

## Overview

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The DZR12-D/DZR12-DW is a Dante-equipped 2-way bi-amped powered loudspeaker that offers superb clarity at an impressive maximum SPL of 139dB. With best-in-class SPL performance, sophisticated DSP processing, and unrivaled low-frequency sound reproduction, the DZR12-D/DZR12-DW realizes a truly professional sound delivered with a level of power that belies its compact, lightweight design.



DZR12-D



DZR12-DW

## Features

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- 2-way powered loudspeaker with a 2" HF and a 12" LF
- Maximum 139dB SPL and 39Hz-20kHz frequency range is ideal for today's professional audio demands
- High power 2000W Class-D amplifier module
- 96kHz DSP and FIR filter for true high-resolution sound with super low latency
- Features Advanced FIR-X tuning, the combination of FIR filtering and correct EQ for minimizing phase distortion
- Equipped with Dante I/O (2in/2out) and features SRC (sample rate conversion) allowing 48kHz device compatibility
- Access a variety of DSP functions and load presets, or make precise adjustments to PEQ, delay and routing etc. via the intuitive LCD display
- D-Contour and highly reliable protection circuits
- Floor monitoring setting enables mirroring configuration
- Lightweight yet very durable plywood cabinet with premium grade Polyurea coating
- Optional speaker cover (SPCVR-DZR12)
- Rotatable horn and variety of U-bracket options (UB-DZR12H/V) for rigging allow for very flexible setup and speaker placement
- Durable black or white finish

