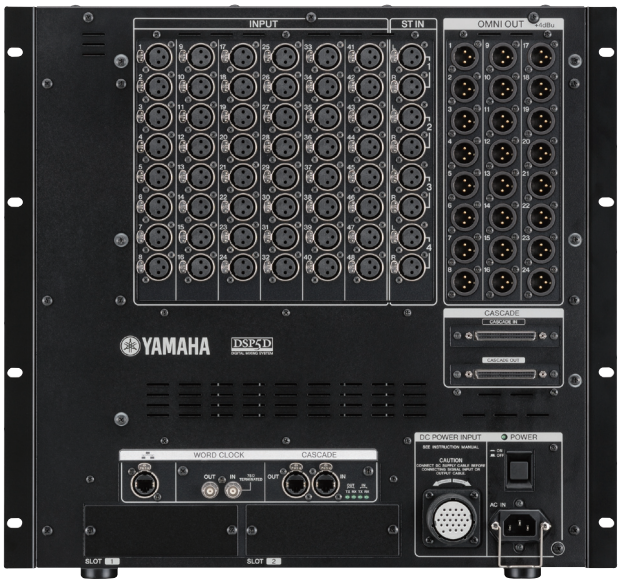
DSP5D / DCU5D

Digital Mixing System



DSP5D

Rear Panel

11U

The DSP5D provides essentially all of the functionality of a PM5D-RH minus the control surface, in a rack-mountable unit that can be seamlessly controlled from a PM5D (RH) console.

- 48 microphone/line and four stereo inputs.
- 24 mix buses that can be cascade-connected to a PM5D V2 console.
- Comprehensive control from a computer running the DSP5D Editor.
- Remote control from a PM5D V2 via the DCU5D Digital Cabling Unit.

OPTIONS

PW800W

Gooseneck Lamp

3U

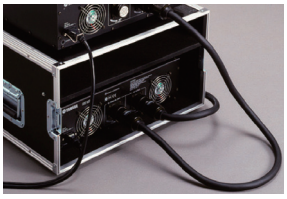
Rear Panel

GENERAL SPECIFICATIONS (PW800W)

Power requirements	AC100-240V 50/60Hz
Power consumption	1000W When using with PM5D: 550W (Max) When using with PM5D-RH: 550W (Max) When using with DSP5D: 380W (Max)
Dimensions (W x H x D)	480 x 142 x 384mm (18.7" x 5.5" x 14.98")
Weight	10kg (22lbs)

PSL360

Power Supply Link Cable



Digital Cabling Unit

DCU5D

Rear Panel

1U

The DCU5D lets you locate the DSP5D as far as 120 meters from the PM5D console, connected by a single CAT5e Ethernet cable.

Refer to http://www.ethersound.com/technology/compatibility.php
DSP5D and DCU5D utilize EtherSound technology, but because Bandwidth is fixed exclusively for DSP5D and DCU5D, they cannot be controlled by ES (EtherSound) monitor.

* Maximum cable length will depend on the quality and performance of the cables used.

DSP5D / DCU5D

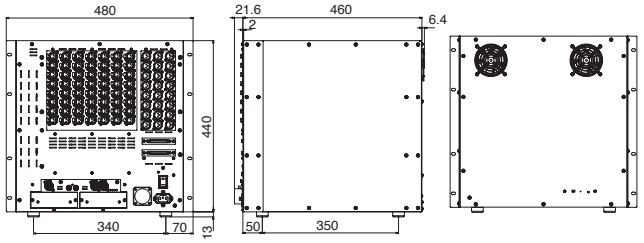
GENERAL SPECIFICATIONS (DSP5D)

Internal processing	32bit (Accumulator=58bit)
Sampling frequency rate	Internal: 44.1kHz, 48kHz, 88.2kHz, 96kHz External: 42.9975kHz to 49.2kHz 85.995kHz to 98.4kHz
Signal Delay	Less than 2.5ms INPUT to OMNI OUT (@fs=48kHz) Less than 1.25ms INPUT to OMNI OUT (@fs=96kHz)
Total harmonic distortion*1 CH INPUT to OMNI OUT Input Gain=Min.	Less than 0.05% 20Hz to 20kHz, (@44.1kHz, 48kHz) Less than 0.05% 20Hz to 40kHz, (@88.2kHz, 96kHz)
Frequency response CH INPUT to OMNI OUT	20Hz to 20kHz, 0, +0.5, -1.5dB @44.1kHz, 48kHz 20Hz to 40kHz, 0, +0.5, -1.5dB @88.2kHz, 96kHz
Dynamic range (maximum level to noise level)	110dB, DA Converter (OMNI OUT) 108dB, AD+DA (OMNI OUT)
Hum & noise level*2 (20Hz to 20kHz), Rs=150Ω	-128dB equivalent input noise -86dB residual output noise
Crosstalk (@1kHz) Input Gain=Min.	-100dB*3, -80dB, Adjacent Input Channels -100dB*3, -80dB, Input to Output
Phantom Power	+48V
Power requirements	AC100-240V 50/60Hz and/or use PW800W
Power consumption	300W
Dimensions (W x H x D)	480 x 440 x 460mm (18.9" x 17.3" x 18.1")
Weight	38.0kg (83lbs)

