YAMAHA

Overview

Matrix processor equipped with a variety of programmable features designed to maximize the performance of sound systems in commercial installations.

Rear Panel

Features

- Inputs; 8 mono (mic/line), 2 stereo (line), 16digital (via YDIF*)
- Outputs; 8 mono (line), 16 digital (via YDIF*)
- Can expand YDIF* equipped inputs and outputs with Exi8/Exo8 expanders
- SD Card Slot for playback of MP3/WAV files stored on an SD Memory Card
- Functions for worry-free operation; Feedback Suppressor, Auto Gain Control, Priority Ducker and Dugan Automixer
- Two useful digital processors "Reverb" and "Echo" for entertainment applications
- Remotely control the volume and presets of multiple zones with DCP series wall mount digital controllers
- Wireless DCP for iPhone and iPod touch is free available on the App Store
- Equipped with Network port and GPI ports that offer compatibility with touch panel controllers such as AMX/Crestron
- Easy setup and parameter control with MTX Editor
- * YDIF: the newly developed digital transmission format; a unique propriety Yamaha technology that delivers 16ch audio and word clock transmission via standard CAT5 Ether cable

Specifications

General Specifications

Memory Bank	Preset:50
Mixing Capacity	Mixing Channel : 8 Mono + 3 Stereo + 2 Effect Return + 8 Direct-in to Matrix
	Output Busses : 8 Mono
Input Channel Functions	Mono CH : 3-band PEQ, Comp, Gate, Auto Gain Control, Feedback suppressor (only available in ch 1-4), Dugan Automixer (only available in ch 1-4)
	Stereo CH: 3-band PEQ, Comp, Auto Gain Control
Output Channel Functions	Room Delay, Room EQ, Speaker Processor, X-Over (1way, 2way), Delay, 6-band PEQ, Limiter
Internal Processing	Priority Ducking, Ambient Noise Compensator
Sampling Frequency Rate	48kHz/44.1kHz
Signal Delay	Less than 2.5ms (AD-DA @48kHz)
Total Harmonic Distortion	0.05% (+4dBu, Gain:-6dB, 48kHz) 0.1% (+4dBu, Gain: +66dB, 48kHz) (Measured with a 18dB/Oct filter @80kHz)
Frequency Response	20Hz to 20kHz: max:+0.5dB, min:-1.5dB
Dynamic Range	107dB (typ. Gain:-6dB)
Crosstalk	-100dB (@1kHz)
Heat Dissipation	43kcal/h max
Power Requirements	AC100V-240V 50Hz/60Hz
Power Consumption	50W
Dimensions (W x H x D)	480mm x 44mm x 362mm (18.9" x 1.7" x 14.2")
Net Weight	4.8kg (10.6lbs)
Accessories	Included items = Power cord, Euroblock plugs (3-pin, tabbed) x16, Euroblock plugs (16-pin) x2, Cable Ties, Manual
Others	Phantom Power = +48V

Analog Input Specifications

Input Terminal	GAIN	Actual Load Impedance	For Use with Nominal	Input Level		Connector	Balanced / Unbalanced
				Nominal	Max. before Clip		
INPUT 1-8	+66dB	10kΩ	50-600Ω Mics	-62dBu (0.616mV)	-42dBu (6.16mV)	Euroblock (5.08mm pitch)	Balanced
	-6dB		600ΩLines	+10dBu (2.45V)	+30dBu (24.5V)		
ST IN 1,2	-	10kΩ	600Ω Lines	-10dBV (316mV)	+10dBV (3.16V)	RCA Pin Jack	Unbalanced

* In these specifications, 0dBu = 0.775 Vrms., 0dBV = 1.00 Vrms.
* All input AD converters are 24bit linear, 128times oversampling.
* +48V DC (phantom power) is supplied to INPUT EUROBLOCK connectors via each individual software controlled switch.

Analog Output Specifications

Output Terminal	Actual Source Impedance	For Use with Nominal	Output Level		Connector	Balanced / Unbalanced
			Nominal	Max. before Clip		
OUTPUT 1-8	75Ω	10kΩLines	+4dBu (1.23V)	+24dBu (12.3V)	Euroblock (5.08mm pitch)	Balanced

* In these specifications, 0dBu = 0.775 Vrms.
* All output DA converters are 24bit, 128times oversampling. (Fs=48kHz)

Digital Input and Output Specifications

Terminal	Format	Level	IN/OUT	Connector
YDIF In	YDIF	RS-422	16IN	RJ45
YDIF Out	YDIF	RS-422	16OUT	RJ45