## Specifications

### General Specifications

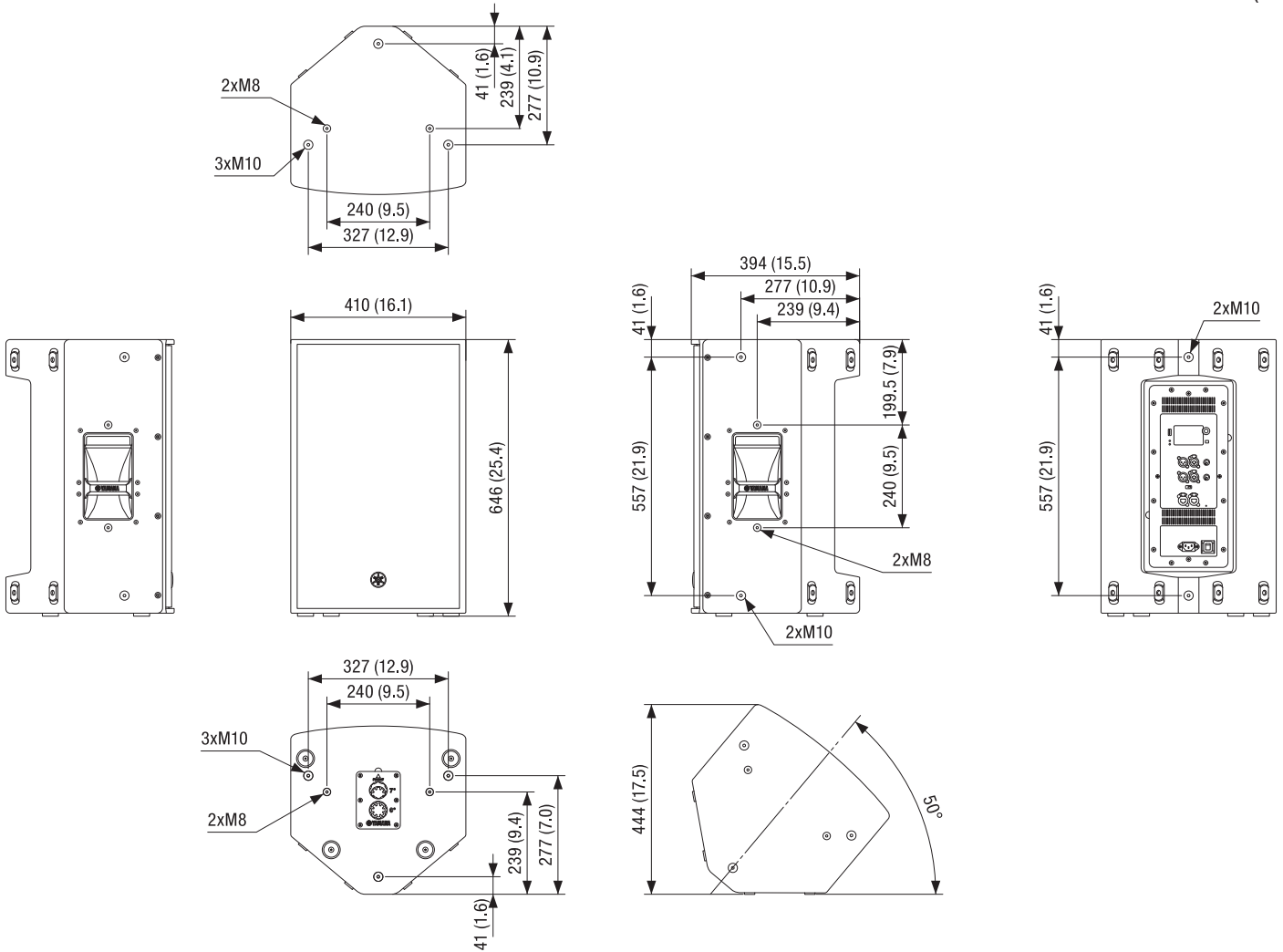
Speaker Type	2-way, Bi-amped Powered Speaker, Bass-reflex	
Frequency Range (-10dB)	39Hz - 20kHz	
Coverage Area	H90° x V60° (Rotatable)	
Components	LF	12" Cone, 3" Voice Coil, Neodymium magnet
	MF	-
	HF	2" Voice Coil, 1" Throat Compression Driver, Titanium diaphragm, Neodymium magnet
Crossover	1.8kHz (FIR-X)	
Sampling Frequency Rate	Internal	96kHz and FIR Filter
A/D D/A Converters	96kHz AD/DA	
Maximum Output Level (1m; on axis)	139dB SPL *1	
SRC	Yes	
Power Rating	Dynamic	2000W (LF: 1000W, MF/HF: 1000W) *2
	Burst (20ms)	1100W (LF: 1000W, MF/HF: 100W)
	Continuous	950W (LF: 850W, MF/HF: 100W)
I/O Connectors	Analog I/O	Analog IN: Combo x 2, Line level (Maximum +24dBu), Input impedance 20kΩ, Analog OUT: XLR3-32 x 2, CH1: THRU (fix), CH2: THRU or DSP OUT
	Digital I/O	Dante: etherCON CAT5e x 2 (Daisy Chain), 2 IN / 2 OUT (Fs: 44.1k, 48k, 88.2k, 96k) and Remote Control, 1000BASE-T
	Others	USB2.0 Host 5V 500mA for USB memory DATA storage/load
	AC	IEC AC inlet x 1 (V-Lock)
Amplifier Class	Class-D	
Cooling	Fan cooling, Variable speeds	
Power Consumption	45W (Idle), 150W (1/8)	
Handle	Aluminium die-cast, Side x 2	
Rigging	M10 x 12	
Dimensions (W x H x D)	410mm x 646mm (with rubber feet) x 394mm (16.1" x 25.4" x 15.5")	
Net Weight	21.4kg (47.2lbs)	
Options	U-bracket: UB-DZR12H/V, Cover: SPCVR-DZR12	
Others	Enclosure Material, Finish, Color: Plywood, Durable Polyurea Painting, Black/White	
Floor Monitor Angle	50° Symmetrical	
Pole Socket	Ø35mm x 2 (0° or -7°)	

\*1 Measured peak SPL with pink noise @1m.

\*2 Total peak power of individual outputs (AC 120V, 25°C). This value was measured at minimum load impedance, with protection released.

