

2023

# MILLER OUTDOOR THEATRE TECH PACK

A HUNDRED YEAR CELEBRATION  
YESTERDAY'S MOMENTS.  
1923 — 2023  
TOMORROW'S MEMORIES.  
MILLER OUTDOOR THEATRE IN HERMANN PARK

Miller Outdoor Theatre



**Houston Museum of Natural Science**

**McGovern Centennial Gardens**

M. D. ANDERSON STATION

**Miller Outdoor Theatre**

Japanese Garden

McGovern Lake

Buddy Carruth Playground For All Children

**Lake Plaza**

Marvin Taylor Exercise Trail

**Hermann Park Golf Course**

Judson Robinson Community Center

Golf Course Club House

**Houston Zoo**

Greenway Trail

**Bayou Parkland**



BRACKENWOOD BLVD.

HOLCOMBE BLVD.

CAMBRIDGE

HERMANN PARK DR.

HERMANN PARK DR.

SAN JACINTO ST.

HERMANN DR.

CLARKSON ST.

JACKSON ST.

NORTH MACGREGOR WAY  
SOUTH MACGREGOR WAY

ALMEDA RD.

DIXIE RD.

**A**

**B**

**C**

**D**

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**M**

**S**

**P**



# Miller Outdoor Theatre Tech Pack

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Miller Outdoor Theatre Stage & House Information		
Building Capacities	Maximum Building Occupancy	1583
	Seating Capacity in the Covered Seating Area	1704 seats + 20 wheelchair spaces
	Approximate Seating Capacity on the Hill	6000 (Blankets) / 9000 (Standing)
Stage Dimensions	Proscenium Width	58' 8"
	Proscenium Height	25' 10"
	Stage Width	65' 2"
	Stage Depth (Curtain to Back Wall)	42' 2"
	Apron Depth (Curtain to Upstage Edge of Pit)	8' 2"
	Deck to Grid	65' 8"
	Plaster Line @ Center to Front-of-House Control Booth	135' 5"
	Plaster Line @ Center to Front-of-House Lighting Catwalk	89' 9"
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' 1"; Low trim 3' 10"
	Pipe Trim #1 & #13-54	Battens are pre-rigged to tail up 10'-0" if needed
	Arbor Capacity	High trim 60' 6"; Low trim 4' 0"
	Counter Weight (30,000 lbs. total)	1750 lbs.
Loading Dock	Loading Dock Door Dimensions	(1) Brick = 20 lbs.
	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	W: 7' 9" H: 10' 0"
	Orchestra Pit Depth	
	Total Sq. Footage	
	Orchestra Pit Rate of Travel (DOWN)	
	Orchestra Pit Rate of Travel (UP)	
	Maximum Low Trim	
	Typical Low Trim for Orchestras	
	Weight Capacity of Orchestra Pit	

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 Border / Full Black	2	25 oz. Black IFR; Flat	30' H x 60' W	1	300 lbs.
Black Borders	11, 20, 31, 40, 45	25 oz. Black IFR; Flat	10' H x 60' W	6	120 lbs.
Black Legs	3, 12, 21/22, 32, 41, 50	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 / Projection Surface	44, 53	Rosco Twin White Plastic	30' H x 60' W	2	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.



