

# SP2060

## Digital Speaker Processor



# SP2060

### Rear Panel



***Advanced speaker processing performance in a compact 1U unit that is ideal for live sound or installations.***

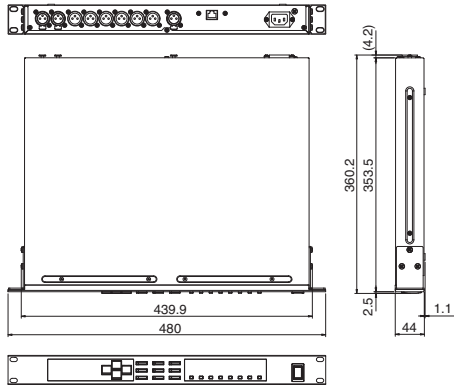
- All of the functionality required for most speaker processing applications in a compact 1U unit.
- An impressive array of built-in functions: gain, delay, PEQ, comp, crossover, and limiter.
- All-Pass Filter precisely controls phase without affecting gain.
- Two analog inputs, six analog outputs, and two AES/EBU digital inputs.
- Original audio processing LSI provides full 24-bit, 96-kHz processing capability for outstanding sound quality with a dynamic range in excess of 110 dB.
- Detailed programming can be accomplished using the DME Designer application software running on a personal computer.
- Ethernet port and comprehensive panel interface.
- Optimized for Yamaha Installation Series Speakers.

**GENERAL SPECIFICATIONS**

<b>Sampling Frequency</b>	Internal Clock	96 kHz
	External Clock	Normal Rate 44.1, 48kHz (±0.1%) Double Rate 88.2, 96kHz (±0.1%)
<b>Signal Delay</b>	761µ sec Input to Output, fs = 96 kHz	
<b>Frequency Response</b>	20Hz -40kHz (TYP 0dB, MAX +0.5dB, MIN -1.0dB), fs=96 kHz, RL=600Ω	
<b>Total Harmonic Distortion</b>	0.007% (+22dBu@1 kHz), 0.05% (+4dBu @20 Hz - 40kHz) fs=96kHz, RL=600Ω; measured with 18dB/octave filter @80 kHz	
<b>Hum &amp; Noise</b>	TYP -82dBu, fs=96kHz, RL=600Ω, Rs=150Ω; measured with 6dB/octave filter @12.7kHz; equivalent to a 20kHz filter with ∞ dB/octave	
<b>Dynamic Range</b>	106dB AD+DA fs=96kHz, RL=600ohms; measured with 6dB/octave filter @12.7kHz; equivalent to a 20 kHz filter with ∞ dB/octave	
<b>Crosstalk (@1kHz)</b>	-80dB INPUT to Output fs=96kHz, measured with 18dB/octave filter @80kHz	
<b>Power Consumption</b>	30W	
<b>Dimensions (W x H x D)</b>	480 x 44 x 360.2mm (18.7" x 1.75" x 14.1"), 1U	
<b>Net Weight</b>	4.2kg (9.7lbs)	

- \* 0 dBu = 0.775 Vrms.
- \* All AD converters are 24-bit linear, 64 times oversampling. (Fs = 96.0kHz)
- \* All DA converters are 24-bit linear, 128 times oversampling. (Fs = 48.0kHz) / 64 times oversampling. (Fs = 96.0kHz)

**DIMENSIONS**



unit : mm

**ANALOG INPUT AND OUTPUT SPECIFICATIONS**

Terminal	Actual Load Impedance	For Use With Nominal	Level		Connector
			Nominal	Max. before Clip	
Input A, B	10kΩ	600Ω Lines	+4dBu	+24dBu	XLR-3-31 type (Balanced)
Output 1 - 6	75Ω	600Ω Lines	+4dBu	+24dBu	XLR-3-32 type (Balanced)

- \*1 XLR-3-31 type connectors with latches are balanced. (1=GND, 2=HOT, 3=COLD)
- \*2 XLR-3-32 type connectors are balanced. (1=GND, 2=HOT, 3=COLD)
- \*0 dBu=0.775 Vrms.

**DIGITAL INPUT SPECIFICATIONS**

Terminals	Format	Data Length	Level	Connector
Digital Input AES/EBU	AES/EBU	24-bit	RS422	XLR-3-31 type (Balanced)

- \*1 XLR-3-31 type connector with latch is balanced. (1=GND, 2=HOT, 3=COLD)
- \*2 Only Double Speed Format is supported at 96 kHz. Double Channel or Single Format is not supported.

**CONFIGURATION**

1	3 x 2 way
2	3 x 2 way Link
3	2 x (2 way + Sub)
4	2 x (2 way + Sub) Link
5	2 x 2 way + 2 x Aux
6	2 x 2 way + 2 x Aux Link
7	2 x 3 way
8	2 x 3 way Link
9	4 way + 2 x Aux
10	5 way + Aux
11	6 way
12	Multi Zone

\* Click a configuration name to open the corresponding configuration window.

**PROCESSING FUNCTIONS**

Input Select	Digital/Analog, Stereo/Mono
Input Level	+10 dB ~ -∞
Input PEQ	8 band, Stereo Link, Bypass L.SHELF, H.SHELF, 6, 12 dB/Oct
Input Delay	1300 msec, Stereo Link, Bypass
Crossover	6 dB/Oct AdjustGc: 12, 18, 24, 36 or 48 dB/Oct Bessel: 12, 18, 24, 36 or 48 dB/Oct Buttrwrth: 12, 18, 24, 36 or 48 dB/Oct Linkwitz: 12, 24 or 48 dB/Oct
Output Polarity	Normal/Inverted
Output Delay	500 msec, Bypass
Output PEQ	6 band, Bypass APF (All Pass Filter) 1st, 2nd Horn EQ
Output Level	+10 dB ~ -∞
Output Limiter	Threshold -54 dB to ±0 dB, Bypass