



DIGITAL LINE ARRAY | DAC500

VERTICAL ACTIVE DSP ARRAY SYSTEM 24 LOUDSPEAKERS HIGH

DAC500 has 24 loudspeakers (3045mm total length) and offers up to 94dB at 40m.

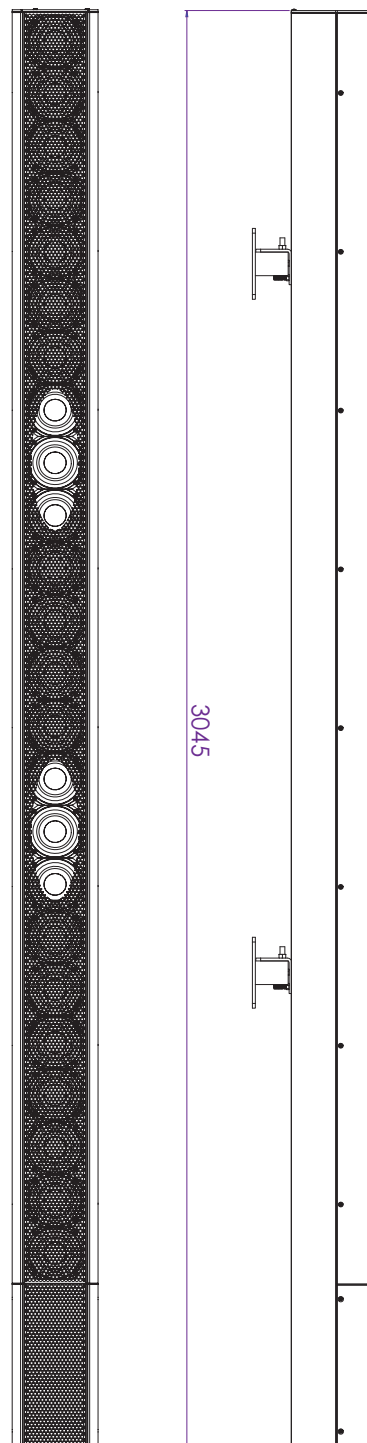
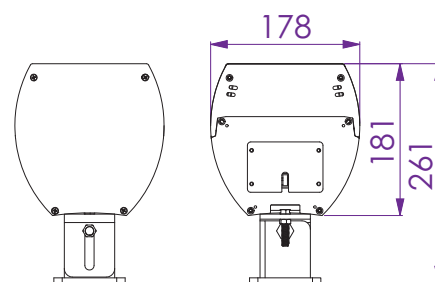
DAC500 is a steerable line-array system specially designed for high quality speech and background music applications in reverberant acoustic environments where it is difficult to meet contractual speech intelligibility requirements. Each array is equipped with remote control facilities and a dual-mode redundant power supply. The system can be operated using a 24V battery backup and has fault contacts and line surveillance to comply with EN 54-4. An RS485 data bus is provided for status reporting and PC-based remote setup (up to 32 DAC Series Line Arrays on the bus). Ethernet connectivity for remote access via WAN is also included.

Each DAC500 array has a very tightly controlled beam which can be shaped as required for specific applications or environments requiring symmetrical or asymmetrical, single, dual or triple lobe designs. To meet future standards, DAC500 has been equipped with networking facilities. The input section has been designed to broadcast standards and now has two fully controllable audio inputs and outputs with override functions and hardware bypass function. The output to the slave unit carries either the pre-processed mixed signal of the input mix for easier room control.

Integrated DSP control features 7-band parametric EQ, noise gate, delay rooms, peak limiter, VOX-control and contact control on the audio inputs and level raising microphone for ambient noise sensing. The adaptable acoustic centre allows the acoustic centre to be freely moved up and down the array to match lobe shape within the listening area. Lobe switching provides quick coverage change by applying a contact. This offers the possibility to integrate or exclude a certain section of the audience area by simply adding a second lobe.

BRIEF SPECIFICATION:

- 24 loudspeakers
- Max SPL: 94dB at 40m
- Frequency Range: 100Hz – 18kHz
- Dual audio input: Music 0dB; Alarm 0dB with contact
- DSP module: ADSP21369-400 2.4 G flops 400 tabs/filter/ch, 24-channels
- Speaker element: 24 x 4.25" dual cone with inverted surround in weatherproofed aluminium enclosure
- Flexible Mounting Height: 1.5m - 4m
- Mains Power Supply: 230V AC
- Emergency Power Supply: 18 – 27V DC
- Dimensions (HxWxD): 3045 x 178 x 181mm (261mm including mounting bracket).
- Weight: 55kg



Penton UK Ltd

Unit 2 Teville Industrials | Dominion Way | Worthing | West Sussex | BN14 8NW
T: +44 (0)1903 215315 | F: +44(0)1903 215415 | E: SALES@PENTONUK.CO.UK