## Dimensions

Unit: mm (inch)



## Options

- Speaker Cover SPCVR-DZR12
- U-Brackets UB-DZR12H/UB-DZR12HW/UB-DZR12V/UB-DZR12VW

## Architectural and Engineering Specifications

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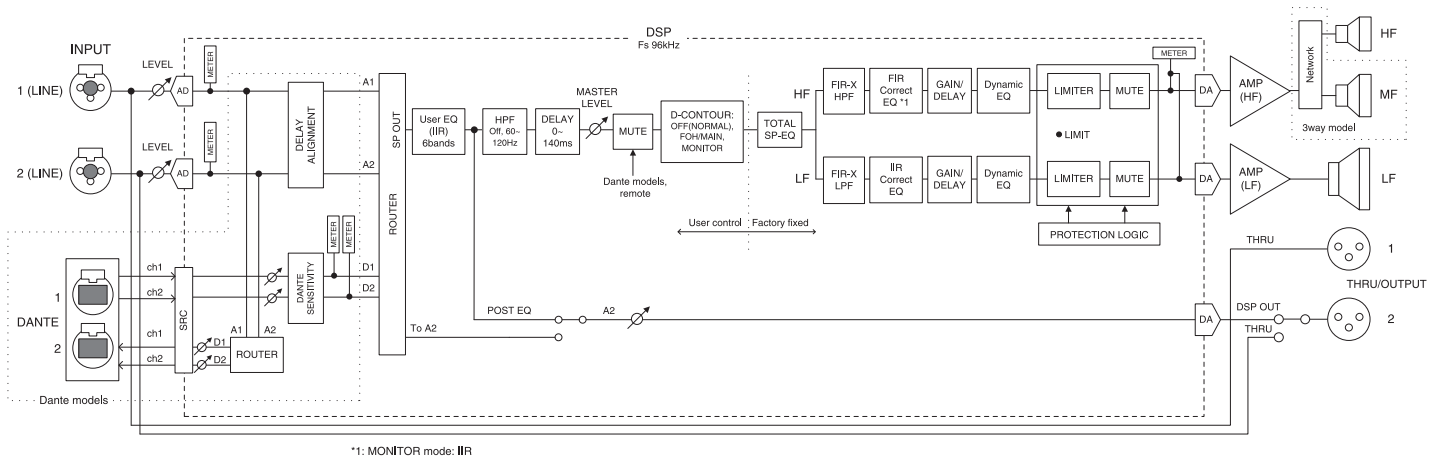
The Yamaha DZR12-D shall be a powered loudspeaker for sound reinforcement applications. The loudspeaker shall be a full-range, two-way, bi-amplified, bass-reflex type with configurable built-in digital signal processing and Dante connectivity. The loudspeaker shall have one 12" cone low-frequency transducer with a 3" voice coil, and one 1" throat high-frequency compression driver with a 2" voice coil and titanium diaphragm. The total continuous power rating shall be 950 watts (bi-amplified, with 850 watts delivered to the LF transducer and 100 watts delivered to the HF transducer). The crossover frequency shall be 1.7 kHz (FIR-X filter). The loudspeaker shall be capable of meeting the following performance criteria: reproduction frequency range shall be 39 Hz to 20 kHz (-10 dB), and maximum output SPL shall be 139 dB (peak, pink noise @ 1m). The loudspeaker's amplifiers shall be efficient class-D types. Coverage angles shall be 90° horizontal and 60° vertical. The horn shall be rotatable to allow a 90° shift in coverage angles when required. Two XLR/TRS combo connectors shall be provided for line-level analog audio input. Two XLR connectors shall be provided for analog audio THRU output, one of which shall be switchable for DSP output.

The loudspeaker shall provide built-in digital signal processing at a sample rate of 96 kHz, using 96 kHz analog-to-digital/digital-to-analog converters and FIR filters. Digital signal processing shall provide Advanced FIR-X tuning, which shall combine FIR filtering and Correct EQ for optimum crossover characteristics and overall response with minimal phase distortion. DSP functions shall be accessible via an LCD display panel and include alignment delay, routing, mute, HPF/LPF, 6-band EQ, room delay, panel setup, panel lock, and others. D-CONTOUR intelligent multiband compression shall also be provided to maximize clarity at all power levels. Digital signal processing shall further be used to provide system-wide protection. Preset setups shall be provided, and on-board memory shall be provided for internal user setting storage. A USB port shall allow user settings to be saved to USB flash memory for external storage or transfer to other DZR series loudspeakers.

