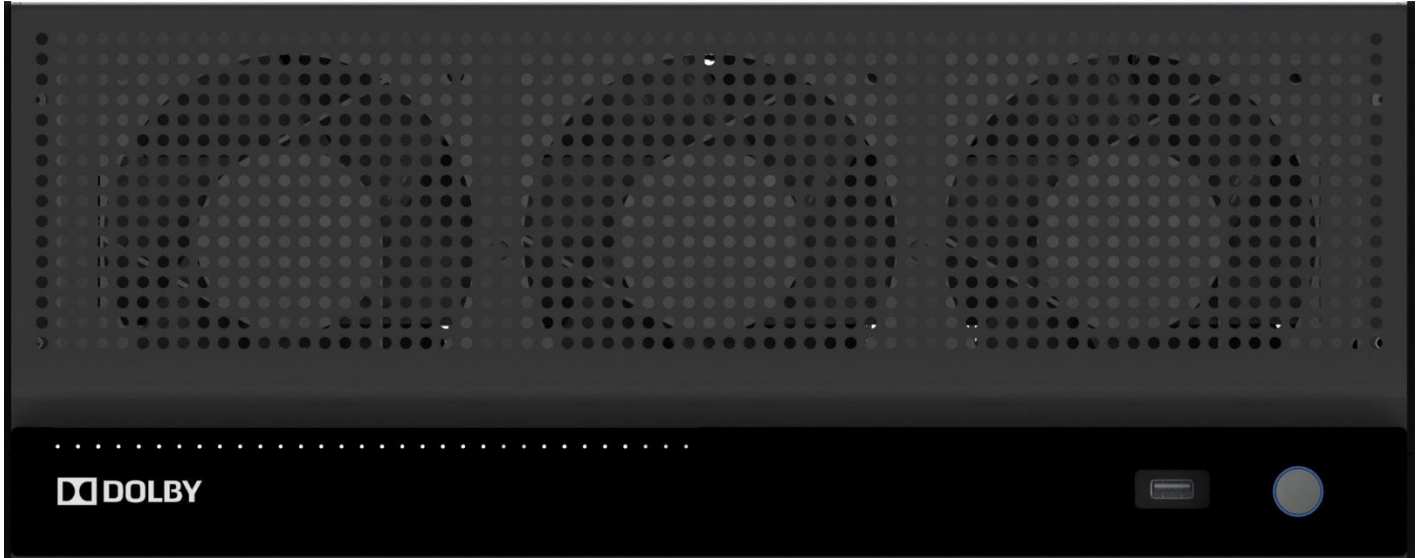




Dolby® Multichannel Amplifier



The Dolby® Multichannel Amplifier is an advanced, high-density design that can replace up to 16 stereo amplifiers. With less equipment to install, power, and maintain, you get a simpler and more efficient installation. The Dolby Multichannel Amplifier is available in 16 channels (DMA16301 and DMA16302), 24 channels (DMA24300 and DMA24302), or 32 channels (DMA32300). The Class D amplification topology is designed to deliver high-performance audio quality on every channel.

The Dolby Multichannel Amplifier is designed for reliability. It includes a custom-built power supply with built-in redundancy, power sharing, operational monitoring, and fault detection. The Dolby Multichannel Amplifier power supply enables the system to operate from a 100 to 240 VAC, 20 amp service without tripping the AC mains circuit breaker. The Dolby Multichannel Amplifier automatically detects maximum and net power availability, as well as certain operational and environmental conditions, and adjusts channel gains based on power supply conditions, load conditions, and fault conditions.

