

# DVA Digital Vertical Array

## DVA. Digital Vertical Array.

Since the 90's the Line-Array technology has changed sound reinforcement drastically. The vertical arrangement of speakers in an enclosure offers a high influence to soundspreading and reduces in comparison to ordinary soundsystems the loss of signal in relation to distance combined with a slim structure and broad sound distribution.

DVA makes this technology, which up to recently was only provided in high profile projects and installations, available for a broad range of budget orientated applications. All relevant criteria like weight, acoustic handling including purchase price and additional costs in form of transport and flying accessories have been well considered.

Despite above mentioned features, the DVA is not limited in terms of curving and maximum amount of possible Array-Elements, like products of competitors in recent history in this segment. Specially the individual curving, optimised to the demands of the event, enables the acoustic advantages and shows the flexibility of DVA.

dBTechnologies designed a Line Array which sets new standards in handling, flexibility and profitability by using most modern technology and materials, with a vast amount of knowledge and experience in building active loudspeaker systems

The DVA T4 Line-Array element has a sensational weight of only 13,2kg. The obvious advantage for handling and transport also makes flying possible where under normal circumstances the trussing is not strong enough to support also flying of the audio devices - an Array of 8 T4 Tops therefore weights less than 120 kg.



Think  
**vertical.**



## Premium components

Most competitors are forced to buy the heart of a loudspeaker system, the speakers itself, from an outside manufacturer. dBTechnologies produces its own components mostly specially designed for the appropriate project. The company follows therefore a long tradition to use components which are custom tailored from the start rather than using material which has to be costly acoustically bended. The result is an outstanding performance and the typically faithful and natural sound reproduction which dBTechnologies is known for.

Together with the renowned sister company RCF, custom tailored components have been developed, which are outstanding for this product segment. The finest materials like Neodymium and Mylar have been used to give this system an incredible performance with high SPL, low distortion and an even lower weight.



### **Constant Directivity.**

The DVA T4 Top is equipped with a constant directivity horn for the High and Mid section and offers a nominal coverage angle of  $100^{\circ} \times 15^{\circ}$ . The CD-Horn provides high flexibility and a good natured attitude if for instance the Array is not aligned correctly.

The DVA uses apart from the formation of cylindrical waves (very much depending on the number of T4 elements) the vector summing of the individual horns. This means that with growing distance to the source (if set up correctly) the listener perceives more and more vector sums of the single elements.

However it has to be considered, that the fewer elements are used to spread the sound to a specific area, the stronger must be the curving of them. That's how the effect of optimised SPL distribution is managed.



### **State-of-the-Art Drivers.**

The build in 1" Neodymium- Drivers are equipped with a 1.4" Mylar-Membrane which allow a very quick response and provide a linear frequency range at a surprisingly low weight. This driver was specially designed for the use with Line-Arrays. Its compact measurements allow very close proximity which is a main factor for minimum interference.



### **High Efficiency.**

The 6.5" Neodymium-Midrange speaker has a sealed basket to provide an optimized volume capacity including high sensitivity and superb sound reproduction. It also has a horn exit including phase plug for defined and linear sound emission.



### **Reliability.**

The 8" Neodymium-Woofer is equipped with a high power 2.5" voice coil to provide superior sound pressure level in a very compact size.

## Digital amping with analog sound.

A peculiarity are the digital amp modules of the T4. They are Class-T™ build technology which compared to ordinary digital amps have a much smoother reproduction of high frequencies. The result is an accurate and natural sound reproduction with almost no difference to an analog drive also in the high frequency range.



## Highest security

In addition to the integrated multiband compressor/limiter, the analog input stage of the T4 provides analog limiters per signal path for a maximum of signal and operational safety. The build in DSP monitors, besides the acoustic management, also the complete power amp section.

Any fault within the 3-Way amp circuitry can be detected and only the faulty channel will be muted to avoid unwanted noise. Also the temperature of the power amps is controlled by the DSP. In case pre-set temperature limits are reached the amp does not switch of. The inputs will be regulated down by 3,6 or 9dB depending how hot the amp gets. The system will stay operational in most cases.

## Incredible dynamics.

The digital amp of the DVA T4 offers DPP™ Digital Power Processing and a Multiband Compressor/Limiter with individual characteristics per signal path. It has got a wide range of dynamic reserves with headroom for the Mid/High section of up to 22dB. In addition to the wide dynamics this innovative circuitry makes sure that the signal stays acceptable even if the system is pushed to the limit.

All the above mentioned features stand for an extremely powerful loudspeaker system. Not only the audio performance but the low weight of only 13,2kg per DVA T4 Line-Array element is a big advantage of the modern concept and technology. It is easy to handle and allows quick setup even in difficult environments.

## Innovative amping.

The DVA T4 has an integrated active PFC-Switchmode supply. It is very lightweight and has an efficiency of almost 90%, which enables up to 8 DVA T4 to be driven safely on only one 230V/16A wire. The supply works on voltages from 85-260V, so it will accept all different mains worldwide, even under the worse conditions.



| DVA T4 PRESET EQUALIZATION |          |             |          |
|----------------------------|----------|-------------|----------|
| NO. OF EQ BLOCKS           | SHAPE    | ANGLE       | EQZ. SET |
| 1                          | STRAIGHT | 90° to 2.0° | 0        |
|                            | CURVED   | 90° to 15°  | 1        |
| 2                          | STRAIGHT | 90° to 2.0° | 2        |
|                            | CURVED   | 90° to 15°  | 3        |
| 3                          | STRAIGHT | 90° to 2.0° | 4        |
|                            | CURVED   | 90° to 15°  | 5        |
| 4                          | STRAIGHT | 90° to 2.0° | 6        |
|                            | CURVED   | 90° to 15°  | 7        |
| 5                          | STRAIGHT | 90° to 2.0° | 8        |
|                            | CURVED   | 90° to 15°  | 9        |

SERVICE USE ONLY

## Easy setup.

Different sound setups for ideal audio results within the Array are build into the DVA T4. To compensate the HF absorption of the air, the setups are mainly adjusting the high frequencies to Near/Mid or Farfield.