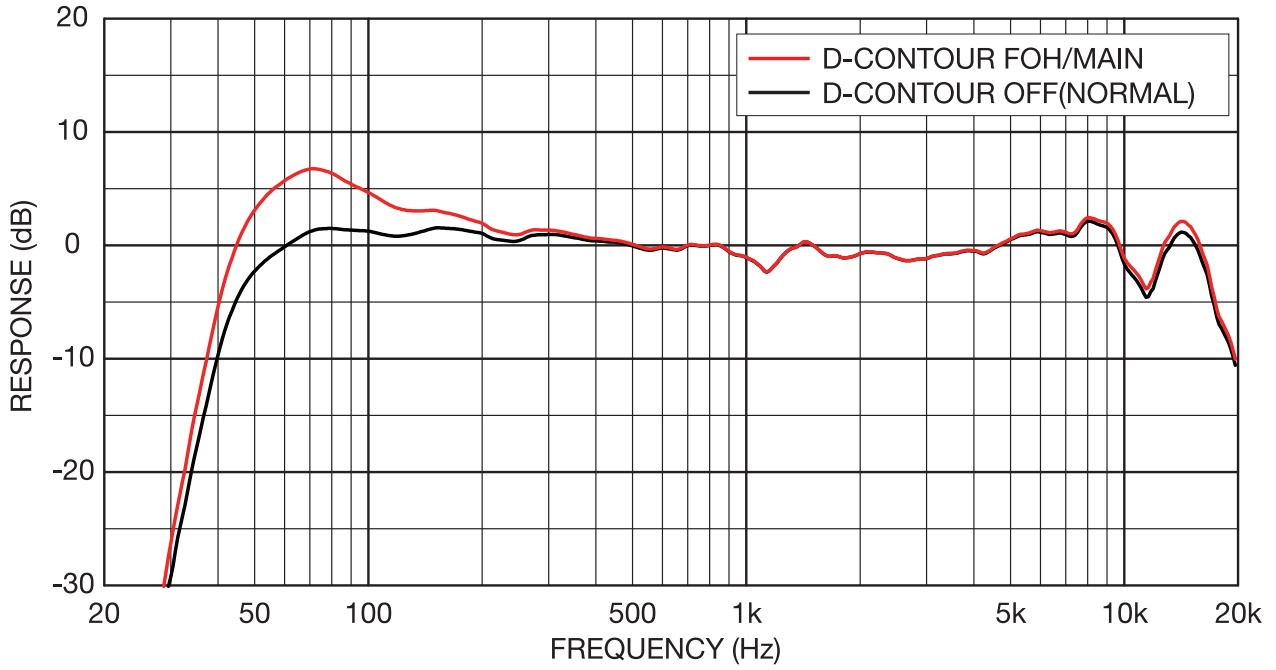
The loudspeaker shall provide a 2-in/2-out Dante interface for smart system integration with compatible Yamaha consoles and other Dante devices. Sample rate conversion shall be included for compatibility with 48 kHz devices. Compatibility with the ProVisionaire Control (Windows) and ProVisionaire Touch (iPad) applications shall provide simple remote management capability.

The loudspeaker enclosure shall be constructed of high-grade 15 mm plywood and finished with a durable polyurea coating. The enclosure configuration shall allow convenient front-of-house or 50° floor-monitor use. Rigging points shall be provided for use with standard eyebolts, and optional U Brackets will offer a variety of mounting configurations. The dimensions of the loudspeaker shall be 410 x 646 x 394 mm (W x H x D, including rubber feet). The weight shall be 21.4 kg.

