Overview

A versatile multi-effect unit featuring 96-kHz sampling and Yamaha's acclaimed high-density REV-X reverb algorithms for eminently natural sounding ambience control.

Rear Panel

Features

- Superb sonic quality with 24-bit/96-kHz processing throughout.
- 96-kHz DSP LSI with 32-bit internal processing (58-bit accumulator).
- 24-bit, 128-times oversampling AD and DA converters achieve 106 dB dynamic range and flat response from 20 Hz to 40 kHz at the 96-kHz sampling rate.
- REV-X reverb programs deliver the richest reverberation tone and smoothest decay available.
- In addition to a large range of ambience programs, including many that use the acclaimed REV-X reverb algorithms, the SPX2000 includes popular SPX programs such as gate reverbs, delays, pitch effects, modulation and other special effects.
- Other advanced algorithms – such as Multi-band Dynamic Processors – are inherited from the DM series Digital Production Consoles.
- Professional analog and digital audio I/O and control connectors.
- SPX2000 Editor software provides a common operating environment and interface for the SPX2000 and Yamaha digital mixing consoles.

Specifications

General Specifications

I/O	Line Inputs	2
	AD Converter	24bit; 64-time (@96kHz) / 128-time (@48kHz) over sampling
	Line Outputs	2
	DA Converter	24bit; 64-time (@96kHz) / 128-time (@48kHz) over sampling
	Digital I/O	1x AES/EBU (2-in/2-out)
Memory Bank		PRESET: 97, USER: 99, CLASSIC: 27
Internal Processing		32bit
Sampling Frequency Rate	Internal	44.1kHz, 48kHz, 88.2kHz, 96kHz
	External	44.1kHz/88.2kHz (-10%) - 48kHz/96kHz (+6%)
Signal Delay		Less than 426 micro sec
Total Harmonic Distortion		Less than 0.05% (20Hz-40kHz)
Frequency Response		0, +1, -3dB 20Hz-40kHz
Dynamic Range		AD+DA: 106dB
Hum & Noise Level	Residual Output Noise	-80dBu
Crosstalk		-80 dB
Power Requirements		Depend on area of purchase; AC100V, 120V or 220-240V; 50/60Hz
Power Consumption		25W
Dimensions (W x H x D)		480mm x 45mm x 372.5mm (18.9" x 1.7" x 14.6")
Net Weight		4kg (8.8lbs)
Accessories		Owner's manual, AC power cord

Analog Input and Output Characteristics

Terminal	LEVEL SW	Impedance	For Use with Nominal	Level Nominal	Level Max. before Clip	Connector
INPUT [L,R]	+4dBu	10kohms	600ohm Lines	+4dBu	+24dBu	XLR-3-31 type TRS phone jack (Balanced)
	-10dBu			-10dBu	+10dBu	
OUTPUT [L,R]	+4dBu	75ohms	600ohm Lines	+4dBu	+24dBu	XLR-3-32
	-10dBu			-10dBu	+10dBu	TRS phone jack

Digital Input and Output Characteristics

Terminal	Format	Data Length	Level	Connector
AES/EBU (IN)	AES/EBU	24bit	RS422	XLR-3-31 type (Balanced)
AES/EBU (OUT)	AES/EBU	24bit	RS422	XLR-3-32 type (Balanced)

Control I/O Characteristics

Terminal		Format	Level	Connector
TO HOST	USB	USB 1.1	0 to 3.3V	B type USB Connector
MIDI	IN	MIDI	-	DIN Connector 5P
	OUT/THRU	MIDI	-	DIN Connector 5P
WORD CLOCK	IN	-	TTL/75ohms	BNC Connector

