2020
MILLER OUTDOOR THEATRE TECH PACK

Houston Museum of Natural Science

McGovern Centennial Gardens

B

A

HERMANN PARK DR.

SAN JACINTO ST.

HERMANN DR.

CRAWFORD ST.

JACKSON ST.

M. D. ANDERSON STATION

Mary Gibbs and Jesse H. Jones Reflection Pool

C

Japanese Garden

Miller Outdoor Theatre

Marvin Taylor Exercise Trail

CORPS DR.

D

E

Judson Robinson Community Center

J

McGovern Lake

Buddy Carruth Playground For All Children

F

K

S

Hermann Park Golf Course

L

Lake Plaza

G

M

Golf Course Club House

H

Greenway Trail

CAMBRIDGE

Houston Zoo

I

HERMANN PARK DR.

NORTH MACGREGOR WAY

SOUTH MACGREGOR WAY

ALMEDA RD.

DIXIE RD.

N

P

BRAESWOOD BLVD.

CAMBRIDGE

Bayou Parkland

HOLCOMBE BLVD.

MAIN ST.

FANNIN ST.

Miller Outdoor Theatre Stage & House Information		
Building Capacities	Building Occupancy (Including Miller Staff)	150
	Seating Capacity (Covered)	1704
	Seating Capacity (Hill)	6000 (Blankets) / 9000 (Standing)
Stage Dimensions	Proscenium Width	58' 8"
	Proscenium Height	25' 10"
	Stage Width	64' 2"
	Stage Depth (Curtain to Back Wall)	41' 2"
	Apron Depth (Curtain to Upstage Edge of Pit)	8' 2"
	Deck to Grid	65' 8"
	Deck to Bottom of Split Rail	8' 1"
	Plaster Line @ Center to Front-of-House Control Booth	135' 6"
	Plaster Line @ Center to Front-of-House Lighting Catwalk	82'
Fly Rail	System Pipes	54 (Grand Drape & 10 Electrics Are Motorized)
	System Pipe Length	1½" Schedule 40; 63' long
	Pipe Trim #2-12 (Split Rail)	High trim 52' 6"; Low trim 4' 3"
	Pipe Trim #1 & #13-54	High trim 60' 10"; Low trim 4' 3"
	Arbor Capacity	1750 lbs.
	Counter Weight (30,000 lbs. total)	(1) Brick = 20 lbs.
Loading Dock	Loading Dock Door Dimensions	W: 7' 9" H: 10' 0"
	Note: The Loading Dock is at street level. A ramp, fork lift, or lift gate is required for unloading trucks.	
Orchestra Pit	Orchestra Pit Width	78' (Refer to drawings)
	Orchestra Pit Depth	20' (Refer to drawings)
	Orchestra Pit Rate of Travel (DOWN)	1 Minute 8 Seconds
	Orchestra Pit Rate of Travel (UP)	52 Seconds
	Pit Low Trim	7' 6"
	Weight Capacity of Orchestra Pit	27,000 lbs.

Draperies					
Item	**Linesets**	**Fabric**	**Size**	**Quantity**	**Weight**
Grand Drape	1	32 oz. Cherry IFR; 100% Fullness	30' H x 63' W (7' Overlap @ Center)	1	945 lbs.
Split Black (2 Panels)	20, 54	25 oz. Black IFR; Flat	30' H x 34' W (Each Panel)	1	300 lbs.
Black Borders	2, 11, 21, 31, 40	25 oz. Black IFR; Flat	10' H x 60' W	6	120 lbs.
Black Legs	3, 12, 22, 32, 41	25 oz. Black IFR; Flat	30' H x 15' W	6 Pairs	150 lbs.
Sharkstooth Scrim	42	Black	30' H x 60' W	1	90 lbs.
Plastic / Front Projection	44	Rosco Twin White Plastic	30' H x 60' W	1	240 lbs.
Bounce	53	Rosco Twin White Plastic	30' H x 60' W	1	240 lbs.
Fiber Optic Star Drop	43	Black	30' H x 60' W (3 Vertical Panels; 2 Fiber Trunks per Panel)	1	465 lbs.
Rear Projection Screen	8	Da-Lite Curved Series 300 Lace and Grommet Frame	18' H x 32' W	1	240 lbs.

