

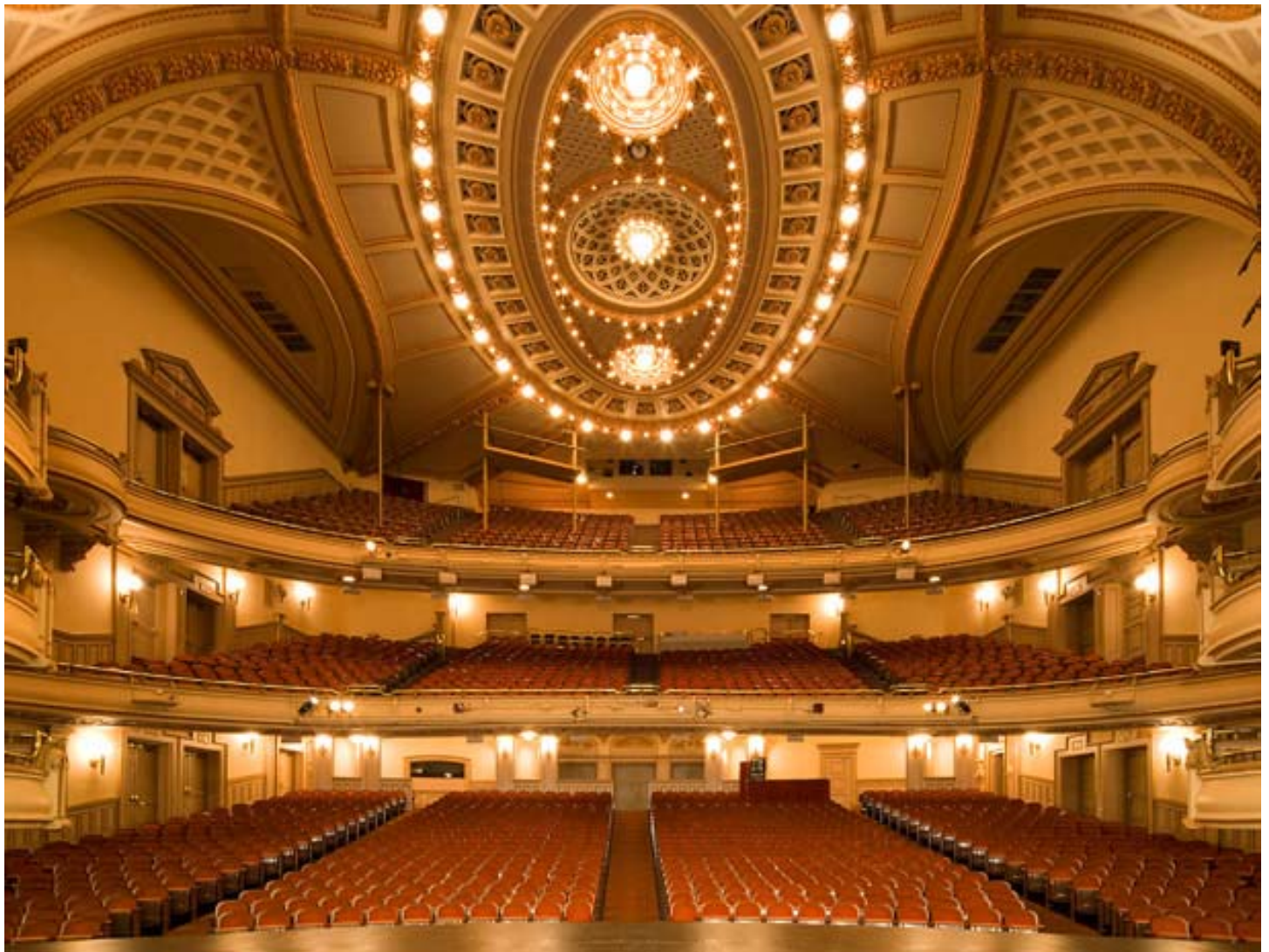


TECHNICAL SPECIFICATIONS

HOWARD GILMAN OPERA HOUSE

Version: January 2018
Revised: February 12, 2019
Revised By: R. Gastelum

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Introduction

BAM's technical specifications, seating charts, photos, stage drawings and more can be found on our private website. Email BAM's Director of Production for the site address and password.

Seating Capacity

Orchestra	934
Mezzanine	567
Balcony	525
Boxes	72
Total	2,098

The house seating capacity is reduced by 76 seats when the orchestra pit is in use (rows AA, BB and CC are removed). BAM assumes that all seats in rows AA, BB and CC will be unobstructed for audience seating unless explicitly requested by the company.

