

## >>>Sound Information<<<

### Introduction:

The Jack Singer Concert Hall was designed to provide superior acoustics for acoustic symphonies, but can be adjusted to accommodate a variety of performance styles. The walls of the concert hall are equipped with variable acoustic banners and drapes, and the height of the acoustic canopy can be trimmed to any height above the stage. For a performance that is electronically reinforced, there are stereo speaker arrays permanently track mounted on the lower balcony (circle level) faces and a mono centre cluster that can be lowered through a trap door in the canopy. These primary systems are augmented by several under balcony, over balcony, and lip fill speakers. See below for details.

### Control System Information:

Locations: House Mix Position - rows V & W, seats 21-26, nearly centered (22 is center), rear of the main floor (no balcony overhang). All of rows V & W can be pulled to create a 5'0" x 26'2" tech area (N.B. Hold seats when booking). House equipment can be pulled for touring systems.  
Monitor Mix Position – Normally placed SL. When required, SR placement is also accommodated.  
Sound booth - rear left of the main auditorium level.  
Guest broadcast booth – rear right of the main auditorium level  
Loading dock – 48 channels & 12 returns routed to Bay 3 from venue

Mixing Consoles: 1 – Digico SD5 digital console on fiber optic network with 8x8 NanoRack, Waves Extreme Server and Pro Show Live Plug-in Bundle (in-house mix position only)  
2 – Digico SD Racks on fiber optic network (104 i/p's x 48 analog o/p's x 32 AES o/p's – digitally shared between FOH, monitors and booth)  
1 – Digico SD11i (in portable rolling rack) c/w Tascam 500B CD player (total mic ch's = 16 - normally used for lobby events)  
1 – Digico 32 i/p x 16 analog o/p DRack with 75 m Cat5 snake for use with SD11i  
1 – Digico SD10 digital console on fiber optic network (monitor console)  
1 – Digico SD8/24 digital console on fiber optic network (booth console)  
1 – Midas XL4 56ch (40 mono/8stereo) x 16 x 2 main console, purchased new Fall 2006 (alternate analog for FOH –replaces SD5 system – added labor expense)

Mains Processing: Lake LM26 (10 in x 30 out) with Smaart interface and wireless tablet PC control

Monitor Processing: Lake LM26 with Smaart interface and hardwired laptop PC control. 12 biamp mixes + 2 triamp mixes. Lake processing can be split between FOH and monitors, or linked so FOH has control of all processors.

### Speaker System Information:

House Speakers: A complete Meyer speaker system consisting of:  
2 - MSL 4's /side (mounted on tracks on the lower circle face)  
1 – PSW-6 subwoofer/side (ground stacked on the deck)  
1 – Mono center cluster (flown on winch through opening in acoustic canopy)  
composed of 6-MSL4's; 5-UPA 1P's and 2 – UPA 2P's

## JSCH TECHNICAL INFORMATION

## SOUND

- 2 – UPM 1P's/side mounted below the lower circle for "royal box" coverage (mono address)
- 2 – UPM 1P's mounted in the ceiling for balcony rear (also mono)
- 11 – MM4's mounted in the stage face for near fill (3 zones; alternating stereo address; L/R/L/R/L etc.)
- 2 – CQ1's for front cross fill (coverage for orchestra center 4<sup>th</sup> – 8<sup>th</sup> rows)

The system control package allows for end user adjustment, and rental speaker augmentation. Sub woofers are normally mono aux address; provision is made for stereo address from L/R. House system is flat 50 Hz-18kHz  $\pm$  3 dB to every seat in the house @ 105 dB A-weighted, 110dB C-weighted.

<u>Monitor Speakers:</u>	<u>Quan.</u>	<u>Description</u>
	12	EAW SM200iH (c/w 10 mixes bi-amp power)
	4	EAW SM15 (c/w 4 mixes biamp power)
	2	JBL 2 x 18 "sub woofers (used w/SM15 for side fill; alternate use to augment PSW6's in main system)
	2	UREI 811B (Booth)
	2	Galaxy PS6 2 channel powered "Hot Spot"
	2	BOSS MS100A "Hot Spot"
	2	EV S200 w/K&M 21440 speaker stands

### JSCH House Equipment:

FOH Outboard:                    Digital System (Stays in place when alternate XL4 used)  
1 - DBX 160SL stereo compressor / limiter  
1 - TC Electronics 4000 digital reverb  
2 - Shure DFR22 stereo feedback reducers (1-FOH; 1- Booth)  
2 – Smaart 7 sound analysis system (1-FOH or Booth; 1- Mons)

