

## Overview

Multi-channel power amplifiers with features designed specifically to benefit installation sound systems.



## Features

- Four-channel power amp that can operate in both high-impedance (70V/100V line) or low-impedance (4Ω/8Ω) modes simultaneously.
- 70V or 100V mode can be assigned to every pair of channels without affecting the number of available output channels.
- The newly developed Double Power Mode function effectively doubles the output power of selected channels.
- Equipped with YDIF\* digital audio format for simple and fast system configuration.
- Easy setting such as the mute on/off or attenuator changes with MTX Editor when used in system with MTX Series.
- An innovative, new, patent pending circuit improves the already highly efficient Class D circuit topology, bringing the efficiency level of the amplifier's output stage up to over 90%.
- Feature a Power Factor Correction equipped switching power supply, ensuring harmonic control and decreasing the amount of current draw while maintaining the same output power.
- Powerful, intelligent protection features for more reliable operation.

\* 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.

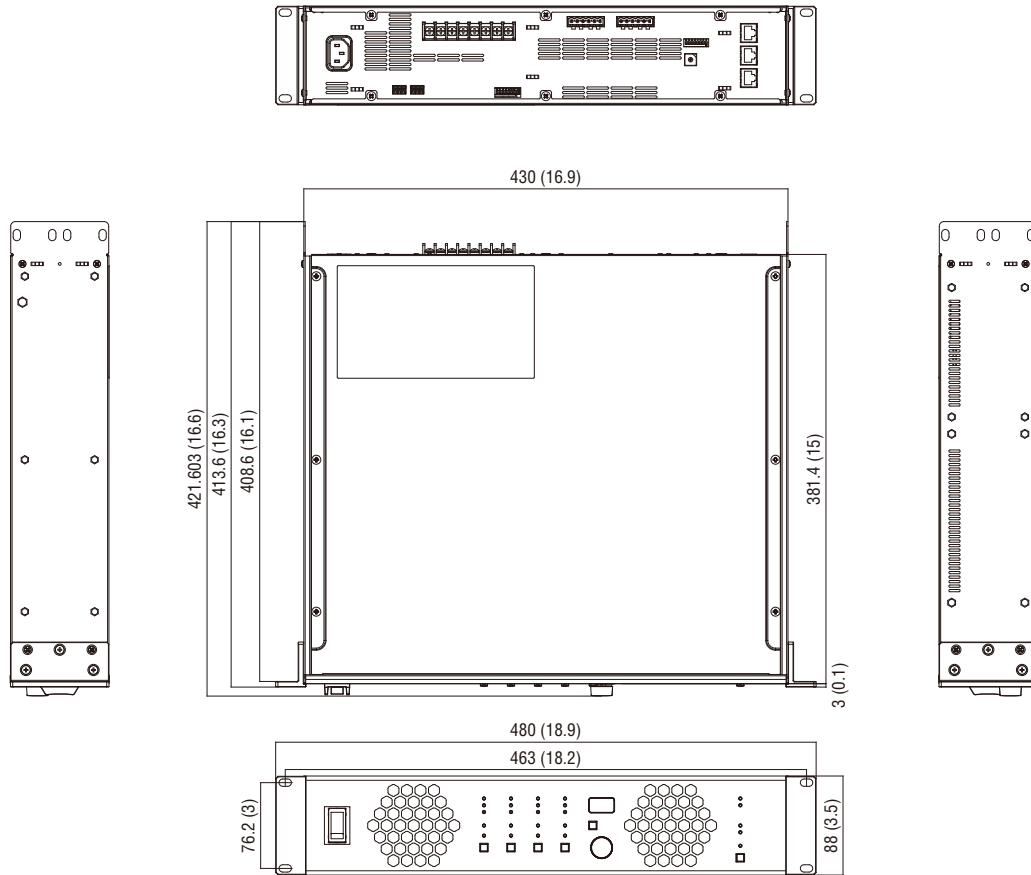
## Specifications

### General Specifications

Output Power (1kHz, THD+N = 1% (20 ms Burst))	100V Line	125W x 4 / 80 Ω
	70V Line	125W x 4 / 40 Ω
	8Ω	140W x 4
	4Ω	140W x 4
	4Ω/ Double Power Mode	280W x 2
	8Ω/ Double Power Mode	280W x 2
Total Harmonic Distortion		≤ 0.2%
Frequency Response		0dB, ±1.0dB
S/N Ratio		≥ 100dB
Crosstalk		≤ -60dB
Voltage Gain	RL=8Ω	28.7dB
	RL=8Ω / Double Power Mode	31.7dB
	100V	38.2dB
	70V	35.2dB
Input Sensitivity		+4dBu (RL=8Ω)
Maximum Input Voltage		+24dBu
Input Impedance		20kΩ (balanced), 10kΩ (unbalanced)
I/O Connectors	Line Input	Euroblock x 2 (6P, balanced)
	Digital Input/Output	RJ45 x 2 (YDIF IN / OUT)
	Speaker Output	Barrier strip x 4 pairs
	Remote, Fault Output	Euroblock (3P) x 1
	Network	RJ45x1
Protection Circuit	Load Protection	POWER switch on/off: Output mute, DC-fault: Power supply shuts down, Clip limiting
	Amplifier Protection	Thermal: Output mute (heatsink temp ≥90°C) (Restored automatically), Overcurrent: Output mute (Restored automatically), Low load impedance: Output mute (Restored automatically)
	Power Supply Protection	Thermal: Amplifier shuts down automatically (heatsink temp ≥100°C), Integrated power: Gain reduction (Restored automatically)
Cooling		3-Speed fan x 2, front-to-back airflow
Power Requirements		100V, 120V, 230V-240V; 50Hz/60Hz
Power Consumption	1/8 Power (4 Ω Pink Noise)	150W
	Idle (4 Ω)	37W
	Standby	18.5W
Dimensions (W x H x D)		480mm x 88mm x 422mm (18.9" x 3.5" x 16.6")
Net Weight		8.1kg (17.9lbs)

## Dimensions

Unit: mm (inch)