Contact Information

Phone: 718-636-4146

Fax: 718-857-166

Mailing Address	Loading Door	Stage Door
30 Lafayette Ave. Brooklyn NY, 11217	319 Ashland Pl. Brooklyn NY, 11217	116 St. Felix St. Brooklyn NY, 11217

Labor

BAM is signatory to a collective bargaining agreement with the International Alliance of Theatrical Stage Employees. All stagehands at BAM are represented by I.A.T.S.E. Local #4. Wardrobe personnel are represented by the Theatrical Wardrobe Union Local #764. BAM has no union affiliation for hair and makeup or wig labor.

Load-In Area

The loading door is at street level and opens directly onto upstage left, 24'-1" (7.34m) upstage of the curtain line. The stage deck is 3'-8 1/2" (1.13m) below street level, with a ramp is provided when needed.

The loading door measurements as follows:

Width	6'-2"	1.87m
Height	13'-0"	3.96m
Ramp Max Weight	2,000lbs	900kg

International Freight

Normal U.S. Customs clearance usually takes 3-4 days But there can sometimes be added security holds which could delay clearance for another 4-5 days if they decide to X-ray the container(s), or another, additional two weeks if they decide to de-van the shipment for inspection.

While Customs does regularly see BAM as the consignee on a lot of theatrical shipments that do not have problems clearing Customs, and consequently will infrequently if ever go to the extra lengths to inspect our freight, it's always possible, and we will try to plan for the worst case-- so we suggest that a minimum of two weeks and preferably three would be advisable between arrival in New York and the needed load in date at BAM.

Open Flame and Effects

Companies coming into BAM must provide BAM with all necessary flame proofing documentation for their scenery, stage properties, and costumes, and information as necessary for all open flame effects, including the use of cigarettes, etc. It is understood and accepted that no open flame is allowed downstage of the proscenium setting line. BAM will make all reasonable efforts to obtain the appropriate open flame permits; however, the use of all open flame is at the sole discretion of the New York City Fire Department.

Stage Dimensions

Plans and Sections are available in AutoCAD, Vectorworks, and PDF (¼" imperial and 1:50 metric scale). Please allow a 3" or 75mm variance for all dimensions.

Please allow 6" or 150mm around all decorative elements and curved elements of the theatre. Critical measurements require a site survey.

Proscenium

Width	46'-2"	14.07m
Height Grand Teaser fixed height	27'-0"	8.22m
Height Bottom of fire curtain at out trim	28'-10"	8.80m

Stage

Depth	50'-3"	15.31m
Height above audience level	2'-1"	0.635m
Plaster line to back wall	48'-3"	14.70m
Apron edge to plaster line	2'-0"	.60m
Plaster line to curtain line	1'-9"	.53m
Plaster line to setting line	1'-0"	.30m
Setting line to last line set	43'-3"	13.18m

Grid

Deck top of grid	70'-6"	21.48m
Line set high trim	67'-5"	20.54m

Wings

SR proscenium to SR side wall	22'-0"	6.70m
SR proscenium to SL rail	22'-5"	6.83m
Total stage width, wing to wing	90'-5"	27.55m

Chain hoist points – downstage of proscenium

Mid-point SR of center line	1"	3cm
Mid-point DS of setting line	15'-8"	4.78m
SL point SL of setting line	11'-8 ¾"	3.58m
SL point DS of setting line	15'-3 ¼"	4.65m
SR point SR of center line	11'-8 ¾"	3.56m
SR point DS of setting line	15'-4 ¾"	4.69m

Speaker hanging points – downstage of proscenium

Center DS of setting line	11'-8"	3.55m
Left and right of center line	2'-0"	.60m

Auditorium

Setting line to spot booth	105'-0"	32.00m
Setting line to balcony rail	70'-0"	21.33m
Setting line to mezzanine rail	54'-0"	16.46m
First row to apron (at CL if full pit is used for seating)	8'-0"	2.43m
First row to apron (at CL if DS part of pit is used for seating)	14'-5"	4.39m
First row to apron (at CL if pit is not used for seating)	16'-2"	4.92m

Carpentry

Orchestra pit

The orchestra pit is equipped with two fixed-speed hydraulic orchestra lifts (1 min. 45 sec. from pit level to stage level). Lifts can be operated in tandem or independently. At stage level, playing area is increased by 16'-2" (4.92m) DS of the edge of the apron, measured at centerline, when pit is in up position. At extreme right and left, depth of lifts is 11'-0" (3.35m). The US lift depth at center line is 10'0" (3.05m) & the DS lift at center line is 6'-2" (1.87m). At 9'-0" below stage level there is an acoustically treated platform 8'-6" (2.59m) deep x 43'-4" (13.20m) wide. The pit has floor pockets with 4 dimmable circuits for music stand lights.