Control I/O Specifications

Terminal		Level	Connector
GPI 16IN / 8OUT	IN	0V-5V (IN 16 L (0V-2.5V)/H (2.5V-24V))	Euroblock
	OUT	Open Collector	
	+V	DC5V	
REMOTE		RS-232C (BAUD RATE : 38.4kbps or 115.2kbps)	D-sub 9pin (Male)
DCP		-	RJ-45

Dimensions

Unit: mm (inch)

351 (13.8)

361.4 (14.2)

4 (0.1)

480 (18.9)

44 (1.7)
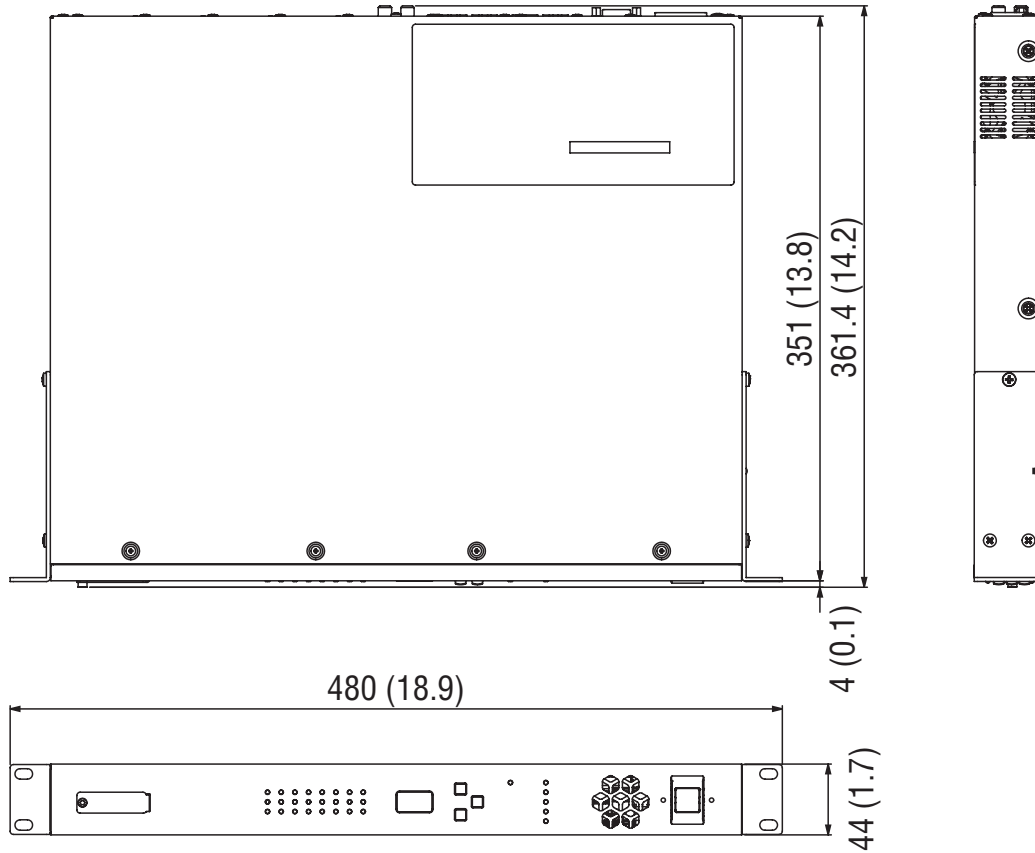
Options

- Input Expander — EXi8
- Output Expander — EXo8
- Digital Control Panel — DCP1V4S
- Digital Control Panel — DCP4S
- Digital Control Panel — DCP4V4S
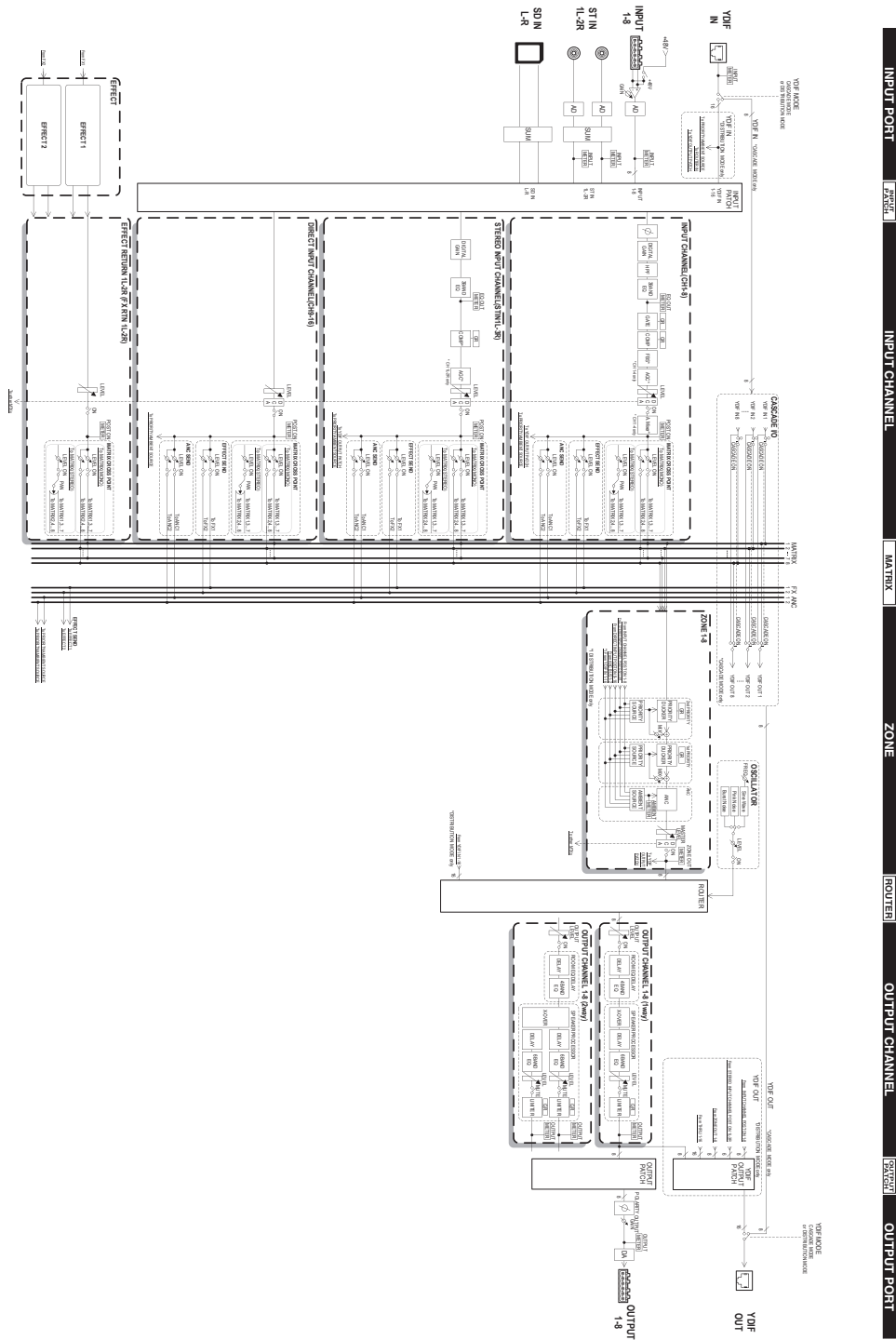- Digital Controller Hub — DCH8

Software

- MTX-MRX Editor
- ProVisionaire Touch
- Wireless DCP

Architectural and Engineering Specifications

The matrix processor shall provide eight balanced mic/line inputs on Euroblock connectors and shall provide 2 stereo unbalanced line inputs on RCA connectors and shall provide eight balanced line outputs on Euroblock connectors. The mic inputs shall have 48V phantom power. The processor shall provide 16 digital inputs and 16 digital outputs via YDIF on RJ45 connectors. The digital I/O shall allow sharing of digital audio with additional processors, amplifiers and I/O expanders. All analogue inputs and outputs shall have 24bit/48kHz/44.1kHz AD/DA converters (44.1kHz mode is available when slaved) and all internal processing shall be digital (DSP). The processor shall have an SD card slot for playback of MP3/WAV files. The processor shall have GPI I/O ports, RS232C and Ethernet port to allow remote control. Software shall be provided for connecting and configuring DSP system components within each hardware unit and shall be used to create the system with amplifiers, I/O expanders and remote controllers. Available system components shall include matrix mixers, equalizers, gates, compressors, auto gain control, feedback suppressor, priority processors, ducker, speaker processor and reverb/echo. Ethernet communications shall be utilized for software control and configuration. Software shall be operated on a PC computer with network card installed, running Windows 7 or above [Windows 8/8.1/10 are supported]. After initial programming, processors may be controlled via dedicated wall mount controller DCP series, PC software, 3rd party control systems and smart devices. The NC rating of the processor shall be 27 and the heat dissipation shall be maximum 43 kcal/h. Dimensions (W x H x D) shall be 18.9" x 1.7" (1U) x 14.3" (480 x 44 x 362 mm) and weight shall be 10.6 lbs. (4.8 kg). The product shall conform to the latest EU RoHS hazardous substances and WEEE directives.

Block Diagrams

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