Lineset Schedule					
Lineset	**Travel**	**Distance From Plaster Line**	**Name**	**Notes**	**Weight**
1		0' 6"	Red Grand Drape	Titan Adjustable Speed Motor	N/A
2	Travel: 48'-3"	1' 3"	#1 Black Border		15 wts.
3		1' 10"	#1 Black Legs	22' From Center	11 wts.
4		2' 7"	#1 Electric + Audio Monitors - House Trim is 28'-0"	Power Assist Motors; Pipes Are Married	N/A
5		3' 4"	#2 Electric - House Trim is 28'-0"		N/A
6		4' 3"			
7		4' 11"	Barco HDX Projector		7 wts.
8		5' 7"			
9		6' 3"			
10		6' 11"			
11		7' 7"	#2 Black Border		8 wts.
12		8' 3"	#2 Black Legs	22' From Center	11 wts.
13	Travel: 56'-7"	9' 0"	#3 Electric - House Trim is 27'-0"	Power Assist Motors; Pipes Are Married	N/A
14		9' 9"	#4 Electric - House Trim is 28'-0"		N/A
15		10' 8"	Spare Batten Storage		20 wts.
16		11' 4"			
17		12' 0"			
18		12' 8"			
19		13' 4"			
20		14' 0"	Mid-Stage Split Black Curtain		14 wts.
21		14' 8"	#3 Black Border		7 wts.
22		15' 4"	#3 Black Legs	22' From Center	10 wts.
23		16' 1"	#5 Electric - House Trim is 27'-0"	Power Assist Motors; Pipes Are Married	N/A
24		16' 10"	#6 Electric - House Trim is 28'-0"		N/A
25		17' 9"			
26		18' 5"			
27		19' 1"			
28		19' 9"			
29		20' 5"			
30		21' 1"			
31		21' 9"	#4 Black Border		7 wts.
32		22' 5"	#4 Black Legs	22' From Center	10 wts.
33		23' 2"	#7 Electric - House Trim is 27'-0"	Power Assist Motors; Pipes Are Married	N/A
34		23' 11"	#8 Electric - House Trim is 28'-0"		N/A
35		24' 10"	Spare Batten Storage		20 wts.
36		25' 6"			
37		26' 2"			
38		26' 10"			
39		27' 10"	#9 Electric (CyberLights) - House Trim is 27'-0"	Power Assist Motor	N/A
40		28' 10"	#5 Black Border		6 wts.
41		29' 6"	#5 Black Legs	22' From Center	9 wts.
42		30' 2"	Black Sharkstooth Scrim		5 wts.
43		30' 11"	Fiber Optic Star Drop		42 wts.
44		31' 8"	Rosco Twin White Plastic (Front Projection Screen)		12 wts.
45		32' 4"	#6 Black Border		6 wts.
46		33' 0"			
47		33' 9"	#10 Electric (Cyc Lights) - House Trim is 27'-6"	Power Assist Motor	N/A
48		34' 6"			
49		35' 2"			
50		35' 10"	#6 Black Legs	22' From Center	9 wts.
51		36' 6"			
52		37' 2"	Rainbow Mylar		2 wts.
53		37' 10"	Rosco Twin White Plastic (Bounce)		11 wts.
54		38' 6"	Black Cross Over Curtain		15 wts.

Linesets #2 through #12: Travel is 48'-3".
Linesets #1 and #13 through #54: Travel is 56'-7".
Loft blocks are permanently installed (ie, kicking sheaves in the grid to adjust lineset spacing is not possible).
House Electrics are on 22ft./min. Arbor Assist Motors.
Pipes are 1½" Schedule 40 and are 63' long.
Weights are ⅞" Cut Steel: 20lbs.
Arbor maximum capacity is 1750 lbs.