Note: In the raised (stage level) position, balcony sightlines to the downstage portion of the lift extension are compromised.

Crossovers

Onstage crossover between last line set and upstage wall approximately 2'-3" (.68m) wide. Crossovers are possible through the trap room under the stage. Stairway entrances down to the trap room are located in the wings DR and UL, and have restricted height and width.

Stage Floor

The floor surface is ebony pine. Trapped area is 50'0" (15.24m) wide by 36'7" (11.15m) deep, starting 6'0" (1.83m) upstage of the setting line.

Platforms

All platforms are framed of 1x6 and can be legged up to any height.

30	4'x8'
2	4'x4'
26	3'-3" x 6'-6" (1m x 2m)

Soft Goods

House Curtain

1	Guillotine-type rose colored velour center split with matching valance.
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Legs

7	Pair black velour	13'-0" w x 35'-0" h	3.81m x 10.66m
2	Pair black velour	4'-0" w x 35'-0" h	1.22m x 10.66m

Borders

6	Black Velour	66'-0" w x 20'-0" h	20.12m x 6.09m
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Blackout Drops

2	Full stage black velour	66'-0" w x 30' h	18.28m x 9.14m
1	Split velour blackout drop – each side	35'-0" w x 35'-0" h	10.66m x 10.66m

Scrim

1	White sharkstooth scrim	60'-0" w x 33'-0" h	18.28m x 10.05m
1	Black sharkstooth scrim	60'-0" w x 33'-0" h	18.28m x 10.05m

Bounce

1	White, seamed	60'-0" w x 33'-0" h	18.28m x 10.05m
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Plastic Cyc

1	White, seamed	60'-0" w x 33'-0" h	18.28m x 10.05m
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Other

1	Full stage traveler track
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Stage Rigging

Total Line Sets

- (16) double purchase and (63) single purchase counterweight

Arbor Capacity

- 1100 lb (500kg) over pipe weight for single purchase arbors
- 600 lb (272.72kg) over pipe weight for double purchase arbors

Battens

- 2 chord trusses, 16" (41cm) high, 1 1/2" (4cm) ID sc40 pipe, 66'-0" (20.12m) long

Chain Hoists

- (3) one ton CM hoists downstage of the proscenium (permanents)
- (6) one tone CM hoists over stage
- (3) half ton CM hoists used for truss storage

Lighting

Shared Inventory

BAM's moving light and LED inventory is shared between all of its venues. Please see Appendix A for a complete list of shared inventory.

Electrical Services

2	400 amp service at 120/208v 3 phase 60Hz*	Basement DSL
1	200 amp service at 120/208v 3 phase 60Hz	Basement DSL
1	400 amp service at 120/208v 3 phase 60Hz	Basement DSR
1	600 amp service at 120/208v 3 phase 60Hz (isolated from basement power)	Stage Level DSL
1	100 amp service at 120/208v 3 phase 60Hz	Fly Floor Load Level USR
1	100 amp service at 120/ 208v 3 phase 60 Hz	Grid
1	100 amp service at 120/208v 3 phase 60Hz	US Ceiling, for FOH truss
1	200 amp service at 120/208v 3 phase 60Hz	DS Ceiling
1	100 amp service at 120/208v 3 phase 60Hz	Plenum, DS of pit lift
1	100 amp service at 120/208v 3 phase 60Hz	Playhouse (SR)

*One of the 400 amp services can be stepped up to 220/380v 3 phase 60hz via a transformer. When the transformer is used, the max amperage is 200amps.

Dimmers

ETC Sensor Dimmer Racks 120/208v 60Hz

- 472 dimmers at 2.4kw
- 24 dimmers at 5kw

ETC Sensor Dimmer rack 240/380v 60Hz

- 48 dimmers at 2.4kw

This is an ETC Net3 (sACN based) system with power over Ethernet. Theatrical lighting network taps are available in locations around the various levels of the stagehouse and front of house positions on the mezzanine and balcony rails, rear balcony position, catwalk, spot booth and side boxes. Portable DMX / RDM Gateway nodes plug into any tap to provide 4-ports of DMX-512 and Remote Device Management protocols into or out of any port. Gateways are programmed via network computer to assign any of the ports in the system to any address in the system.