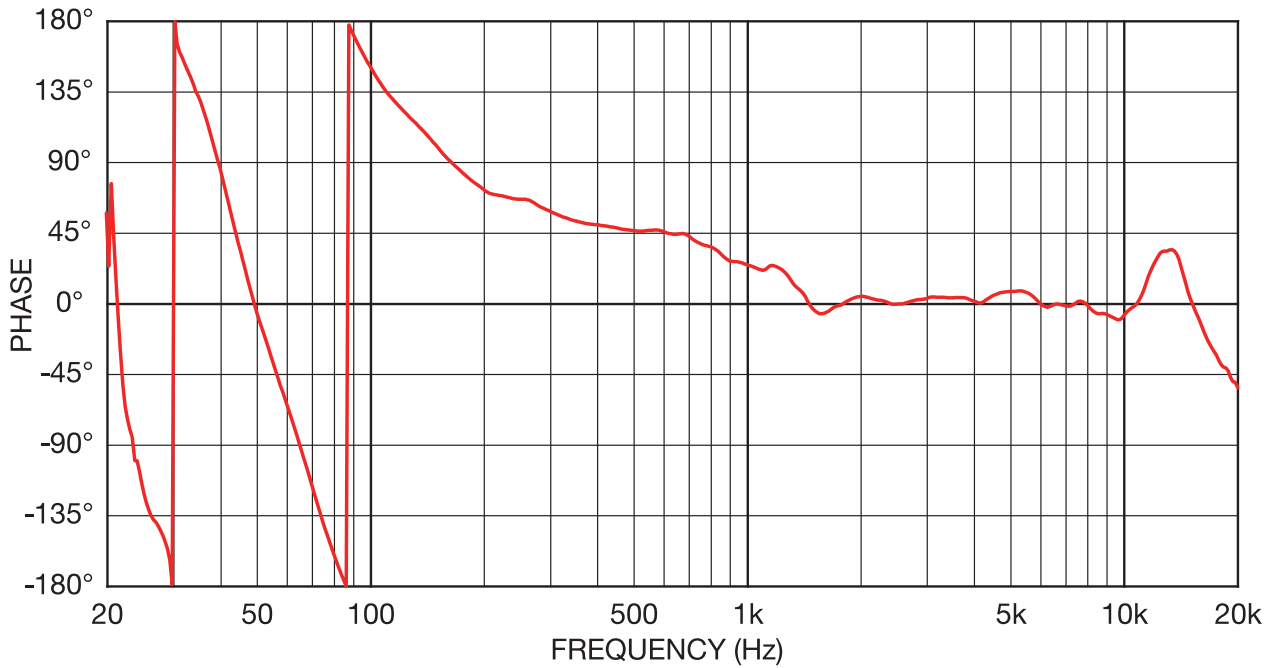
# Block Diagrams



### Frequency Response

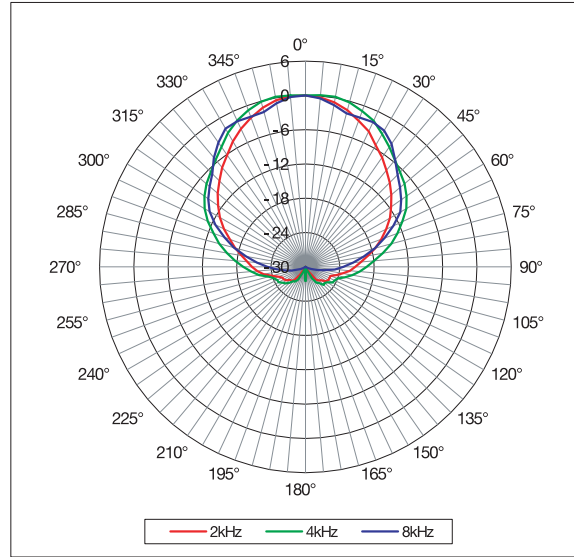


### Phase Response



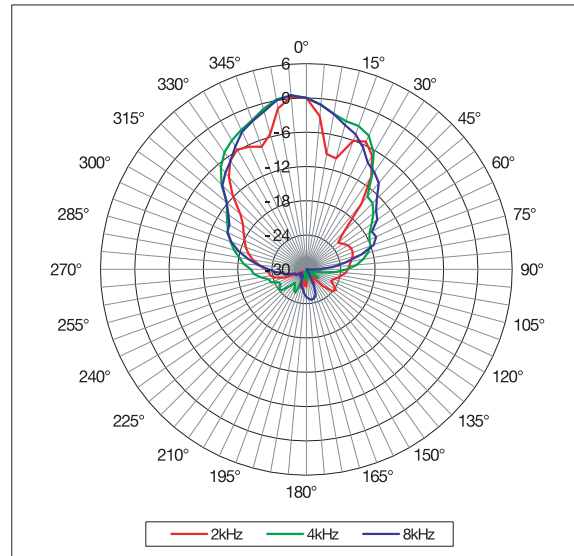
## Horizontal Polar Plots

Horizontal



## Vertical Polar Plots

Vertical



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