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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 / Full Stage Black		16 wts.
3		1' 10"	#1 Black Legs	22' From Center on Traveler Track	10 wts.
4		2' 7"	#1 Electric + Audio Monitors - House Trim is 27'-0"	Power Assist Motors; Pipes Are Married	N/A
5		3' 4"	#2 Electric - House Trim is 27'-0"		
6		4' 3"			
7		4' 11"	Barco HDX Projector		10 wts.
8		5' 7"	Rear Projection Movie Screen	Da-Lite 18'H x 32'W	15 wts.
9		6' 3"			
10		6' 11"			
11		7' 7"	#2 Black Border		7 wts.
12		8' 3"	#2 Black Legs	22' From Center on Traveler Track	10 wts.
13	Travel: 56'-6"	9' 0"	#3 Electric - House Trim is 26'-0"	Power Assist Motors; Pipes Are Married	N/A
14		9' 9"	#4 Electric - House Trim is 27'-0"		
15		10' 8"	Spare Batten Storage		20 wts.
16		11' 4"			
17		12' 0"			
18		12' 8"			
19		13' 4"	Mid-Stage Split Black Curtain		27 wts.
20		14' 0"	#3 Black Border		7 wts.
21		14' 8"	#3 Black Leg - SR	22' From Center on Traveler Track	5 wts.
22		15' 4"	#3 Black Leg - SL	22' From Center on Traveler Track	5 wts.
23		16' 1"	#5 Electric - House Trim is 26'-0"	Power Assist Motors; Pipes Are Married	N/A
24		16' 10"	#6 Electric - House Trim is 27'-0"		
25		17' 9"	Spare Batten Storage		19 wts.
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 on Traveler Track	10 wts.
33		23' 2"	#7 Electric - House Trim is 26'-0"	Power Assist Motors; Pipes Are Married	N/A
34		23' 11"	#8 Electric - House Trim is 27'-0"		
35		24' 10"	Spare Batten Storage		20 wts.
36		25' 6"			
37		26' 2"			
38		26' 10"			
39		27' 10"	#9 Electric (Moving Lights) - House Trim is 28'-0"	Power Assist Motor	N/A
40		28' 10"	#5 Black Border		7 wts.
41		29' 6"	#5 Black Legs	22' From Center on Traveler Track	10 wts.
42		30' 2"	Black Sharkstooth Scrim		5 wts.
43		30' 11"	Fiber Optic Star Drop		44 wts.
44		31' 8"	Rosco Twin White Plastic (Front Projection Screen)		12 wts.
45		32' 4"	#6 Black Border		7 wts.
46		33' 0"			
47		33' 9"	#10 Electric (Cyc Lights) - House Trim is 28'-0"	Power Assist Motor	N/A
48		34' 6"			
49		35' 2"			
50		35' 10"	#6 Black Legs	22' From Center on Traveler Track	10 wts.
51		36' 6"			
52		37' 2"	Rainbow Mylar		2 wts.
53		37' 10"	Rosco Twin White Plastic (Bounce)		12 wts.
54		38' 6"	Black Cross Over Curtain		16 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 ¾" Cut Steel: 20lbs.

Arbor maximum capacity is 1750 lbs.



# Miller Outdoor Theatre Tech Pack

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Properties					
Item		Quantity	Item		Quantity
5' x 4' Plywood Riser Lids w/ Parallel Steel Frames	1' Height	12	Wenger Roughneck Music Stands	60	
	2' Height	12	Wenger Padded Musician 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 ft. Ballet Barres	4	

Wardrobe			
LG 4.5 ft³ Front-Loading Washing Machine with Steam Technology	1	Reliable G4 Professional Grade Fabric Steamer	2
LG 7.4 ft³ Ultra Large Capacity SteamDryer	1	CHI Steam Iron for clothes	1
6 ft. Rolling Clothes Rack	2	Ironing Board	1

## Backline Inventory

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



## House Drum Kit

Drum Kit - Mapex Saturn Series Silver Sparkle Drums		Zildjian A-Custom Cymbals	
22" Diameter x 18" Depth Bass Drum	10" x 8" Mounted Tom	20" / 51cm Medium Ride Cymbal	20" / 51cm China Cymbal
18" Diameter x 14" Depth Bass Drum	12" x 10" Mounted Tom	18" / 45cm Medium Thin Crash Cymbal	10" / 25cm Fast Splash Cymbal
14" x 5" Snare with 2.3mm Power Hoops	16" x 16" Floor Tom	16" / 40cm Medium Thin Crash Cymbal	14" / 36cm New Beat High Hats
13" x 6" Black Panther Maple Snare Drum	14" x 14" Floor Tom	14" / 36cm High Hats	14" / 36cm Master Sound High Hats
14" x 6.5" Black Panther Hand-Hammered Brass "Sledgehammer" Snare Drum			
Drum Hardware		Additional Cymbals	
Mapex Falcon P1000TW Chain Drive Double Bass Drum Pedal	DW 9000 Double Bass Drum Pedal	Zildjian 19" K-Hybrid Crash Cymbal	Sabian 21" Ride Cymbal
Gibraltar Prowler 5611 Chain Drive Single Bass Drum Pedal	DW 9000 Single Bass Drum Pedal	Zildjian 17" K-Hybrid Crash Cymbal	Sabian Solaris 14" High Hats
Mapex Snare Stand	DW 5000 Single Bass Drum Pedal	Zildjian Avedis 16" Crash Cymbal	
Yamaha Snare Stand	DW 9000 Snare Drum Stand		
Percussion / Accessories		Cymbal Stands	
RhythmTech Hat Trick (High Hat Mounted Tambourine)		(4) Mapex Combination Straight/Boom Cymbal Stands	Mapex Heavy Duty High Hat Stand
LP 229 Mambo 9" Cowbell	Roc-N-Soc Drum Throne	DW 9000 2-Leg Hi-Hat Stand	"Dogbone" Boom Arm for Splash Cymbal
Zildjian Stick Bag	LP Microphone Claws	DW Combo Cymbal Stand	
8 ft. x 10ft. Drum Rugs	5 ft. x 7 ft. Drum Rugs		



