

D Series Networkable DSP MultiLoop™ Drivers

The D Series represents the global benchmark for digital audio induction loop systems. The compact, elegant and sturdy units not only feature digital signal processing and networking functionality, but are also the most versatile and powerful solution available.

The D Series range consists of 10 and 14 Amp dual output class 'D' drivers; meaning a 60%+ increase in energy efficiency over existing solutions. Both drivers feature capacitive touch front panels with intuitive menus, built in test signals, and are fully networkable with a Wi-Fi accessible standard browser based control panel for remote set-up, monitoring and email alerts.

The D10-2 features 10 Amps per loop output plus ample voltage headroom, making it the most flexible solution on the market, suitable for a huge range of applications. The added power of the D14-2 provides a solution for installations in environments containing very high levels of metal, previously not possible without the use of combiners.

In another first for high-power Class D Induction Loop drivers, installation can be performed with total confidence, as unique multi-stage filtering ensures compatibility with both other system equipment and global EMC regulations. The D Series also boasts Dual slope Metal Loss Control that caters for a wide range of metal loss frequency characteristics.



Features

- **Drives 2 output channels at 10 or 14A_{RMS} each, featuring accurate and stable 90° phase shift**
- **Networkable with remote browser interface**
- **Digital display & intuitive 'touch' menu system - 3 modes; Main, Status & Quick**
- **Highly energy efficient Class-D amplifier with low heat dissipation**
- **Up to 2 x 1,300m² Perimeter Loops area coverage**
- **Up to 3,300m² MultiLoop™ Low Loss area coverage**
- **Compact 1U rack mount unit with internal transformer for simple rack installation**
- **Optimised for speech frequencies with unmatched intelligibility & capable of high quality musical reproduction**
- **AGC & Dual Slope MLC**
- **Active status monitoring & remote fault reporting via email**
- **Data compliant with: IEC 62489-1 Standard**

Applications include

- **Lecture Theatres & Conference facilities**
- **Stadia, Sports Halls, Cinemas & Theatres**
- **Courts Rooms, Airports & Railway Stations**

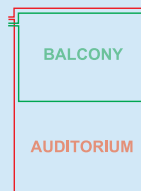
MultiLoop™ System Design Configurations

MultiLoop Drivers can be used for different types of loop layout. You will need a MultiLoop system design for the loop layout which you can obtain from Ampetronic, or have your own design approved by Ampetronic free of charge.

Perimeter MultiLoops

Two channels drive single area loops either side by side or overlaid.

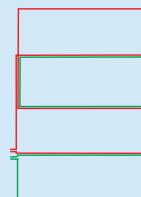
Suitable for applications where there is no metal in the buildings construction, or in areas of moderate metal up to a maximum loop width of 5 meters.



Simple MultiLoops

Parallel loop segments with adjacent cables for ease of installation. Does not give the even coverage of loss control or low spill loops, with dips in level between loops.

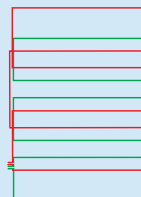
Suitable for fixed seating areas, or where dips in field strength are acceptable.



Loss Control MultiLoops

Multiple loop segments in two patterns each driven by one output channel.

Best for optimum even area coverage across any area. Suitable for large areas and buildings with metal construction.



Low Spill MultiLoops

Similar in design to Low Loss MultiLoop but with a more complex pattern that requires more cable.

Suitable for applications where loops are close together or where confidentiality is an issue. Low Spill MultiLoops require careful and precise design.



