors to get to the stage (to the right).



View of stage from right Infront sound booth

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View of dock from the intersection of W 11th ST and N Main ST



Closer view of dock

Appendix IV: Leach Egress Map

MISSOURI S&T
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Design, Construction,
& Space Management
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First Floor
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