DOLBY MULTICHANNEL AMPLIFIER CURRENT FEATURES

- 4U rackmount chassis
- DMA16301: 16 channels, 600 W per channel at 2Ω and 4Ω, 300 W per channel at 8Ω, and 1,100 W two-channel bridge mode at 8Ω and 4Ω
- DMA16302: 16 channels, 600 W per channel at 2Ω and 4Ω, 300 W per channel at 8Ω, 1,100 W two-channel bridge mode at 8Ω and 4Ω, and CAT1416 analog-to-digital-converter, which provides 8 balanced analog audio input channels
- DMA24302: 24 channels, 600 W per channel at 2Ω and 4Ω, 300 W per channel at 8Ω, 1,100 W two-channel bridge mode at 8Ω and 4Ω, and CAT1416 analog-to-digital-converter, which provides 8 balanced analog audio input channels
- DMA24300 (24 channels) and DMA32300 (32 channels): 300 W per channel at 8Ω and 4Ω and 600 W two-channel bridge mode at 8Ω
- Universal power supply 100 to 240 VAC
- Custom-built power supply with built-in redundancy
- Web-based UI for easy access from anywhere on the theatre network
- Front-panel status/signal presence LEDs
- Long and short rack rail kits



DOLBY MULTICHANNEL AMPLIFIER

INPUTS and OUTPUTS

- 1 x GB Ethernet (1000Base-T/RJ-45)
- 2 x Ethernet (Dolby Atmos® Connect/RJ-45)
- 8, 12, or 16 high-voltage/current terminal block outputs (accepting 8 to 24 AWG loudspeaker wire)
- Front-panel USB 2.0 port for alternative maintenance functions
- CAT1416 analog input (DMA16302 and DMA24302)

ACCESSORIES

- Cat1140: Long rack rail kit
- Cat1240: Short rack rail kit
- DMA-ACC-US accessory kit (domestic US)
- DMA-ACC-CN accessory kit (China)
- DMA-ACC-ROW accessory kit (rest of world)
- DMA-ACC-YAM-ADC: Cable to connect a CP750 to a Yamaha analog-to-digital converter
- DMA-ACC-ANA-CBL: Cable to connect a CP750 to a CAT1416 analog-to-digital converter

CONTROL AND MONITORING

- Web-based user interface
- SNMP

POWER

- AC inlet IEC 320-C20 20 A maximum
- 100 to 240 VAC, 50 to 60 Hz

PHYSICAL

Dimensions (product): 48.3 cm (19 inches) x 17.7 cm (7 inches) x 56.3 cm (22 inches)

Dimensions (shipping): 61.0 cm (24 inches) x 30.5 cm (12 inches) x 72.4 cm (28.5 inches)

Weight DMA16301 product: 60 pounds (27.2 kilograms), shipping: 71.6 pounds (32.5 kilograms)

Weight DMA16302 product: 60 pounds (27.2 kilograms), shipping: 71.6 pounds (32.5 kilograms)

Weight DMA24302 product: 65 pounds (29.5 kilograms), shipping: 76.6 pounds (34.7 kilograms)

Weight DMA24300 product: 58 pounds (26 kilograms), shipping: 69 pounds (31 kilograms)

Weight DMA32300 product: 62 pounds (28 kilograms), shipping: 73 pounds (33 kilograms)

Operating temperature range: 0–40°C

AC LINE CURRENT DRAW AND THERMAL DISSIPATION SPECIFICATIONS

Notes:

1. Pink noise stimulus with 12 dB crest factor, band-limited 20 Hz to 20 kHz.
2. Data based on all driven channels.
3. Fractional output levels are based upon rated channel power for the given load impedance. (For example, for a 1/8 power 8 ohm normal configuration, the net output power is 300 W/8 x 32 channels = 1200 W.)
4. Specifications are based on laboratory measurements and should be considered typical values, as they do not constitute absolute limits.
5. Specifications for the DMA24300 are mathematically derived from the laboratory measurements made on the DMA3200.
6. Pink noise tests for this configuration are limited by duration due to AC mains breaker rating. Amplifier output limiting occurs to reduce current draw.



