

# SB168-ES

## Stage Box

### SB168-ES



Rear Panel

### *Versatile 16-in/8-out EtherSound stage box for various Yamaha digital mixers.*

- An affordable 3U-size stage box that utilizes reliable, low-latency EtherSound technology for digital audio signal transmission.
- 16 channels of sonically superb remote analog input — each with its own mic/line head amp — plus 8 channels of analog output.
- Audio can be transferred over distances up to 100 meters via standard CAT5e Ethernet cables (maximum distance may depend on cable performance).
- The SB168-ES can be used as a general-purpose analog-EtherSound I/O box.
- Handles uncompressed 24-bit audio at 44.1 kHz and 48 kHz sampling rates.
- Internal head amplifier gain and +48V phantom power switching can be remotely controlled from a compatible digital mixing console or from the AuviTran™ AVS-ESMonitor software.
- Up to four SB168-ES units can be linked to provide a total of 64 inputs and 32 outputs (maximum number may depend on the mixing console used).
- An ideal choice for use with popular digital consoles such as the Yamaha PM5D, LS9, or M7CL.
- Compared to conventional analog console + analog multi-core systems the SB168-ES provides exceptionally high noise resistance and makes it possible to keep microphone cables short for optimum signal quality.
- Easy set-up reduces the time, effort, and cost of installation.

## GENERAL SPECIFICATIONS

<b>Sampling frequency</b>	Internal: 48kHz External: 48kHz (+50ppm)
<b>Total harmonic distortion**1</b>	Less than 0.1%, 20Hz to 20kHz @+4dBu into 600Ω, Gain = -62dB Less than 0.05%, 20Hz to 20kHz @+4dBu into 600Ω, Gain = +10dB
<b>Frequency response</b>	20Hz - 20kHz, +0.5, -1.5dB, @+4dBu into 600Ω
<b>Dynamic range</b>	108dB typ. Gain = +10dB
<b>Hum &amp; noise level**2</b> (20Hz to 20kHz), Rs=150Ω	-80dBfs, Gain = -62dB -110dBfs, Gain = +10dB
<b>Crosstalk</b> (@1kHz)	-100dB*, -80dB, Adjacent Input Channels -100dB*, -80dB, Input to Output
<b>Mic inputs</b>	16 (Remote HA)
<b>Input channel functions</b>	HPF, +48V DC
<b>Output ports</b>	8
<b>Digital I/O</b>	EtherSound IN/OUT
<b>Maximum number of simultaneous use</b>	4 units
<b>Phantom Power</b>	+48V
<b>Power requirements</b>	Japan: AC100V, 50/60Hz North America: AC120V, 60Hz Other Areas: AC230V, 50Hz
<b>Power consumption</b>	65W
<b>Dimensions (W x H x D)</b>	480 x 132 x 359.7mm (18.9" x 5.19" x 14.16"), 3U
<b>Weight</b>	8kg (17 lbs.)

\*1 Total harmonic distortion is measured with a 18dB/Oct filter @80kHz.

\*2 Hum & noise level is measured with a 6dB/oct filter @12.7kHz; equivalent to 20kHz filter with infinite dB/Oct attenuation.

\* Crosstalk is measured with a 30dB/octave filter @22kHz.

## ANALOG INPUT SPECIFICATIONS

Input Terminals	GAIN	Actual Load Impedance	For use with nominal	Input level		Connector
				Nominal	Max. before clip	
INPUT 1-16	-62dB	3kΩ	50-600Ω Mics & 600Ω Lines	-62dBu (0.616mV)	-42dBu (6.16mV)	XLR3-31 type*
	+10dB			+10dBu (2.45V)	+30dBu (24.5V)	

## ANALOG OUTPUT SPECIFICATIONS

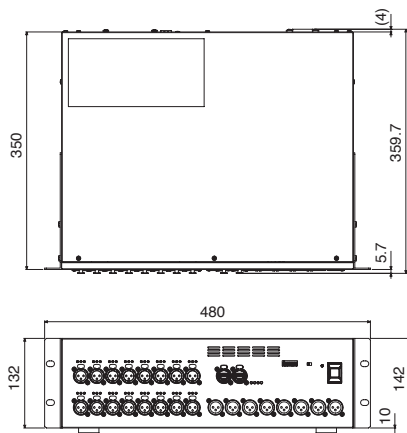
Output Terminals	Actual Load Impedance	For use with nominal	Max. Output Level (Selectable)	Input level		Connector
				Nominal	Max. before clip	
INPUT 1-8	75Ω	600Ω Line	+24dB (default)	+4dBu (1.23V)	+24dBu (12.3V)	XLR3-32 type*
			+18dB	-2dBu (616mV)	+18dBu (6.16V)	

## DIGITAL/CONTROL INPUT AND OUTPUT SPECIFICATIONS

Terminal	Format	Data Length	Level	Connector
IN	EtherSound	24bit	100BASE-TX	EtherCON
OUT				
NETWORK	IEE802.3		10BASE-T / 100BASE-TX	RJ-45