Control Console

Light Booth is located in the rear of orchestra level.

(1) ETC Eos Classic console with synchronized backup and the following features:

- Full featured moving and conventional lighting console
- NET3 (sACN based) network system with 32 DMX universes
- DMX input/output available via Ethernet ports and portable NET3 DMX Gateways.
- Offline programming on PC (Vista or XP) and native on Macintosh (OS X Power PC or Intel)
- Show data importing from Obsession, Express/ion, Emphasis and Strand 500/300 series show files via ASCII

House Lights

Dimmable at light board.

Lighting Positions

- (8) overhead electrics – multi-cables allow repositioning
- (2) top box boom positions – SL and SR (10 circuits each)
- (2) mid box boom positions – SL and SR (4 circuits each)
- (1) mezzanine rail position (16 circuits)
- (1) balcony rail position (24 circuits)
- (2) balcony bridge positions – SL and SR (5 circuits each)
- (10) 21'-0" (6.40m) framed boom towers (movable)
- (1) followspot booth located at rear of balcony

Instrument Inventory

8	50° Source Fours	575w*
94	36° Source Fours	575w*
108	26° Source Fours	575w*
83	19° Source Fours	575w*
24	10° Source Fours	750w
12	5° Source Fours	750w
6	15°-30° Source Four Zooms	750w
6	25°-50° Source Four Zooms	750w
12	Juliat G22 - PC Spotlights (Projecteurs)	2k
96	Par 64	1kw
24	Castor Bambino(7" Lens)	2kw
12	Strand Bambino (8" Lens)	2Kw
18	Arri ST2 10" lens 2k Fresnels	2Kw
2	2.5k HMI Fresnels	2.5Kw
2	4k HMI Fresnels	4Kw
10	T-3 strips, 9', 12 lamp, 3 circuit	200w
30	Altman focusing Cyc Lights	1500w, can be used as individual units or sets of 3
10	Altman Spectra Cyc ss200 LED	
2	Juliat Super Korrigan follow spots	1200W, HMI

*Can also be lamped to 750w. Check on availability.

Accessories

50	Source Four top hats, 5"
60	Source Four flocked top hats, 5"
24	Source Four half hats, Eyelash Style
26	Drop-in irises for Source Fours
40	5" Color extenders

Personnel Lifts

- Genie dual lift - maximum platform height 35'-0" (10.67m)
- Genie single lift - maximum platform height 36'-0" (10.97m)

Sound

Shared Inventory

Some of BAM’s sound inventory is shared between all of its venues. Please see Appendix A for a complete list of shared inventory.

System and Power

The system is divided into (6) zones:

- Proscenium left
- Proscenium right
- Center cluster
- Under balconies with side fills
- Front fill
- Subs.

The left and right Prosceniums consist of (6) L’Acoustics KUDO speakers stacked atop an L’Acoustics SB- 218 subwoofer. The center cluster is a mono send which consists of (4) flown KUDO’s. There is an additional pair of SB-218 subs in the upper L and R tech boxes. The under balcony system is a mono send which consists of (6) JF 80’s underhung in the orchestra and (8) JF 80’s underhung in the mezz. The side fills can be a mono or stereo send. Each side consists of (1) JF 80 directly under the orchestra’s side saucer, (1) JF 80 under that same saucer aiming up the outer aisle, and (1) JF 80 in from the middle saucer filling in the mezz. The front fill consists of (4) JF 80 across the front of the proscenium stage lip. There is a 200A, 3 phase, 5 wire electrical service with 100A company switch.

The theater is also equipped with a Sennheiser Infrared Assistive Listening System.

Mixing Locations

- HL rear orchestra (68’-0” to orchestra) – standard position
- HL rear mezzanine

FOH Mixing Consoles

1	Avid D-Show Profile	24 input faders and 8 output faders controlling up to 48 inputs and 40 outputs.
1	Stage Rack	48 inputs and 24 outputs
1	FOH Rack	16 inputs and 16 outputs
3	DSP Cards	
1	Ethernet Card	
2	SRO Output Cards	
1	IOX Card	

Intercom System

(4) Channel Clear-Com party line system with multiple drops at key locations throughout stage, house and all technical areas, along with (20) channels of Tempest wireless com.

Stage monitor can be heard in the booths and dressing rooms.

The paging mic at the Stage Manager’s console overrides the monitors in the dressing rooms.