D Series Product Information & Specifications

INPUTS	
Power	160/80W 230V AC nominal, 45-65Hz [120V option available] Power switch on front panel
Input 1 & 2 Programmable Microphone / Line	XLR balanced input with programmable switchable between microphone and line via panel menu Microphone specification; 200 - 600Ω, sensitivity -64dBu. Selectable 12V phantom power on microphone only Line sensitivity; -39dBu
Slave In	6.35mm jack socket for linking more than one amplifier. Inserting plug disables other inputs
OUTPUTS	
Loop Output Drive Voltage	33.9V _{rms} (45V _{pk}) at maximum output current per channel
Loop Output Drive Current	D10-2 <ul style="list-style-type: none"> 10A_{rms} (14.1A_{pk}) up to 60 seconds continuous 1kHz sine wave, peak >14.1A per channel Cont. pink noise 4.7A_{rms} short term peaks >14.1A per ch. D14-2 <ul style="list-style-type: none"> 14A_{rms} (19.8A_{pk}) up to 60 seconds continuous 1kHz sine wave, peak >19.8A per channel Cont. pink noise 6.6A_{rms} short term peaks >20A per ch. Level controlled via front panel menu or network Drive current indicated on two 4-LED displays in 6dB increments
Slave Out	6.35mm jack socket to connect to other slave amplifiers
Loop Connectors	Neutrik NL4 Speakons (supplied) for each output
Loop Monitor	Provides access to monitor actual loop current via a 3.5mm stereo headphone connector on front panel Channel A on left, channel B on right
DC Output	Resettable, fuse protected 12V 0.1A. Operation can be configured via menu.

AUDIO SYSTEM	
Frequency Response	80Hz to 6.5kHz
Distortion	THD+N <0.2% 1kHz sine at full current
Automatic Gain Control	The AGC is optimised for speech. Dynamic range >36dB
Metal Loss Correction	Corrects system frequency response due to metal structures in a building. Gain constant at 1kHz, adjustable gain slope from 0 to 4dB per octave in 0.25dB increments. Custom 2 slope MLC allows different slopes and transition frequency to be set via the menu. This does not compensate for signal loss from metal structures which can be significant.
Phase Shift	User selectable at 0° or 90° between outputs

ADDITIONAL FUNCTIONS	
Fault Monitoring	Indicators on the front panel; <ul style="list-style-type: none"> Clipping – delivering over the rated voltage (per channel) Error - Check status in menu Temperature and loop errors reported via the status menu
Cooling	Variable speed fan cooled. Front inlet, rear exhaust.

PHYSICAL	
Size	Full width 1U 19" rack mount. Width 430mm Depth 290mm Height 44mm
Mounting Options	<ul style="list-style-type: none"> Freestanding 1U 19" rack mount (brackets included)
Weight	D10-2: 5.5kg D14-2: 6.9kg,
Environment	IP20 rated; 20 to 90% relative humidity; 0 to 35°C

Standards compliance

This product is designed to form part of a system that can meet all of the requirements of the international loop performance standard IEC60118-4, and the relevant parts of BS7594. To fully meet requirements of these standards, correct design, installation, commissioning and maintenance are required.

All specification data has been compiled in accordance with IEC62489-1, the international standard for audio frequency induction loop equipment. Specification data should only be compared with data compliant to this standard.

This product is CE and RCM marked to all relevant safety and EMC standards, and is NRTL (ETL) approved for sale in North America.



Typical D-Series Max Area Coverage Scenarios

Scenario	System Design Coverage (m ²)					
	1:1 Perimeter	3:1 Perimeter	Simple MultiLoop	Loss Control	Low Spill	
D14-2	No Metal Loss (0dB)*	2 x 1,300	2 x 1,450	1,600	3,300#	1,225
	Moderate Metal Loss (-5dB)**	Max 5m width	Max 5m width	925	925	700
	High Metal Loss (-10dB)***	Max 5m width	Max 5m width	425	400	340
	Severe Metal Loss (-15dB)****	n/a	n/a	225	180	120
D10-2	No Metal Loss (0dB)*	2 x 1,000	2 x 1,450	1,600	3,300	1,225
	Moderate Metal Loss (-5dB)**	Max 5m width	Max 5m width	925	925	700
	High Metal Loss (-10dB)***	Max 5m width	Max 5m width	425	350	270
	Severe Metal Loss (-15dB)****	n/a	n/a	n/a	n/a	n/a

Typical scenarios are based on *a building with no structural metal, **a building with reinforced concrete (re-bar) construction and ***a room with steel raised access floor tiles, ****a room with steel decking or reinforced concrete and raised access floor tiles. #Special large-area system, no metal loss outdoor areas



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