# Miller Outdoor Theatre Tech Pack

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

Sound System	
Mixing Console	
1	Solid State Logic L500 Plus 256 Channel Digital Mixing System
1	Solid State Logic Blacklight II Audio System Signal Router
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	
Near Field Mixing Monitors	
2	Genelec 8250A
1	Genelec Subwoofer
1	Genelec 8020C
Rack Gear / Playback	
1	Tascam CD01U CD Player
1	Tascam DV-RA1000HD Audio Recorder
1	Rational Acoustics Smaart I/O
2	MOTU Audio Express Digital I/O
1	MacBook Pro with MOTU 828x Audio Interface and QLab 3 Pro Bundle License

Microphones	
Dynamic Microphones	Small Diaphragm Condenser Microphones
2 Audix D6	5 AKG C451
2 AKG D112	3 AKG C 460 B
8 Beyerdynamic M 88	5 AKG SE300 B
10 Electro-Voice N/D468	4 Audix SCX1
3 Electro-Voice RE20	11 Neumann KM 184
2 Neumann KMS 105	16 Shure KSM137
1 Sennheiser MD409	9 Shure SM81
4 Sennheiser e 609	7 Shure Beta 98
8 Sennheiser e 906	2 Shure Beta 98A
15 Sennheiser MD 421-II	Large Diaphragm Condenser Microphones
8 Sennheiser MD 441	6 Audio-Technica AT4050
2 Shure SM48	11 AKG C414
2 Shure Beta 52A	Specialty Microphones
12 Shure SM57	13 AKG C519 - Instrument Clip-on Mic
2 Shure Beta 57	8 Audio-Technica UA35A - Choir Mic
6 Shure Beta 57A	6 Bartlett Audio Stage Floor Mic
1 Shure PG58 w/ switch	2 Shure Beta 91A
14 Shure SM58	Direct Input Boxes
3 Shure SM58 w/ switch	17 Countryman Type 85 FET Active DI
4 Shure Beta 58A	2 Whirlwind Director Passive DI

Microphone Stands	
10	Atlas MS15 Tall Chrome Mic Stand
20	Atlas MS15 Tall Black Mic Stand
6	Atlas MS20 Tall Black Mic Stand
16	Atlas MS10 Tall Chrome Mic Stand
10	Atlas MS10 Tall Black Mic Stand
24	Atlas MS10 12" Short Black Mic Stand
2	Atlas MS10 6" Short Black Mic Stand
75	various telescopic boom arm

Paging & Show Program System	
1	TOA 9000M2 70v Mixer Amplifier for Paging System
1	TOA 900 Series II 70v Amplifier for Show Program
20	various 70v speakers

Monitor Mix System	
Mixing Console	
1	Solid State Logic 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 PA6S
4	Behringer B205-D
6	Anchor AN-130
Amplifiers	
15	Electro-Voice TG-5
6	Crown XTI6002
Processing	
FIR Processing via Electro-Voice IRIS-Net	
Electro-Voice DC-ONE Processor (Drum and Side Fill Monitors)	
Stage I/O Boxes	
8	Midas PRO SERIES DL451 Modular Stage Box
1	Midas PRO SERIES DL151 Mic/Line Input Stage Box
2	Midas PRO SERIES DL155 I/O Stage Box
3	Midas PRO SERIES DL431 Mic Splitter
Rack Gear / Playback	
1	Tascam CD01U CD Player
1	Tascam SS-CDR200 CF/SD Player

Wireless Microphones	
32	Shure Axient Wireless Receiver Channels running over Dante Digital I/O
32	Shure Axient Hand-Held transmitters w/ 14 Beta58; 12 KSM 8; 6 KSM 9 capsules w/ 32 charging slots with multiple battery changes available
32	Shure ADX 1 Body Packs w/ 32 charging slots with multiple battery changes available
32	DPA 4061 Omni directional lavalier microphones
Rigging supplies for 4061 lavalier microphones to facilitate various deployment needs	
All channels equipped with Showlink parameter telemetry	
RF Venue low gain customizable multi element antenna system	

Wireless In-Ear Monitors	
8	true stereo Shure PSM 1000 wireless in-ear monitor transmitter channels
16	true stereo Shure P 10R+ wireless in-ear body pack receivers w/ 16 charging slots with multiple battery changes available
16	Shure dual driver in-ear (earbud) monitors
RF Venue antenna system	