Front of House Loadspeakers

Proscenium	12	L'Acoustics KUDO (six per side)
Center Array	4	L'Acoustics KUDO
Mezzanine Rear	8	EAW JF -80
Orchestra Rear	6	EAW JF -80
Front Fills	4	EAR JF-80
Subs	4	L'Acoustics SB-218

Front of House Amps and Signal Processing

4	Lab Gruben FP 3400	
12	L'Acoustics LA 24a	
4	L'Acoustics LA 48a	
6	Crown CTS 4200	
1	DPA 448	
1	DPA 428	
2	DPA 226	

On Stage Loadspeakers

10	L'Acoustic L115 HI-Q's	
4	L'Acoustic ARCs	
2	L'Acoustic DV subs	

On Stage Amps and Signal Processing

7	L'Acoustic LA 8 Processor/Amps	
4	KT 1248 12 channel active splitter	48 channels 3 way split

Playback

2	Denon 680 – auto stop / single play	CD Player
1	Tascam 200 CDR Recorder at FOH	CD Player

Microphones

2	AKG	C747
2	AKG	414 BULS
3	AKG	451
2	AKG	C480
1	Beyer	M88
4	DPA	4099 (Hi Sensitivity)
4	DPA	4099 (Lo Sensitivity)
2	DPA	4061 Black
10	DPA	4061 Beige
2	DPA	4060 Black
1	DPA	4088 Beige
7	DPA	4088 Beige

1	DPA	4080 Black
1	DPA	4080 Beige
2	DPA	d:fine Black Omni
2	DPA	d:fine Beige Cardioid
2	Electro-Voice	RE 20
4	Neuman	KM 140
2	Neuman	MK 184
1	Sennheiser	MKE 2-2R
4	Sennheiser	MD 421
2	Sennheiser	MKH 40
5	Sennheiser	ME 80
2	Sennheiser	4032
3	Shure	KSM9Rf
1	Shure	SM58RF
2	Shure	Beta 87A
2	Shure	SM86
4	Shure	SM81
5	Shure	Beta 87A
3	Shure	Beta 52A
1	Shure	55SH
6	Shure	SM91
5	Shure	SM102
10	Shure	SM58
5	Shure	Beta 58
3	Shure	Beta 57
9	Shure	SM57

Wireless Microphones

The Opera House has a total of (14) channels of wireless microphones available. The system is built as a unit and includes antenna distribution and antennas.

4	Shure	URD J5 Receiver (8 channels)
2	Shure	URD L Receiver (4 channels)
1	Shure	URD H4 Receiver (2 channels)
8	Shure	UR2 J Handheld Transmitter
6	Shure	UR1 J Belt Pack Transmitter
2	Shure	URM-1 J Mini Belt Pack Transmitter
4	Shure	UR2 L Handheld Transmitter
3	Shure	UR1 L Belt Pack Transmitter
2	Shure	UR2 H Handheld Transmitter
1	Shure	UR1 H Belt Pack Transmitter
4	Shure	KSM 9 Capsule
8	Shure	Beta 58 Capsule
2	Shure	Beta 87 Capsule
7	Shure	SM 58 Capsule

2	Shure	SM 86 Capsule
8	DPA	4061 (7 black, 1 beige)
2	DPA	DPA 4060 (black)
2	DPA	DPA 4066 head worn mics (1 black, 1 beige)
4	DPA	WB 98H H/C clip on instrument mics
5	DPA	Sennhieser MKE-2 Gold (3 black 2 beige)

Direct Boxes

2	BBS Audio	AR-133 Active DI
3	Countryman	85 Active DI
1	Radial	MK3 Multifunction DI
2	Radial	Passive DI
1	Radial	PROD2 Passive Stereo DI
1	Radial	PRO AV2 Passive Stereo DI
1	Radial	JPC Stereo Passive PC DI
2	Radial	JDI Mono
5	Whirlwind	Director Passive
2	Whirlwind	PC DI

Additional Equipment

2	Mackie	VLZ 1604
2	Midas	Venice 32
1	T.C. Electronic M2000 FX Processor	

Video

Shared Inventory

BAM's video inventory is shared between all of its venues. Please see Appendix A for a complete list of shared inventory.

Surtitles

The main screen is typically hung just under the valence at a height of 24'-0" (7.32m) from the deck to the bottom edge. The size of this screen is 3'-0" (0.91m) high by 24'-0" (7.32m) wide. Two smaller screens are placed in boxes 3 and 4. These measure 8'-4" (2.54m) wide by 1'-4" (0.41m) high. The screens are off-white.