## DIMENSIONS

unit : mm



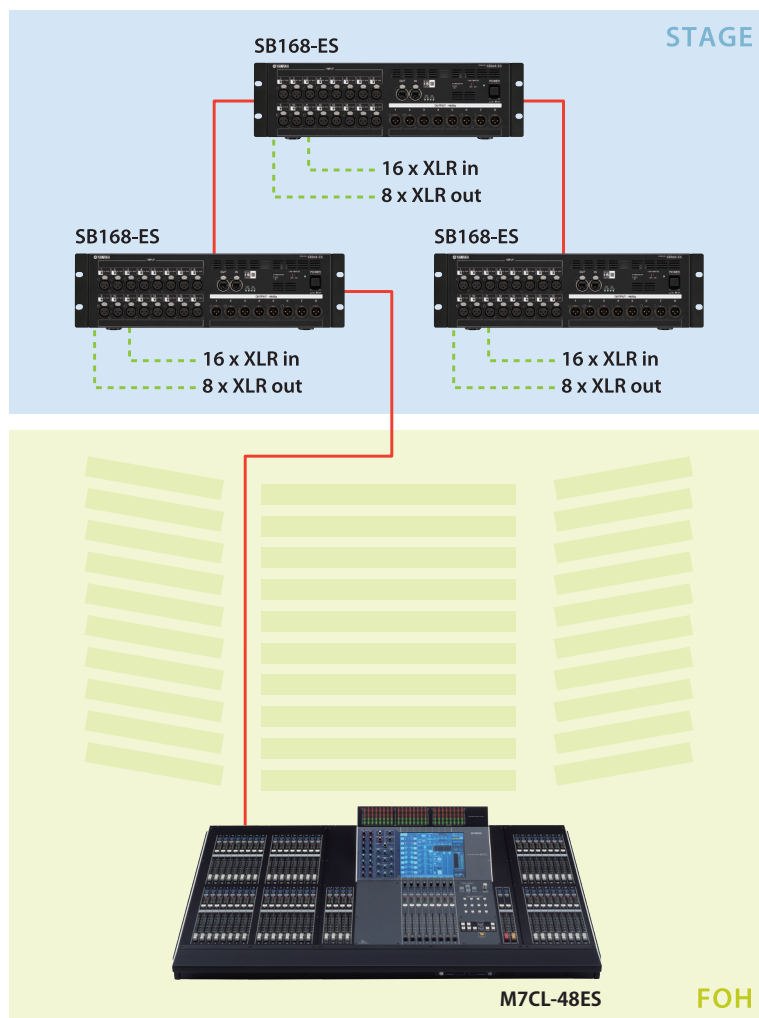
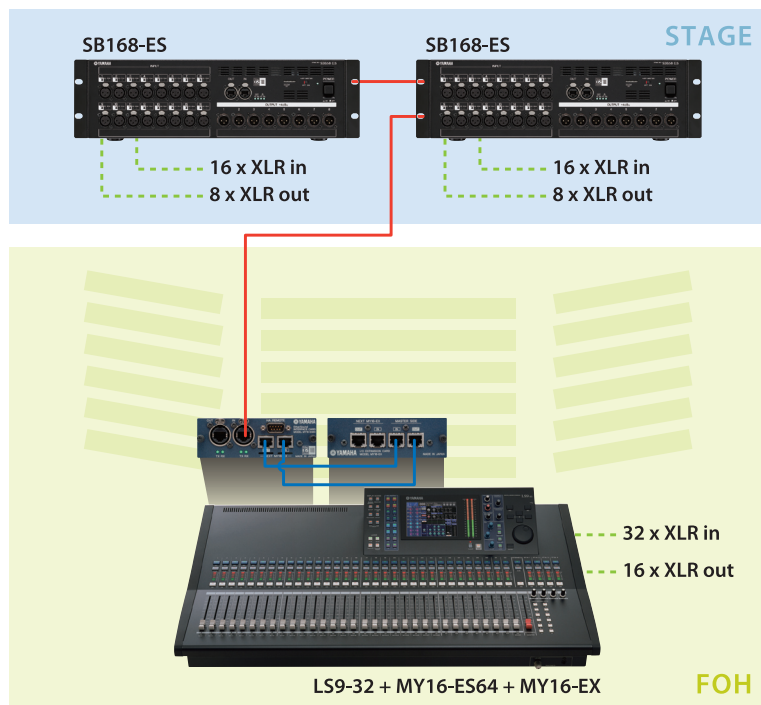
# STAGE BOX **SB168-ES** Applications

## **Small / Medium Scale Live Sound System with LS9-32**

This example depicts a live sound system built around an LS9-32 console. This system offers 32 inputs/16 outputs on stage, with additional 32 inputs/16 outputs available at the FOH position.

The two stage boxes and the LS9-32 are daisy-chained using CAT5e cables. SB168-ES dedicated Quick Setup feature within the AVS-ESMonitor software allows quick and easy configuration of your setup. You can use the SB168-ES head amp remote function from the LS9-32 to control microphone gain.