Dimensions

Unit: mm (inch)
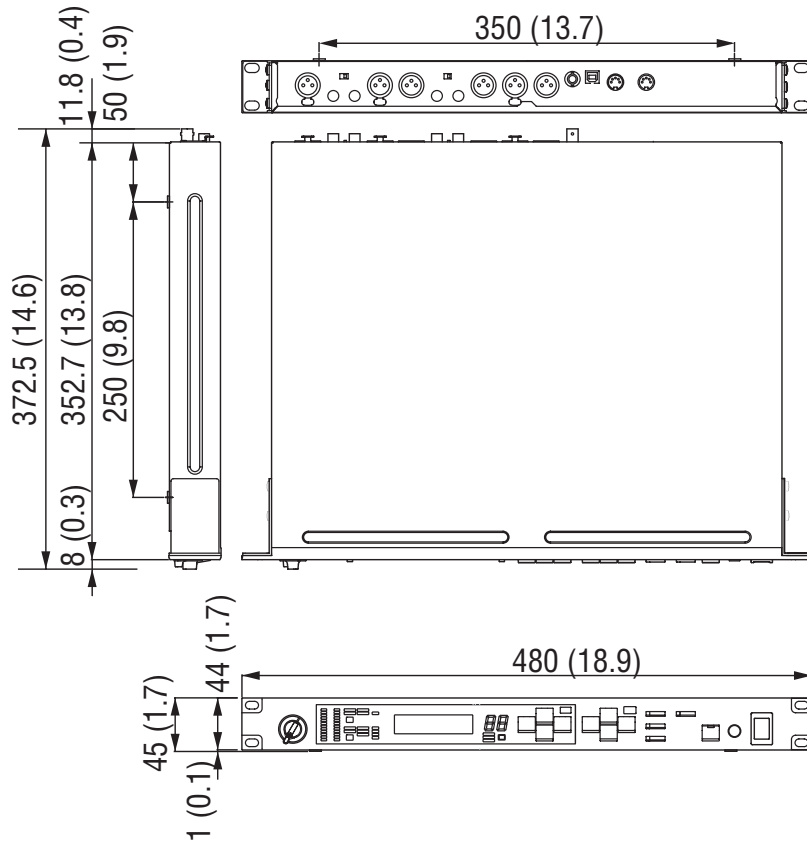
Options
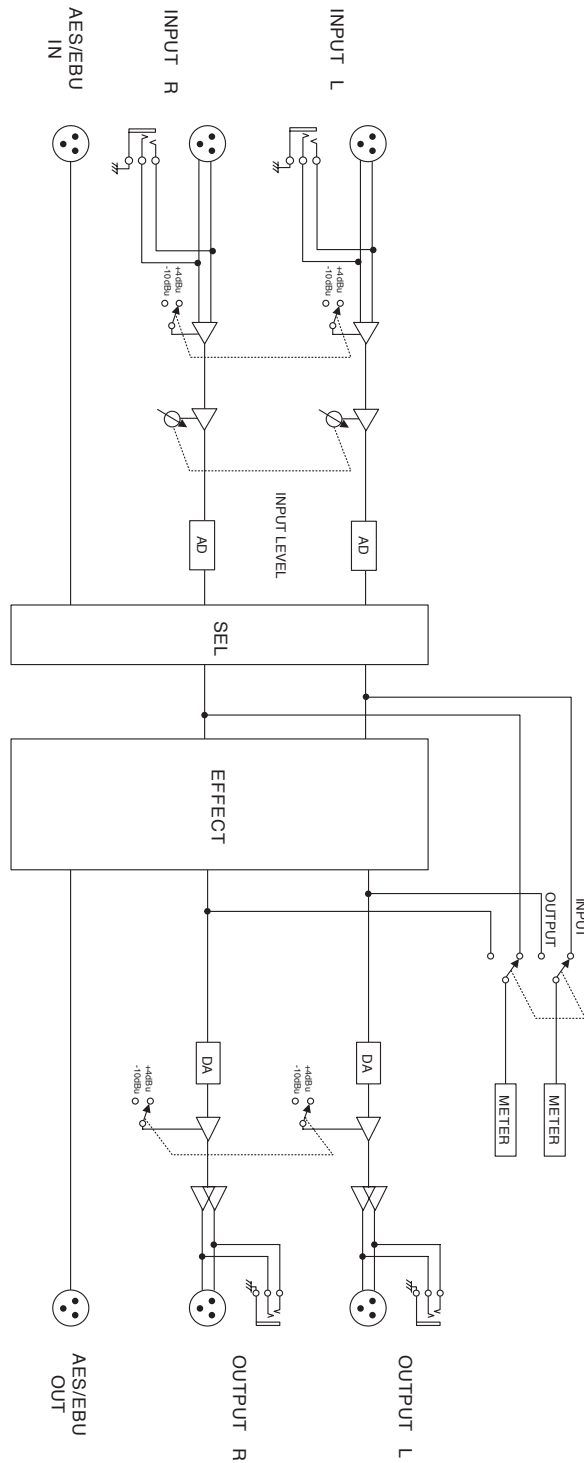
• Foot Switch   FC5