DMA16301, DMA
16302

Output Level	Load	Output Configuration	120 VAC			208 VAC			230 VAC		
			Line Current (A, rms)	Dissipated Power (Watts, rms)	BTU /Hour	Line Current (A, rms)	Dissipated Power (Watts,rms)	BTU /Hour	Line Current (A, rms)	Dissipated Power (Watts,rms)	BTU /Hour
Idle	-	-	1.86	214	730	1.4	205	699	1.3	199	679
1/8 power pink noise	2Ω	Normal	16.2	674	2,300	9.4	659	2,249	8.4	638	2,177
	4Ω	Normal	16.0	639	2,180	9.2	606	2,068	7.9	550	1,877
	4Ω	Bridged	17.0	858	2,928	9.3	754	2,573	8.3	725	2,474
	8Ω	Normal	8.6	404	1,379	4.9	385	1,314	4.4	359	1,225
	8Ω	Bridged	14.9	639	2,180	8.6	591	2,017	7.6	565	1,928
1/4 power pink noise	2Ω	Normal	See Note 6			17.9	1,169	3,989	16.3	1,192	4,067
	4Ω	Normal				16.7	889	3,033	14.8	845	2,883
	4Ω	Bridged				17.2	1,191	4,064	15.6	1,213	4,139
	8Ω	Normal	14.7	506	1,727	8.3	461	1,573	7.5	448	1,529
	8Ω	Bridged	See Note 6			15.9	929	3,170	14.2	888	3,030

DMA24302

Output Level	Load	Output Configuration	120 VAC			208 VAC			230 VAC		
			Line Current (A, rms)	Dissipated Power (Watts, rms)	BTU /Hour	Line Current (A, rms)	Dissipated Power (Watts,rms)	BTU /Hour	Line Current (A, rms)	Dissipated Power (Watts,rms)	BTU /Hour
Idle	-	-	2.2	258	880	1.5	251	856	1.5	254	867
1/8 power pink noise	2Ω	Normal	See Note 6			13.6	956	3,261	12.2	925	3,157
	4Ω	Normal				13.3	879	2,999	11.4	729	2,529
	4Ω	Bridged				13.5	1,093	3,731	12.0	1,051	3,587
	8Ω	Normal	12.4	544	1,856	7.1	558	1,905	6.2	469	1,369
	8Ω	Bridged	See Note 6			12.5	857	2,925	11.0	819	2,796
1/4 power pink noise	2Ω	Normal				See Note 6					
	4Ω	Normal									
	4Ω	Bridged									
	8Ω	Normal	12.0	668	2,281						
8Ω	Bridged	See Note 6									



DMA32300

Output Level	Load	Output Configuration	120 VAC			208 VAC			230 VAC		
			Line Current (A, rms)	Dissipated Power (Watts, rms)	BTU /Hour	Line Current (A, rms)	Dissipated Power (Watts, rms)	BTU /Hour	Line Current (A, rms)	Dissipated Power (Watts rms)	BTU /Hour
Idle	-	-	2.1	227	775	1.5	227	775	1.5	227	775
1/8 power pink noise	4Ω	Normal	15.2	576	1,965	8.8	548	1,870	7.8	540	1,843
	8Ω	Normal	15.1	567	1,935	8.6	525	1,791	7.7	518	1,767
	8Ω	Bridged	15.7	631	2,153	8.8	550	1,877	8.1	606	2,068
1/4 power pink noise	4Ω	Normal	See Note 6			15.9	859	2,931	14.5	816	2,784
	8Ω	Normal				15.1	701	2,392	13.8	646	2,204
	8Ω	Bridged				16.4	950	3,242	14.8	898	3,064

DMA24300

Output Level	Load	Output Configuration	120 VAC			208 VAC			230 VAC		
			Line Current (A, rms)	Dissipated Power (Watts, rms)	BTU /Hour	Line Current (A, rms)	Dissipated Power (Watts, rms)	BTU /Hour	Line Current (A, rms)	Dissipated Power Watts, rms	BTU /Hour
Idle	-	-	1.8	196	689	1.5	196	669	1.4	196	669
1/8 power pink noise	4Ω	Normal	11.4	432	1,474	6.6	411	1,402	5.9	405	1,382
	8Ω	Normal	11.3	425	1,451	6.5	394	1,344	5.8	389	1,326
	8Ω	Bridged	11.8	473	1,615	6.6	413	1,408	6.1	455	1,551
1/4 power pink noise	4Ω	Normal	See Note 6			11.9	644	2,198	10.9	612	2,088
	8Ω	Normal				11.3	526	1,794	10.3	485	1,653
	8Ω	Bridged				12.3	713	2,431	11.1	674	2,298



