

DDC1055

Digmoda™ DDC1055 Three-Channel Plate Amplifier with Integral D-Pro™ DSP

In today's cost-conscious marketplace, powered loudspeaker systems are often the first choice for production studios, sound-reinforcement operators and high-end consumers. Loudspeaker manufacturers have several available options. Source a conventional amplifier and hope that it provides the flexibility you need. Or maybe design your own amplifier modules. Alternately, why not take advantage of an all-digital solution from Digmoda™ – in other words, a Digmoda™ Class-D Plate amplifier with integral DSP section - and one that provides affordable simple-to-fabricate designs. Existing loudspeaker systems also can benefit from Digmoda's D-Pro™ DSP to fine-tune the system's frequency response and/or add specific characteristics for a target marketplace or end user. There is, quite literally, unlimited potential for improvement.

Digmoda™ Digital Plate amplifier offers original equipment manufacturers a unique, easily implemented solution. Our Class-D Plate Amplifiers with user-programmable D-Pro™ Digital Audio Processor can turn any studio monitor or sound-reinforcement loudspeaker into a better sounding, self-contained, active system that extends your market opportunities.

The DDC1055 Three-Channel Plate Amplifier is the ideal for fabricating traditional bi-amped loudspeaker systems. The unit features one 1000W channel and two 500W channels. The 1000W channel powers a LF driver, and the two 500W channels each power the MF and HF drivers. Programmable DSP lets you tailor the output of each of these channels to match the precise requirements of the chosen loudspeaker components, including crossover frequencies, overall equalization, component-overload protection, level trims and time-alignment delays.

The built-in D-Pro™ Digital Audio Processing System consists of two components: a Windows® XP-compatible D-Pro™ Software Application which, via an easy-to-use Graphical User interface, lets users adjust each system parameter; and a Digital Audio Processor (DAP) Module included within each plate amplifier utilizes up to 16 Bi-quad filter locations per channel to provide the ultra-precision 24-bit/96 kHz DSP functions to implement the system settings developed by the D-Pro™ Software. During development you simply connect a PC or laptop PC to the plate amplifier via a USB port, and load the relevant crossover, EQ, overload protection and delay settings into the amplifier's non-volatile flash memory. [It couldn't be easier.](#)

- **Reduced Time to Market ...**

New and updated products can be designed and put into production in a fraction of the time required with conventional amplifier designs and analog components.

- **No Tolerance Stack ...**

All-digital D-Pro® circuits are user selectable and produce results accurate to a fraction of a dB at any crossover frequency, bandwidth and level adjustment. Ultra-accurate results are just a keystroke away.

- **More Granular System Performance ...**

Because they are generated with all-digital precision, D-Pro® crossovers, dynamics and EQ circuits are surgically accurate, which translates to tight, predictable response across the entire frequency range.

- **One SKU Fits All ...**

Any Digmoda® Plate Amplifier can be used with a number of different loudspeaker models, with configuration-specific D-Pro® system settings to suit different drivers and cabinet designs.

Consider the many practical and financial advantages of the Digmoda Plate Amplifiers:

- ☒ Speed up system development and evaluation.
- ☒ Eliminate component errors via all-digital circuitry.
- ☒ Add enhanced systems performance.
- ☒ Dramatically reduce inventory.
- ☒ Utilize side-chain processing.

The Digmoda™ DDC1055 Three-Channel self-contained plate amplifier is designed to mount into a rear-panel cutout on the loudspeaker cabinet. The plate amplifier is secured to the enclosure via screws that go through the amplifier's panel and mount into the enclosure, a supplied rubber gasket ensures an air-tight fit. Only 3.6 inches of depth is required within the speaker cabinet, making it suitable for even slim-line designs.

For ultra-precision audio quality, we use only Class-D Power Amplifiers with analog feedback. To ensure audiophile-quality, Digmoda™ Class-D circuits utilize a proprietary topology that converts low-level analog signal into a high-power pulse-width modulated (PWM) output. All our models are more than 80% efficient, thanks to a highly-evolved Class-D design and power supplies. They produce very little heat – a useful feature for plate amplifiers.