## Software

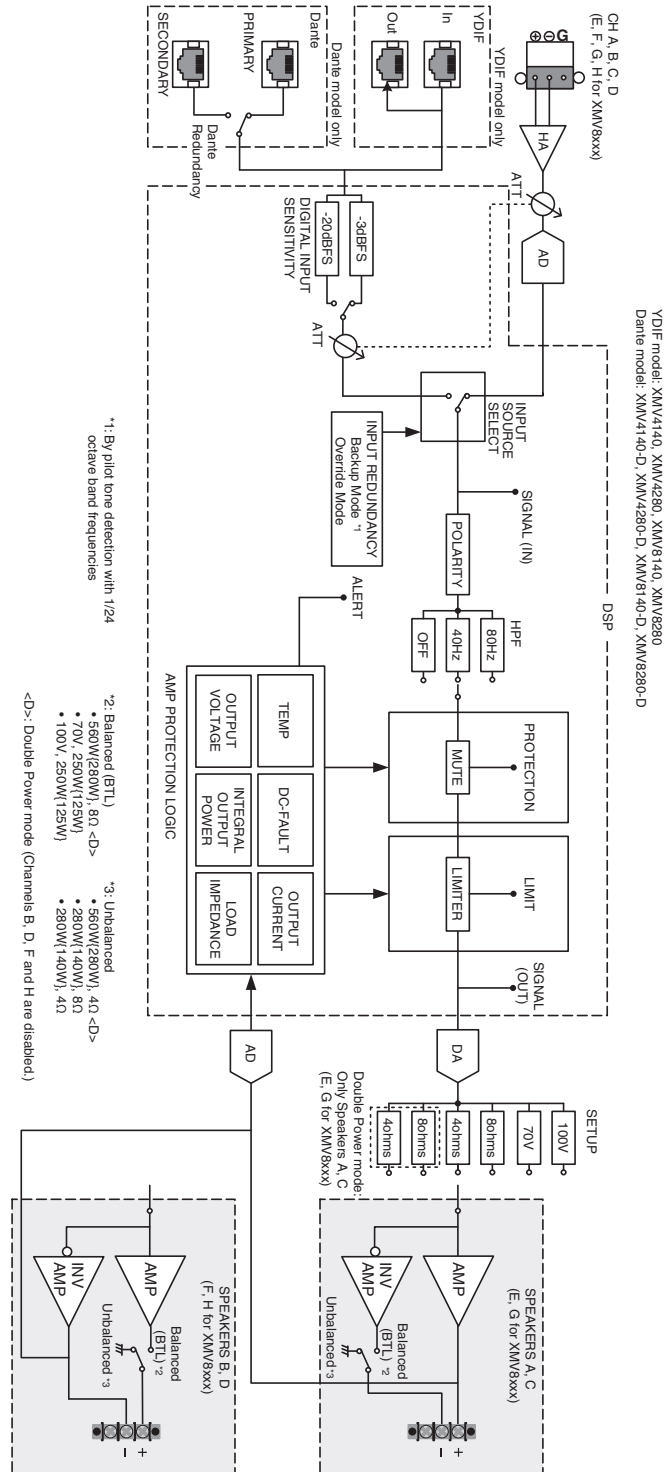
- MTX-MRX Editor
- Amp Editor

## Architectural and Engineering Specifications

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The power amplifier shall provide four discrete channels of amplification. Each channel shall be capable of independently driving either low-impedance or high-impedance (70V/100V) loads. The output circuit topology shall be Class D. The amplifier shall have a function of Double Power mode, which doubles output of each channel when low-impedance connections are used. The amplifier shall support the YDIF digital audio transmission format, which allows up to 16 channels of audio and word clock to be transmitted and received via an Ethernet cable. Maximum total output of all four channels shall be 560W. Each channel shall deliver maximum continuous output power as follows: 140W into 8 ohms; 140W into 4 ohms; 280W into 8 ohms in Double Power mode; 280W into 4 ohms in Double Power mode; or 125W into a high impedance (70V/100V) load. The voltage gain shall be as follows: 28.7dB into 8 ohms; 31.7dB into 8 ohms in Double Power mode; 38.2dB at 100V line; 35.2dB at 70V line. The amplifier shall be capable of meeting the following performance criteria: Input sensitivity shall be +4dBu (1.23V) into 8 ohms; Signal-to-noise ratio shall be greater than 100dB; Total harmonic distortion (THD+N) shall be less than 0.2% at 1kHz, half power; Frequency response shall be 20Hz to 20kHz, +1.0/-1.0dB at 1W into 8 ohms or a high impedance (100V/70V) load; Maximum input level shall be +24dBu; Inputs shall be electronically balanced, with a minimum impedance of 20 kilohms balanced and 10 kilohms unbalanced. The following controls and indicators shall be provided on the front panel of the amplifier. An AC power switch shall be provided for power on/off. A rotary encoder and a FUNCTION button shall be provided to change the operation mode. A MUTE button shall be provided for muting on/off. The LED indicators shall indicate POWER, ALERT, NETWORK, YDIF and PANEL LOCK. SELECT buttons and additional LED indicators shall be provided for each channel, which indicate PROTECTION, LIMIT, SIGNAL and MUTE. The