Wired & Wireless Intercom	
1	Clear-Com 4-Channel, 12-Matrix Base Station SB-412 A
1	Clear-Com 4-Channel, 10-Matrix Base Station SB-704
4	Clear-Com RM-440 4-Channel Remote Station
2	Clear-Com RM-120A 2-Channel Remote Station
20	Clear-Com KB-111 "King Biscuit" Listening Station
24	Clear-Com Beltpack/Headset
Clear-Com Freespeak II wireless intercom base station w/ distributed digital antenna	
16	Clear-Com FSII-BP1G9 Belt pack transceivers
20	charging slots with multiple battery changes available
47	various Full-Sized and Lightweight Headsets

ADA Compliance	
2	Listen LT-800 F/M Transmitter
24	Listen Display Receiver Belt Pack

Dante	
Nixer RD 10 Dante Listening Station	
2	CISCO Catalyst 2960L configured for Dante I/O



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# Miller Outdoor Theatre Tech Pack

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Lighting Inventory		
ETC Eos Lighting Consoles		
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	
1	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
23	ETC Source 4 10°	750w
34	ETC Source 4 14°	750w
43	ETC Source 4 19°	750w
94	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
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
50	ETC Source 4 Fixture Body	575w
4	ETC Source 4 5° Lens	
15	ETC Source 4 10° Lens	
30	ETC Source 4 19° Lens	
40	ETC Source 4 26° Lens	
28	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
3	ETC Source 4 Fresnel	750w
12	PAR 64 (VNSP, NSP, MFL or WFL)	1kW
Moving Lights & Intelligent Accessories		
13	Vari-Lite VL3000 Spot	1200w
24	Vari-Lite VL2500 Spot	700w
14	Vari-Lite VL2500 Wash	700w
2	Martin Atomic 3000 Strobe	3000W
11	Rosco I-Cue	17w, 24VDC
11	City Theatrical DMX Iris	6w, 24VDC
3	Apollo DMX Iris	14.5w, 24VDC
8	ETC Selador Vivid-R 11" LED	125w
4	Elation Sixpar 300IP	220w
3	Chauvet COLORado 3 Solo	180w
18	MiBoxer RGB+CCT LED Bulb	9w
3	Rosco iPro Image Projector	120w
1	18" Mirror Ball w/ American DJ DMX Motor	360w
Atmosphere		
Use of Atmosphere Requires a Permit and Fire Marshal present		
2	Look Solutions Unique 2.1 Hazer	1500w
2	Reel EFX DF-50 DMX Hazer	480w
2	Barco FQ-100 Fog Machine	1500w
4	Chauvet Pro Vesuvio II	1488.5w
1	ADJ Entour Ice	3000w
1	AquaFog 3300	3300w
Star Drop		
30' H x 60' W (3 Vertical Panels; 2 Fiber Trunks per Panel) on Lineset 43		
3	Martin RUSH FiberSource 1 LED Fiber Illuminator	
3	DiCon FiberLamp 5100	



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# Miller Outdoor Theatre Tech Pack

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Miller Outdoor Theatre Video Inventory	
Projector	Barco HDX-W20 FLEX 20,000 Lumen HD Projector
	<b>Lenses:</b> Barco 0.67 HD Fixed Lens Barco 0.68 – 0.87 HD Zoom Lens Christie 1.16 – 1.49 HD Zoom Lens
Projection Surfaces	<b>Rear Projection:</b> Da-Lite Curved Series 300 (18'H x 32'W on Lineset 8)
	<b>Front Projection:</b> Rosco Twin White Plastic (30'H x 60'W on Lineset 44 or 53)
Rack Gear	Barco PDS-902 Switcher Denon DN-500BD MKII Blu-Ray Player ArKaos Stage Server w/ 2 x DVI Inputs Mac Pro with QLab 5 and Dante Virtual Soundcard
Additional Notes	Maximum distance from switcher to projector is 150'. Signal is over HD-SDI cable. <b>Video Inputs:</b> (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. <b>Image Size on Lineset 44:</b> 22'-6"H x 38'-6"W <b>Image Size on Lineset 53:</b> 22'-8"H x 44'-0"W - the image does not stay true to its 16:9 aspect ratio When used for rear projection, projector rests on a stand upstage. Image is projected onto the Da-Lite 18'H x 32'W on lineset 8.
Preferred File Formats	Preferred Aspect Ratio: 16:9 Preferred Resolution: 1920 x 1080 Audio Files: AIFF or WAV are preferred over MP3 or M4A Image Files: JPEG or PNG are preferred over PowerPoint or Keynote Video Files: ProRes 422 is preferred over H.264 or H.265

Typical Front Projection Setup using the Plastic on Lineset 44