Properties				
Item	**Size**	**Quantity**	**Item**	**Quantity**
5' x 4' Risers	1' Height	12	Music Stands	60
	2' Height	12	Padded Orchestra Chairs	50
	3' Height	12	Aria LED Music Stand Lights	50
Plastic Tables	8' x 3'	8	Wenger Conductor's Podium, Stand, Chair & TechBridge	1
	6' x 3'	8	Rosco Black/White Dance Floor (60' L x 63" W)	8
	4' x 3'	2	10' Ballet Barres	4

Backline Inventory	
Grand Piano	**Upright Piano**
Boston by Steinway & Sons 7' Grand Piano	Yamaha M112 PE 44" Acoustic Upright Piano

Drum Kit - Mapex Saturn Series Silver Sparkle Drums

22" Diameter x 18" Depth Bass Drum	14" x 14" Floor Tom
18" Diameter x 14" Depth Bass Drum	16" x 16" Floor Tom
10" x 8" Mounted Tom	14" x 5" Snare with 2.3mm Power Hoops
12" x 10" Mounted Tom	13" x 6" Black Panther Maple Snare
14" x 6.5" Mapex Black Panther Hand Hammered Brass "Sledgehammer" Snare	

Zildjian A-Custom Cymbals

20"/51cm Medium Ride Cymbal	20"/51cm China Cymbal
16"/40cm Medium Thin Crash Cymbal	10"/25cm Fast Splash Cymbal
18"/45cm Medium Thin Crash Cymbal	14"/36cm New Beat High Hats

Additional Cymbals

Zildjian Avedis 16" Crash Cymbal	Sabian Solaris 14" High Hats

Drum Hardware

Mapex Falcon P1000TW Chain Drive Double Bass Drum Pedal	(4) Mapex Combination Straight/Boom Cymbal Stands
Gibralter Prowler 5611 Chain Drive Single Bass Drum Pedal	Mapex Heavey Duty High Hat Stand
	"Dogbone" Boom Arm for Splash Cymbal
Mapex Snare Stand	Yamaha Snare Stand

Percussion / Accessories

RhythmTech Hat Trick (High Hat Mounted Tambourine)	
LP 229 Mambo 9" Cowbell	Roc-N-Soc Drum Throne
Zildjian Stick Bag	LP Microphone Claws
Drum Rug	

Audio System	
Items Listed May Not Be Correct - Contact Cliff Presswood for Current Inventory Information	

Sound System

Mixing Console

1	SSL L500 Plus 256 Channel Digital Mixing System

Stereo Main Arrays

10 Left / 10 Right	Electro-Voice XLC (with DVX Driver) Full Range Cabinet
5 Left / 5 Right	Electro-Voice XLC 2x15 Sub Enclosure

Stereo Delay Arrays

6 Left / 6 Right	Electro-Voice XLC (with DVX Driver) Full Range Cabinet

Center Cluster

6	Electro-Voice EVH-D15 Full Range Cabinet
6	Electro-Voice EVF 2151D Sub Enclosure

Pit Front Fill Speakers

8	Electro-Voice EVU 1062/95

Amplifiers

38	Electro-Voice TG-5

Processing

FIR Processing via Electro-Voice IRIS-Net

Rack Gear / Playback

2	Tascam 1U CD Player
1	Tascam SS-CDR200 CF/SD Player
1	Tascam DV-RA1000HD Audio Recorder
1	MacBook Pro with MOTU 828x Audio Interface and QLab 3 Pro Bundle License