| PARAMETERS | SPECIFICATIONS | DETAILS |
|--------------------------------|---|--|
| ACOUSTICAL | | |
| Freq. Range | 90 – 18000 Hz | |
| Max SPL | 93 (±1) Continuous dB | Pink noise C-weighted @ 40m |
| Coverage | Vertical 5° – 45° Horizontal 145° | Steps: 5, 7, 10, 15, 20, 25, 30, 35, 40 & 45 From Symmetrical to Asymmetrical in 10 steps |
| Lobe shaping | Centred on driver No: 1, 4, 6, 9, 13, 16, 19, 21 & 24 | Selectable with a resolution of 1° |
| Lobe steering | -25° to 0° to +25° | runs Sym. AND Asym. lobes AND any combination |
| Triple lobe software | Yes | |
| S/N ratio | > 110 dB | A-weighted with input shorted |
| AUDIO INPUT 1 | | |
| Sensitivity | 775 mV | 103 dB SPL / 5 – 40m. |
| Gain stage | -20 to +20 dBu | Software controlled in 0.5 dB steps |
| Type | 600 Ohm | Transformer Balanced |
| Gain | 0 dBu | Peak limiting software at -0.1 dB |
| Connector | 3-pin | Phoenix type |
| AUDIO INPUT 2 | | |
| Sensitivity | 775 mV | 103 dB SPL / 5 – 40m. |
| Gain stage | -20 to +20 dBu | Software controlled in 0.5 dB steps |
| Type | 600 Ohm | Transformer Balanced |
| Gain | 0 dBu | Peak limiting software at -0.1 dB |
| Connector | 3-pin | Phoenix type |
| AUDIO OUTPUT | | |
| Gain | 775 mV | Slave audio output |
| Gain stage | -20 to +20 dBu | Software controlled in 0.5 dB steps |
| Type | 600 Ohm | Transformer Balanced |
| Connector | 3-pin | Phoenix type |
| COMMUNICATION | | |
| Data control | RS485 CAT 5 RS232 Sub-D | Phoenix type connector 4-pin IN and slave-OUT On main connection board |
| Ethernet link | CAT 5 RJ45 | |
| Address setup | 1 – 32 | Individual address |
| POWER SUPPLY MAIN INPUT | | |
| Power requirement | 240 / 115 VAC | +5% / -10% |
| Power consumption | 343 Watt | Full load at 0 dBu Pink Noise |
| Fuse rating | 6 Amp | Slow |
| Mains plug | IEC 3-pin 90 degrees | Connector located behind service panel with integrated fuse holder |
| POWER SUPPLY DC-INPUT | | |
| Power requirements | 16 – 27 VDC | Battery back-up supply for Voice Evac applications |
| Max. Power consumption | 13.06 Amp | Full load at 0 dBu Pink Noise |
| Quiescent power consumption | 0.45 Amp | With AUTO-MUTE set on ENABLE |
| DC-Plug | Automotive type | Connector located behind service panel with separate Fuse holder |
| GENERAL | | |
| Temperature range | -10 ~ 50°C | |
| Tranducer type | 4.25" | Fibre, weatherproof, wide range |
| Qty of Tranducers | 24 Pieces | |
| Weight | 55kg 62kg | Net weight Shipment weight incl, wall brackets |
| Size | 3045mm w 177mm d 181mm | Depth with brackets: 261 |
| Color | 9016 RAL | Other colours available on request |
| Wall brackets | 1 Set supplied with each unit | White, RAL 9016 |
| External controller – Size | 1/2 – 1U –19" rack frame | |



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| PARAMETERS | SPECIFICATIONS | DETAILS |
|---------------------------------|--|---|
| DSP MODULE | | |
| Type | 32-bit F.P / 1330 Mflops | ADI Shark 21369 |
| Quantity | 1 Pcs | PCB |
| Memory | 2 Mb SrAM | external memory |
| Output filter | 24 Channels | 400 tabs |
| AUDIO PROCESSING | | |
| AD-Convertors | 24 Bits | Delta-sigma 64 x oversampling |
| Internal Processing | 32 Bits | Floating point |
| Sampling frequency | 48 KHz | |
| POST PROCESSING | | |
| Pre-delay | 1000 mS | @32-bit, Signal alignment – Q 0,4 to Q10, Gain |
| Equalising | 7 band parametric | from –20 to +20 dB with 5 predefined filter settings. Software package: MControl |
| Input sensitivity setting | –20 to +20 dBu | Software package: MControl |
| Line out gain | –20 to + 20 dBu | Software package: MControl |
| Messenger volume gain | –40 to +10 dBu | Software package: MControl |
| Noise gate | Level adjustable: – 20 to –100 dBu Hold time: 100 – 2000 mS Soft fade: 100 – 2000 mS | Software package: MControl |
| Peak limiter | Level adjustable: 0 to –20 release time: 200 to 5000 mS | Software package: MControl |
| Mute | On / Off | |
| Signal indicators | Clipping detect, Limiter activated, Noise gate activated | Software package: MControl |
| POWER AMPLIFIER | | |
| Type | Class D | RMS |
| Power rating | 24 x 30 Watt | Measured at 4 Ohm |
| Amplifier quantity | 4 x 6 pcs | 6 channels per Amplifier board |
| Protection | Circuit protection activated at 125° C | Circuit protection |
| Communication | I ² S | LVDS |
| VE-PROPERTIES | | |
| Backup battery supply | 24 VDC | Cut-off off status is enabled @16 VDC or below |
| Input signal detection | 18 – 20 KHz | Line detection on input 1 and/or 2 HF-carrier surveillance on all speakers |
| Internal surveillance | 400 KHz | |
| CONTACT INTERFACE OUTPUT | | |
| Line array error | Normally activated potential free switching contact, 1 Amp | Speaker has gone into fault Service required |
| Pre-warning | Normally activated potential free switching contact, 1 Amp | |
| CONTACT INTERFACE INPUT | | |
| Selection Lobe 1 or 2 | Opto-isolated contact | Needs an external floating contact |
| Select input 1 or 2 | Opto-isolated contact | Needs an external floating contact |



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