Software

• SPX2000 Editor

Architectural and Engineering Specifications

The Yamaha SPX2000 Digital Multi-effect Processor shall provide two balanced mic/line inputs on XLR3-31 and TRS phone jack type connectors. All analog inputs and outputs shall have 24-bit, internal 96-kHz, external 44.1-kHz/48-kHz (normal rate) and 88.2/96-kHz (double rate) AD/DA converters and all internal processing shall be digital. The SPX2000 shall provide digital input and output via AES/EBU audio on RS422. It shall have USB, Footswitch (TRS phone), MIDI I/O, and Word clock I/O ports to allow remote control. Software shall be included to provide a common operating environment and interface for each unit.

Available system components shall include REV-X LARGE HALL, REV-X MED HALL, REV-X SMALL HALL, REV-X TINY HALL, REV-X WARM HALL, REV-X BRITE HALL, REV-X HUGE HALL, AMBIENCE, STEREO HALL, VOCAL CHAMBER, BRIGHT HALL, BREATHY REVERB, CONCERT HALL, REVERB FLANGE, REVERB STAGE, REV-X VOCAL PLT, REV-X BRIGHT PLT, REV-X SNARE PLT, VOCAL PLATE, ECHO ROOM 1, ECHO ROOM 2, PRESENCE REVERB, ARENA, THIN PLATE, OLD PLATE, DARK PLATE, REV-X CHAMBER, REV-X WOOD ROOM, REV-X WARM ROOM, REV-X LARGE ROOM, REV-X MED ROOM, REV-X SMALL ROOM, REV-X SLAP ROOM, FAT REFLECTIONS, BIG SNARE, BAMBOO ROOM, REFLECTIONS, STONE ROOM, CONCRETE ROOM, REVERSE PURPLE, FULL METAL GATE, REVERSE GATE, DRUM MACH. AMB S, DRUM MACH. AMB L, ELECT. SNR PLAT, MONO DELAY, 120 BPM MONO DDL, 120 BPM X-DDL, STEREO DELAY, DELAY LCR, KARAOKE ECHO, GOOD OL P.CHANGE, VOCAL SHIFT, STEREO PITCH, PITCH SLAP, HALO COMB, GRUMPY FLUTTER, ROGER ON THE 12, BOTTOM WHACKER, VOICE DOUBLER, SYMPHONIC, REV+SYMPHONIC, DETUNE CHORUS, CHORUS & REVERB, BASS CHORUS, STEREO PHASING, CLASSY GLASSY, SILKY SWEEP, UP DOWN FLANGE, TREMOLO, ROTARY SPEAKER, AUTO PAN, PHASER, RING MODULATION, MOD FILTER, DYNA FLANGE, DYNA PHASER, DYNA FILTER, M. BAND DYNA, MULTI FILTER, FILTERED VOICE, DISTORTION, AMP SIMULATOR, DIST –> FLANGE, DIST –> DELAY, REV –> CHORUS, REV+FLANGE, REV –> SYMPHONIC, REV –> PAN, DELAY+ER 1, DELAY+ER 2, DELAY –> ER 1, DELAY –> ER 2, DELAY+REV, DELAY –> REV, RESO DRONE, FREEZE, REV1 HALL, REV2 ROOM, REV3 VOCAL, REV4 PLATE, EARLY REF1, EARLY REF2, DELAY LR, STEREO ECHO, STEREO FLANGE A, STEREO FLANGE B, CHORUS A, CHORUS B, STEREO PHASING, TREMOLO GREEN, SYMPHONIC, GATE REVERB, REVERSE GATE, REVERB & GATE, PITCH CHANGE A, PITCH CHANGE B, PITCH CHANGE C, PITCH CHANGE D, FREEZE A, FREEZE B and PAN. USB communication shall be utilized for software editing and data management. Software shall run on a computer with a USB connector, running Windows XP or above [Windows Vista/7/8/8.1/10 are supported]. Dimensions shall be 480 (W) x 45 (H) x 372.5mm (D). Weight shall be 4.0 kg.

Block Diagrams