Monitor Mix System

Mixing Console

1	SSL L500 Plus 256 Channel Digital Mixing System
1	Midas PRO1 Digital Mixer (Back-up Console)

Wedge Monitors

8	Electro-Voice XW12A 12" Wedge
8	Electro-Voice XW15A 15" Wedge

Overhead Monitors

2	Electro-Voice EVF-1152D Full Range Cabinet

Side Fill Monitors

2	Electro-Voice EVF-1152D Full Range and EVF-2151D Sub

Drum Fill Monitors

2	Electro-Voice EVF-1122D Full Range and EVF-2121S Sub

Powered Monitors

2	Galaxy Audio Hot Spot
6	Anchor AN-130
4	Behringer B205-D

Amplifiers

15	Electro-Voice TG-5
6	Crown XTI6002

Processing

	FIR Processing via Electro-Voice IRIS-Net
2	Electro-Voice DC-ONE Processor (Drum and Side Fill Monitors)

Microphones

Dynamic Microphones

12	Shure SM57
2	Shure Beta 57
6	Shure Beta 57A
14	Shure SM58
4	Shure Beta 58A
1	Sennheiser 409
4	Sennheiser 609
8	Sennheiser 906
15	Sennheiser MD421II
8	Sennheiser MD441
10	Electro-Voice N/D468
3	Electro-Voice RE-20
8	Beyer Dynamic M88 TG
1	Beyer Dynamic M88 N(C)
2	Neumann KMS105

Direct Boxes

17	Countryman Type 85 FET Active DI
2	Whirlwind Director Passive DI
2	Radial Engineering R800 Passive Stereo DI

Small Diaphragm Condenser Microphones

8	Audio-Technica Pro 835
16	Shure KSM137
9	Shure SM81
5	AKG C451 EB
5	AKG SE300B
3	AKG C 460B
7	KM184B
3	KM184S
4	Audix SCX One

Large Diaphragm Condenser Microphones

6	Audio-Technica 4050
11	AKG C414B

Specialty Microphones

1	Helpinstill Model 280 Piano Pickup
2	Audix D6
2	AKG D112
7	Shure Beta 98DS
2	Shure Beta 91A
4	Crown PCC 160
6	Bartlett Floor Mics

Wireless Microphones

12	AKG DSR700 RF Receiver
24	AKG DHT700 Hand-Held Transmitter w/ AKG D5 Super-Cardioid Capsule
28	AKG DPT700 Body-Pack Transmitter
24	Point Source Audio CO-8WL Lavalier Microphone
12	DPA d:fine FIO66 Omni-Directional Headset Microphone

Communication

1	Clear-Com 4-Channel, 12-Matrix Base Station SB-412 A
1	Clear-Com 4-Channel, 10-Matrix Base Station SB-704
24	Clear-Com Beltpack/Headset
20	Clear-Com Listening Station
4	Clear-Com RM-440 4-Channel Remote Station
2	Clear-Com RM-120A 2-Channel Remote Station
6	HME Pro-850 2-Channel Wireless Com
4	Telex BTR-80N 2-Channel Wireless Com

Stage Management

6-Circuit Cue Light Control Switchbox
4-Channel Clear-Com Base Station
Dressing Room Paging Microphone
Show Feed Monitor
Front-of-House Video Camera Monitor
Optional Orchestra Pit Conductor Video Camera Monitor

Lighting Inventory

ETC Eos Lighting Network

Quantity	Item
2	ETC Eos TI Console (Front-of-House and Stage Right Booth)
1	ETC Gio Console (Portable Remote Console)
1	ETC Eos RPU3 Primary Processor (4,096 Outputs)
1	ETC Eos RPU3 Tracking Backup Processor (4,096 Outputs)
1	ETCnomad Puck (Front-of-House Designer Display)

ETC Eos Accessories

Quantity	Item
1	Eos Motorized Fader Wing 20
1	Eos Motorized Fader Wing 10
2	2x20 Universal Fader Wing
1	2x10 Universal Fader Wing
1	ETC Net3 Show Control Gateway