following connectors and controls shall be provided on the rear panel of the amplifier. The input connectors shall be electronically balanced, 6-pin Euroblock connectors. The speaker output connectors shall be barrier strip screw connectors. The Network connector shall be a 100BASE-TX Ethernet connector that allows the amplifier to be connected to a computer via an Ethernet cable. Two RJ45 connectors with the YDIF format shall be provided for digital input/output that allow the amplifier to be connected via an Ethernet cable to another YDIF-equipped device. Two 3-pin Euroblock connectors shall be provided for a REMOTE connector and a FAULT OUTPUT connector. The Rotary switch shall be provided for specify the UNIT ID that identifies each unit individually when multiple devices such as amplifiers and processors are connected. The DIP-switches shall be provided for device setup (UNIT ID, LED DIMMER, PANEL LOCK, IP SETTING or START UP MODE) and output setting (Low-impedance, High-impedance or Double Power mode). The power supply shall be a universal type (AC line input between 100V and 240V at 50Hz or 60Hz) and shall be equipped with Power Factor Correction, which ensures harmonic control and decrease the amount of current draw while maintaining the same output power. The built-in protection circuitry shall monitor heat, voltage and current levels to minimize potential damage from overloads. The speaker output shall be muted if the heat sink of the amplifier section exceeds 90°C or the impedance falls below rated, which restored automatically. The analog circuits shall be shut down if the power supply section exceeds 100°C. The amplifier shall be cooled by two temperature-controlled, 3-step speed fans for minimum acoustic noise, with air flow from front-to-back. The amplifier shall be approved for use as specified by CE, UL and the FCC. The amplifier shall conform to the latest EU RoHS hazardous substances and WEEE directives. The amplifier shall be 480mm (18.9") wide, 88mm (3.5" / 2U) high, and 422mm (16.6") deep. The weight shall be 8.1kg (17.9lbs). The amplifier shall be the Yamaha XMV4140.

# Block Diagrams



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