A projector, operator, and stage manager are located in the follow spot booth. The amount of space required for the operation surtitles prevents the use of two follow spots within that booth while it is in use. Two projectors mount on the mezzanine rail and are very quiet.

In the Opera House follow spots may be used if the surtitle operator and stage manager are put in a specially built booth in the balcony. Or the spots have been relocated to the back of the balcony. This requires advance notice and BAM Production approval.

BAM formatting is two lines of text with 44 characters each, including punctuation and spaces. Slides should be centered right to left and top to bottom with white text and a dark background. Ariel Font is preferred at size 33.

The required personnel are a programmer/operator and a stage manager (cue caller).

Projectors commonly used for surtitles (availability determined by Director of Production):

- Panasonic PT-DZ8700 (10,600 Lumens)
- Panasonic PT-DW530U (4,000 ANSI Lumens)

Properties

Marley Floor

Black and gray reversible Harlequin Marley. Marley flooring is cut to fit the apron and each pit lift. Upstage of the plaster line, each of the (7) available Marley floor pieces are 6'6 ¾" x 60' (2m x 18m). The Marley does not extend into the wings.

Pianos

1	Yamaha 9' Concert Grand
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Tables

20	6'x2'6"
4	6'x2'
12	6'x1'6"

Chairs and Music Stands

40	Folding Chairs
84	Orchestra Chairs
10	Cello Chairs
8	Short Orchestra Chairs
81	With (56) lights, as available

Lecterns and Podiums

2	Wooden lecterns with microphone attachments
1	Conductor's podium with stand and adjustable light

Portable Ballet Barres

12	Shared between stage and (2) studios
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Wardrobe

Facilities

There are 2 well-equipped separate wardrobe rooms located on floor M3 as well as a laundry room with 3 washing machines & 3 dryers.

Wardrobe Equipment

16	Rolling clothing racks (2 small collapsible)
4	Streamers
6	Clothing irons
6	Ironing boards
1	Industrial sewing machine
2	Domestic sewing machine

2	Portable quick change booths (6'w x 8'd)
1	Overlock sewing machine
5	Box fans for drying clothes
1	Hot box dryer
1	Spinner/extracter

Dressing Rooms

Keys

Dressing room locks are opened with a four-digit number code, plus the # button. Codes for each floor are different. They are available from the production, wardrobe and artist services staffs.

Rooms

Dressing room floor plans are available upon request. There are 2 rooms at stage level and a total of 15 rooms on floors M1, M2 and M3 with a total capacity of 120 performers. Access from the stage to the dressing rooms is via a passenger elevator or stairs.

Bathrooms and Facilities

All dressing rooms are equipped with sinks. The 2 stage level dressing rooms have bathroom facilities in each of them. Men's and women's toilets and showers are located on floors M1, M2 & M3.

Green Room

It is located at stage level off of the SR side of the Opera House.

Visiting Company Office

There is an office on M2, designated for use by visiting companies. Telecommunications lines are as follows:

Room M202

Telephone: 718-636-4136

Fax line: 718-638-8071

Appendix A – Shared Inventory

The below inventory is shared between BAM's three venues. Availability will be determined by BAM's Director of Production

Lighting

6	VL4000 Spot luminaire	1200w
24	ETC D60 Vivid	
4	Martin Mac Aura XBs	
2	LeMaitre Neutron XS Hazer	
1	Unique Hazer 2.0	
1	Unique Hazer 2.1	
2	MDG Atmosphere hazers	

Sound

1	Yamaha M7CL-48ES	Monitor Mixing Console
1	ProTools Recording System	
4	Sennheiser IEM monitors 2050xp	

Video

2	Panasonic 20K Projector	PT-DZ21K2U (20,000 Lumens)
2	Panasonic 10K Projector	PT-DW8700U (10,000 Lumens)
2	Panasonic	2.4 – 4.7 lens (ET-D7LE30)
1	Panasonic	1.7 – 2.4 lens (ET-D7LE20)
1	Panasonic	1.3 – 1.7 lens (ET-D75LE10)
1	Panasonic	.9 – 1 lens (ET-D75LE6)
1	Panasonic	.36 lens (ET-D75LE90)
1	Barco	ImagePro II Switcher/Scanner
1	Barco	DCS 200 Dual Channel Switcher
1	Draper Screen*	15' x 24" (4.72m x 7.31m)
1	Draper Screen*	12'6"x20' (3.81m x 6.10m)

*Only one screen can be used at once.