House Plot Fixtures

Quantity	Fixture Type	Wattage
2	Lycian 1290XLT Follow Spots	2kW
3	ETC Source 4 5°	750w
36	ETC Source 4 10°	750w
19	ETC Source 4 14°	750w
49	ETC Source 4 19°	750w
96	ETC Source 4 26°	575w
128	ETC Source 4 36°	575w
2	ETC Source 4 15° - 25° Zoom	750w
72	ETC Source 4 PAR WFL	750w
3	ETC Source 4 Fresnel	750w
3	ETC Source 4 PARNel	750w
8	Selecon Aurora 4-Cell Cyc Unit	1kW per circuit
8	Selecon Aurora 4-Cell Groundrow Unit	1kW per circuit

Spare Fixtures

Quantity	Fixture Type	Wattage / Size
53	ETC Source 4 Fixture Body	575w or 750w
4	ETC Source 4 5° Lens	
2	ETC Source 4 10° Lens	
15	ETC Source 4 14° Lens	
24	ETC Source 4 19° Lens	
38	ETC Source 4 26° Lens	
26	ETC Source 4 36° Lens	
20	ETC Source 4 50° Lens	
2	ETC Source 4 70° Lens	
12	ETC Source 4 PAR (VNSP, NSP, MFL or WFL)	750w
12	PAR 64 (VNSP, NSP, MFL or WFL)	1kW
10	Altman 3-Circuit Strip (EYC or EYF Lamps)	750w per circuit
8	ETC Selador Vivid R 11" LED	125w

Moving Lights & Intelligent Accessories

Quantity	Item	
4	Vari-Lite VL3000 Spot	2kW
6	Vari-Lite VL2500 Spot	700w
2	Martin Atomic 3000 Strobe	3kW
12	Rosco I-Cue	17w
11	City Theatrical DMX Iris	6w
3	Apollo EZ Iris	
1	City Theatrical EFX Plus2	
3	Rosco Image Pro	
1	Mirror Ball w/ American DJ DMX Motor	18"

Atmosphere

	Use of Atmosphere Requires a Permit and Fire Marshal present for performances	
2	Look Solutions Unique 2.1 Hazer	1500w
2	Reel EFX DF-50 DMX Hazer	480w
2	Barco FQ-100 Fog Machine	
4	Chauvet Pro Vesuvio II	1488.5w
2	AquaFog 3300	3300w

Star Drop

	30' H x 60' W (3 Vertical Panels; 2 Fiber Trunks per Panel)
3	Martin RUSH FiberSource 1 LED Fiber Illuminator
3	DiCon FiberLamp 5100

Miller Outdoor Theatre
Tech Pack

Miller Outdoor Theatre Video Inventory		
Projector		Barco HDX-W20 FLEX 20,000 Lumen HD Projector
		Barco FLM HD20 20,000 Lumen HD Projector (only used as a back-up in the event the HDX fails)
	Lenses:	Barco 0.67 HD Fixed Lens
		Barco 0.68 – 0.87 HD Zoom Lens
		Christie 1.16 – 1.49 HD Zoom Lens
Projection Surfaces		Da-Lite Curved Series 300 18'H x 32'W
		Rosco Twin White Plastic (Front Projection: Lineset 44 or 53; Rear Projection: Lineset 8)
Rack Gear		Barco PDS-902 Switcher
		Denon DN-500BD Blu-Ray Player
		Mac Pro with QLab 4 and Dante Virtual Soundcard
Additional Notes		Maximum distance from switcher to projector is 150'. Signal is over HD-SDI cable.
	Video Inputs:	(4) Analog Via HD-15 (VGA Connector)
		(4) DVI-I (Supports both analog or DVI)
		(1) 3G SDI
		When used for front projection, projector hangs on lineset 7 (Linesets 6, & 8 - 10 CANNOT be used). Image is projected onto the Rosco Twin White Plastic on lineset 44 or 53.
		When used for rear projection, projector mounts to stand up-center stage. Image is projected onto the Da-Lite 18'H x 32'W on lineset 8.