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

DIMENSIONS (DSP5D)

unit : mm



ANALOG INPUT SPECIFICATIONS (DSP5D)

Input terminal		Actual load impedance	For use with nominal	Input level			Connector
PAD	GAIN			Sensitivity	Nominal	Max. before clip	
INPUT 1-48 & ST IN 1-4[L,R]	-62dB	3kΩ	50-600Ω Mics & 600Ω Lines	-82dBu	-62dBu	-42dBu	XLR3-31 type*
	+10dB			-10dBu	+10dBu	+30dBu	

ANALOG OUTPUT SPECIFICATIONS (DSP5D)

Output terminal	Actual source impedance	For use with nominal	GAIN SW	Output terminals		Connector
				Nominal	Max. before Clip	
OMNI OUT 1-24	75Ω	600Ω Lines	+24dB	+4dBu	+24dBu	XLR3-32 type*
			+18dB	-2dBu	+18dBu	

DIGITAL INPUT SPECIFICATIONS (DSP5D)

Terminal	Format	Data length	Level	Connector
CASCADE IN *1	—	—	RS422	D-sub Half Pitch Connector 68Pin (Female)
CASCADE IN *2	—	—	100Base-TX	RJ-45

*1: Max. cable length: 200m @48kHz, 50m @96kHz.
*2: Max. cable length is based on EtherSound standard.

DIGITAL OUTPUT SPECIFICATIONS (DSP5D)

Terminal	Format	Data length	Level	Connector
CASCADE OUT *1	—	—	RS422	D-sub Half Pitch Connector 68Pin (Female)
CASCADE OUT *2	—	—	100Base-TX	RJ-45

*1: Max. cable length: 200m @48kHz, 50m @96kHz.
*2: Max. cable length is based on EtherSound standard.

CONTROL I/O SPECIFICATIONS (DSP5D)

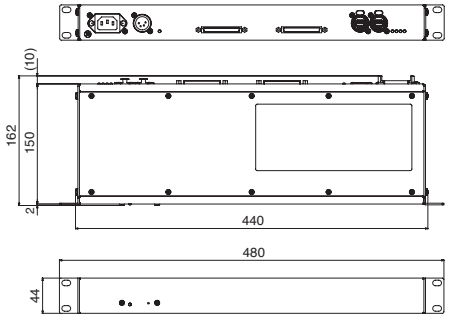
Terminal		Format	Level	Connector
WORD CLOCK	IN	—	TTL/75Ω	BNC Connector
	OUT	—	TTL/75Ω	BNC Connector
Ethernet		10Base / 100Base-TX	10Base / 100Base-TX	etherCON

GENERAL SPECIFICATIONS (DCU5D)

Sampling frequency rate	Internal: 44.1kHz, 48kHz, 88.2kHz, 96kHz External: 42.9975kHz to 49.2kHz 85.995kHz to 98.4kHz
Power requirements	AC100-240V 50/60Hz, and/or DC12V
Power consumption	12W
Dimensions (W x H x D)	480 x 44 x 150mm (18.9" x 1.7" x 5.9")
Weight	2.3kg (5lbs)

DIMENSIONS (DCU5D)

unit : mm



DIGITAL INPUT SPECIFICATIONS (DCU5D)

Terminal	Format	Data length	Level	Connector
CASCADE IN	—	—	RS422	D-sub Half Pitch Connector 68Pin (Female)
CASCADE IN	—	—	100Base-TX	RJ-45

DIGITAL OUTPUT SPECIFICATIONS (DCU5D)

Terminal	Format	Data length	Level	Connector
CASCADE OUT	—	—	RS422	D-sub Half Pitch Connector 68Pin (Female)
CASCADE OUT	—	—	100Base-TX	RJ-45

BLOCK DIAGRAM (DSP5D)