Digmoda

The Digmoda® Professional Power Amplifier Systems with integral D-Pro™ DSP filters, crossovers and delay, enable loudspeaker engineers to quickly create and voice self-powered loudspeaker systems. The combination of powerful easy-to-use D-Pro™ calibration software, coupled with fully configurable onboard signal processing, significantly reduces product development time. Allowing an engineer to quickly adjust frequency-response, time, phase and power anomalies in real time. Once completed, configuration settings are quickly flashed into the DSP's non-volatile memory, you're ready to listen to or measure for final adjustment. A complete line of Digmoda™ Plate Amplifiers is available in a variety of power levels; one, two or three-channel models.

Key Digmoda Series

"Top Five" Benefits:

1. One-stop, all-digital Power Amplifier and Signal Processing solution.
2. Integral DSP functions for digital crossovers, system equalization and driver protection.
3. Interactive Windows® D-Pro™ Software Application for real-time system adjustment.
4. High-efficiency switching power supply for high-power density and small form factor.
5. Global feedback for high damping factors, producing ultra-precise control of transducers.

Input/Output Connection

- Single six-way Molex connector on rear of amplifier chassis connects individual loudspeaker drivers.
- Line-level Audio-In via industry-standard XLR connectors on front of chassis (pin #2 Hot).
- Front-panel Signal-Overload Indicator and Power-on LEDs.
- Input sensitivity: Average 1.28V RMS variance
- Input impedance: 36 k Ω , balanced; 18 k Ω , unbalanced
- DAP Communications Port via bi-directional USB connector for DSP adjustments.
- Power In/Out via industry-standard PowerCon® lockable connectors; available as 115V or 230V.
- RoSH compliant

Digmoda™ Amplifier channel configurations

Model:	1000W*	500W*	250W*	DSP	Dim.
DDC520		1	1	Mono	A
DDC550		2		Mono	A
DDC552		2	1	Mono	A
DDC1000	1			Mono	B
DDC1000SW	1			Stereo	C
DDC1050	1	1		Mono	B
DDC1055	1	2		Mono	B
DDC1055SW	1	2		Stereo	C
DDC1100	2**			Mono	B
DDC1150	2**	1		Mono	B

* Based on 4-ohm load (1% THD+N (P_o) (AES17 filter))

** Second 1000W channel band-limited to 3kHz.

A = 18.6 x 7 x 2.8 (in.), 47.2 x 17.8 x 7.1 (cm.)

B = 21 x 7 x 3.6 (in.), 53.4 x 17.8 x 9.1 (cm.)

C = 14.5 x 14.5 x 3.3 (in.), 36.8 x 36.8 x 8.4 (cm.)

Corner Radius for all models = 0.39 (in), 10 (mm)

Mounting Flange width all models = 0.6 (in)

Typical electrical performance:

THD+N in 4 (AES17 filter)	f = 1 kHz, P _o = 1W	0.019 %
Nominal Voltage Gain (A _v)	f = 1 kHz	29.98
Frequency Response (P _o = 1W)	f = 2 Hz - 20 kHz	±0.5
Signal to Noise Ratio 4	0db=1% THD, 1 kHz	-110
Damping Factor (DC _{clip})	f = 100 kHz, R _L = 8	2000
Power Draw at Idle P _{idle}	(115VAC/60 Hz)	19.33

Weight ea./Pkg. Wt. ea.	Model
13.2 / 16.5 LBS (6 / 7.5 kg)	DDC1150, DDC1055, DDC1055SW
12.5 / 15.8 LBS (5.7 / 7.2 kg)	DDC1050
11.8 / 15 LBS (5.4 / 6.8 kg)	DDC552
12.7 / 14 LBS (5.8 / 6.4 kg)	DDC1000SW, DDC1000
9.7 / 13 LBS (4.4 / 5.9 kg)	DDC520, DDC550