Alternate Analog System (used only with alternate Midas XL4)  
1 - BSS DPR901 MkII stereo dynamic equalizer  
3 - BSS DPR404 quad compressor/limiters  
2 - BSS DPR504 quad noise gate  
2 - Ashly GQX3102 stereo 1/3 octave graphic equalizers  
1 - TC Electronics M One XL digital FX processor  
1 - TC Electronics D Two digital delay

Monitor Outboard:            1 - TC Electronics M3000 digital reverb

Recorders & Sources:        3 – JoeCo BBR MAD1 Multi track recorders (FOH)  
2 – Denon 501C CD/Media players  
1 – Tascam CDX-1500 dual transport CD player (portable)  
2 - HHB CDR-882 Dual CD Burners (1-FOH; 1-Booth)  
2 – Tascam DV RA1000 HD Master Recorders (1-FOH; 1-Booth)  
1 – Digi Grid MGB MAD1 dual stream PC (Cat5) interface (portable)  
2 - Tascam 112 Mk2 Cassette Decks w/ pitch control & 1 wired remote

JSCH TECHNICAL  
INFORMATION

SOUND

Microphones:

8	Shure Beta 87a
2	Shure KSM 9-CG dual pattern vocal mics
2	DPA D:Facto II hypercardioid vocal mics (wired or w/less)
2	Shure condenser kick drum microphones (1-Beta 91; 1-Beta 91a)
8	Shure SM57
1	Shure Beta 57a
1	Shure Beta 57
2	Shure Beta 52a
1	Audix D6
4	Shure instrument condensers w/drum clips (3-Beta98; 1-Beta 98a)
4	DPA 4099 D condensers w/drum clips
1	Beyer M500
6	Beyer M88
2	EV ND408
2	EV ND468
3	Sennheiser MD421 (3 x 421; 1 x 421 MkII)
4	Sennheiser e906
1	DPA 4011 cardioid condenser
2	DPA 4021 compact cardioid condenser
1	DPA 3521 stereo compact cardioid kit
5	DPA 4099 clip-on instrument mic (wired-1-Vln; 2-Cello; 2-Bass)
4	DPA D:Fine headset mics (beige-2- cardioid; 2- omni - w/less only)
6	DPA 4061 lavalier mics (wired or w/less - 5- black; 1-beige)
1	Schertler GP-DYN grand piano contact mic system
2	Shure SM58s switched vocal mics
6	AudioTechnica 4050/CM5
14	AKG C451B
1	Audio Technica 4051a
2	AKG GN50E/CK31 lectern microphones (GN30's also available)
2	AKG C535
1	DPA 3530 stereo omni mic system with A/B bar (affixed to canopy – main pickup - midstage)
4	SHURE UHFR-H4 frequency agile 2 channel receivers c/w 6-UR2 handheld transmitters (incl 6-Beta87, 6-SM58 & 2-KSM9 capsules- Shure adaptors for above 2-DPA D:Facto's also available) and 6-UR1 belt pack transmitters (mics for belt packs are DPA headsets and lavs as listed above)

Miscellaneous:

20	direct boxes; 8 active, 8 passive mono; 4-passive stereo
2	Portable 24 ch X 3 way Jensen transformer isolated splitters (1 direct leg, 2 transformer legs, multi pin patch)
1	Portable 12 ch X 3 way Jensen transformer isolated splitter (1 direct leg, 2 transformer legs, XLR patch) (6 –individual Lundahl transformer 3 way splitters also available-XLR patch)
1	Millennia Media HV-3R 8 channel mic preamp with laptop remote control and dual analog outputs (mounted in void-for recording and show relay)
1	Op Amp Labs A-24/2ML 24 ch. mono active press distro
5	Passive speaker cabinets (4-Turbosound; 1-Mach) affixed to acoustic canopy for “invisible” speech reinforcement
2	E-Z tilt console stands (FOH & stage monitors)

2 iPad Air 32 GB for FOH and monitor Digico remote control (also used at FOH for JoeCo remote control)

**Equipment common to all 4 spaces at the ECPA:**

\*Availability is not guaranteed as this equipment may be in use in other venues\*

	Quantity	Description
<u>Monitors:</u>	4	EV FM 1502
<u>Microphones:</u>	10	AKG C451EB - with 9-CK1, 10-CK1S, 4-CK8, 2-CK9 capsules
	8	SM58
	5	ELECTROVOICE RE16
	2	AKG D330-BT
	1	AKG D12E
<u>Mic Stands:</u>	6	table
	15	floor
	35	floor/boom
	4	percussion instrument clamps
	10	surface
	4	SB 36 studio booms