DOLBY MULTICHANNEL AMPLIFIER DOLBY MULTICHANNEL AMPLIFIER

DMA16301, DMA16302, DMA24302 Audio Specifications

Parameter	Typical Performance Specification			Measurement Notes
Power output rating	Unbridged	Bridged		Dolby power amplifier rating specifications: 1: Burst 1 kHz for 20 ms, 10 kHz for 10 ms, two channels driven 2: Short term 20 Hz, 1 kHz, and 20 kHz at -1 dB for five seconds, two channels driven 3: Long term 1/8 power pink noise for one hour, two channels driven
	300 watts	1100 watts	8Ω	
	600 watts	1100 watts	4Ω	
	600 watts	NA	2Ω	
Power budget rating (total audio power available)	120 VAC	208 VAC	230 VAC	For full-range specification: 1. Burst 50Hz for 200 ms, 1 kHz for 20 ms, 10 kHz for 10 ms 2. Short term 20 Hz, -1 dB for five seconds 3. Total power summed across all channels driven prior to any limiting
Full range	1980 watts	3480 watts	3480 watts	
THD+N (1 kHz)	0.004% to 0.009%		8Ω	1 dB below rated power, AES-17 20 kHz lowpass filter, two adjacent channels driven in normal mode
	0.009% to 0.02%		4Ω	
THD+N (20Hz to 20 kHz)	0.05%		8Ω	
	0.1%		4Ω	
Frequency response	20 Hz to 20 kHz, +0.4/-0.2 dB		8Ω	
Intermodulation distortion ratio (SMPTE 4:1)	0.05%			1 dB below rated power, SMPTE 4:1 60 Hz and 7 kHz, AES17 20 kHz lowpass filter
Signal-to-noise ratio	109 dB			A-weighted, AES17 20 kHz lowpass filter
Channel separation (crosstalk)	70 to 90 dB		8Ω	Depending upon channel utilization, measured at 1 kHz
DC offset	<±5 mV			
Output impedance	44 mΩ			
Damping factor	180		8Ω	Measured 20 Hz to 1 kHz
CAT1416 Specifications (DMA16302 and DMA24302)	Input Voltage (Balanced input)		Input Impedance	
	Nominal: 0.975 Vrms (+2 dBu) Clip: 9.75 Vrms (+22 dBu)		10K Ω	



DOLBY MULTICHANNEL AMPLIFIER

DMA32300 and DMA24300 AUDIO SPECIFICATIONS

Parameter	Typical Performance Specification			Measurement Notes
	Unbridged	Bridged		
Power output rating	300 watts	600 watts	8Ω	Dolby power amplifier rating specifications: 1: Burst 1 kHz for 20 ms, 10 kHz for 10 ms, half channels driven 2: Short term 20 Hz, 1 kHz, and 20 kHz at -1 dB for five seconds, quarter channels driven 3: Long term 1/8 power pink noise for one hour, all channels driven
	300 watts	NA	4Ω	
THD+N (1 kHz)	0.004% to 0.009%		8Ω	1 dB below rated power, AES-17 20 kHz lowpass filter, two adjacent channels driven
	0.009% to 0.02%		4Ω	
THD+N (20Hz to 20 kHz)	0.05%		8Ω	
	0.2%		4Ω	
Frequency response	20 Hz to 20 kHz, +0.4/-0.2 dB		8Ω	
Intermodulation distortion ratio (SMPTE 4:1)	0.05%			1 dB below rated power, SMPTE 4:1 60 Hz and 7 kHz, AES17 20 kHz lowpass filter
Signal-to-noise ratio	109 dB			A-weighted, AES17 20 kHz lowpass filter
Channel separation (crosstalk)	70 to 90 dB		8Ω	Depending upon channel utilization, measured at 1 kHz
DC offset	<±5 mV			
Output impedance	44 mΩ			
Damping factor	180		8Ω	Measured 20 Hz to 1 kHz

Note: These specifications provide typical values and do not represent absolute limits.

Specifications are subject to change without notice.

PATENTS

This product may be protected by patents and pending patent applications in the United States and elsewhere. For more information, including a specific list of patents protecting this product, please visit <http://www.dolby.com/patents>.

PRODUCT MODEL

This documentation applies to Model CID1001.