— CAT5e cable (EtherSound™)  
— CAT5e cable  
- - - Analog



## **Medium Scale Live Sound System with M7CL-48ES**

This example depicts a live sound system built around an M7CL-48 console. This system offers 48 inputs and 24 outputs on stage.

This system uses CAT5e cables and ES-100 ring topology in a redundant configuration to connect the stage boxes and the M7CL-48, allowing simple, hassle-free setup.

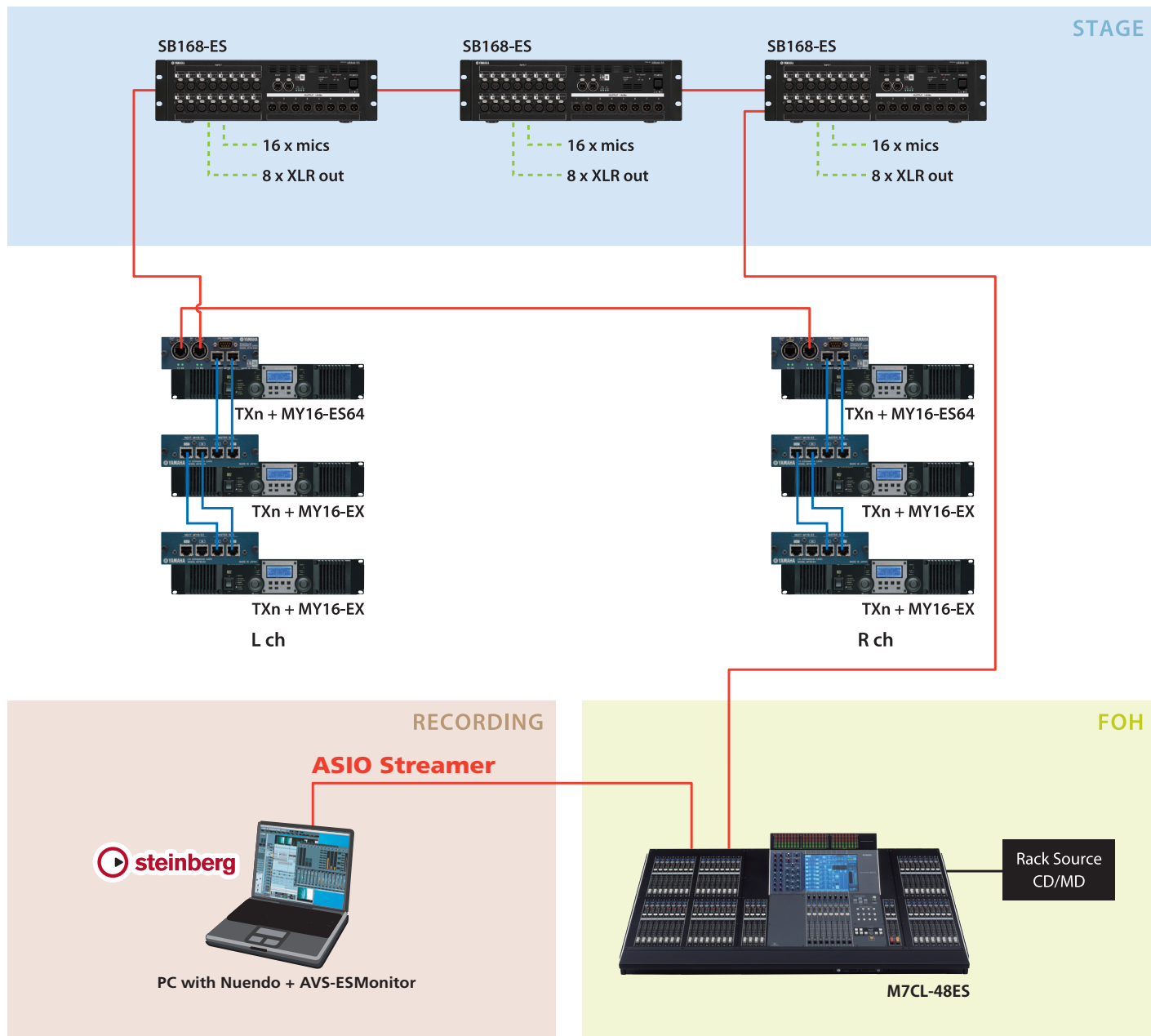
— CAT5e cable (EtherSound™)  
- - - Analog

# STAGE BOX SB168-ES Applications

## Large Scale Live Sound System

This example depicts a live sound system built around an M7CL-48ES console.

The M7CL-48ES console can remotely control up to 48 microphone head-amps, and store the settings in its Scene Memories. This particular EtherSound™ system allows easy setup and system monitoring from a personal computer also used for multitrack recording. This setup also allows direct feeding of digital signal from the console for recording.



- CAT5e cable (EtherSound™)
- CAT5e cable
- - - Analog

\* All 48 inputs to three SB168-ES digital stage boxes connected to the M7CL-48ES can be output via the 3rd Port for recording. The M7CL-48ES and EtherSound module firmware must be updated to the latest versions, and the appropriate ASIO driver and DAW software must be installed on the computer.