## Latest technology.

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### **Ultra lightweight.**

The DVA T4 comes with precisely engineered flying hardware. The hardware in combination with the extremely low weight of a T4 top allows easy and fast setup of the whole system. The curving can be adjusted in steps of 2.5° within a range of 0° and 15°.

For an optimum of performance the system should be principally flown. The DRK-10 flying frame holds up to 16 T4. For professional handling the frame is well balanced and the angle of inclination can be corrected with the upper rear flying rails.

### **Groundstacking.**

In case there are no possibilities to fly the system or the ceiling of the venue is not high enough, the DRK-10 can be used for groundstacking too. A special bracket provides an inclination up to 7.5°.

The DRK-10 fits exactly onto the surface of an upright positioned DVA S20 subwoofer and can be mounted by two M10 threads on top of the sub.



## Transport.

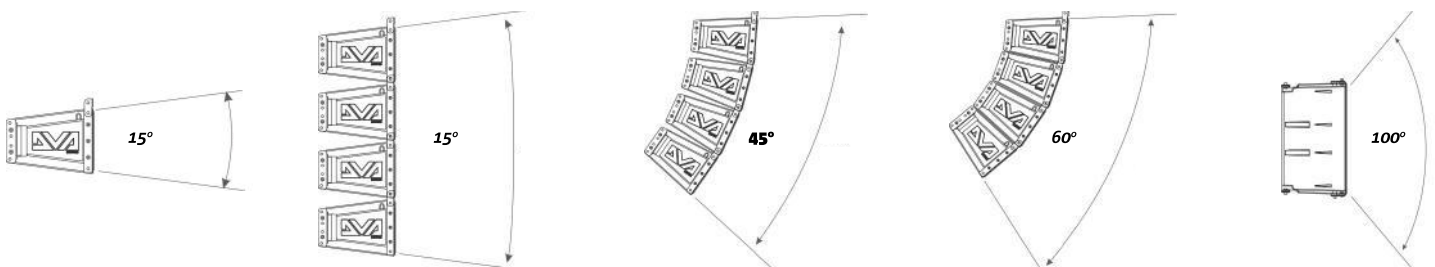
For an easy transport of 3-4 DVA T4 elements, the DTF-4 dolly is optionally available. In this case, the Array is directly fixed by the flypins onto the dolly. A separate fixture for the flybar is integrated. The DWK-4 is fitted with four Bluewheels and can be equipped either with a protection cover or, after dismantling the wheels, mounted onto the bottom of a flight case.

This frame can also be used for groundstacking for 1 to 4 DVA modules, for example for upward sound distribution to the stand of a football stadium or as a nearfill at front stage.



## Rigging-Tower.

For Arrays of a maximum of 8DVA T4 tops, dBTechnologies offers with the DRL-45 an optional, compact and cost effective rigging tower. The tower takes up to 300kg and offers a maximum height of 4.50m. A flight case for the DRL-45 is included.



# DVA T4

## Technical Specifications

### System Specifications

|                    |                |   |
|--------------------|----------------|---|
| Speaker Type       |                | 3-Way Active Line Array module  |
| Max SPL            |                | 128 dB  |
| Frequency Response | [+/-3 dB]      | 80 Hz - 19,000 Hz   |
| Dispersion pattern | [H x V]        | 100° x 15°, single unit   |
| Drivers            | LF<br>MF<br>HF | 1 x 8" Neodymium woofer - 2.5" v.c.<br>1 x 6.5" Neodymium midrange - 1.5" v.c.<br>2 x 1" Neodymium compression driver - 1.4" v.c. |
| Inputs             |                | 1 x XLR (Audio Input)   |
| Input Sensitivity  | Nominal        | 0 dBu   |
| Controls           |                | 1 x Input Sensitivity rotary switch<br>1 x DSP setup rotary switch (10 presets)   |
| Outputs            |                | 1x XLR (Audio Link Out)   |

### Amplifier

|                      |  |   |
|----------------------|--|---|
| Amplifier technology |  | Digipro®  |
| Amp Class            |  | Class-D   |
| RMS Power            |  | 420 W (HF Amp 100W, MF Amp 100W, LF Amp 220W)   |
| Power supply         |  | 420 W SMPS with PFC                             |
| Cooling              |  | Convection, fan-free                            |
| Power Connections    |  | Powercon® input (blue)<br>Powercon® Link (grey) |

### Processor

|                    |       |  |
|--------------------|-------|--|
| Controller         |       | Analog Devices                                   |
| AD/DA converter    |       | 24 bit/48 kHz                                    |
| System Presets     |       | 8, HF/Low-mid correction                         |
| Limiter            |       | Dual Active Limiter Multiband RMS, Peak, Thermal |
| X-over frequencies | MF-HF | 1800 Hz  |
| LF-Xover out slope | MF-HF | 24 dB/Octave                                     |
| X-over frequencies | LF-MF | 400 Hz   |
| LF-Xover out slope | LF-MF | 24 dB/Octave                                     |

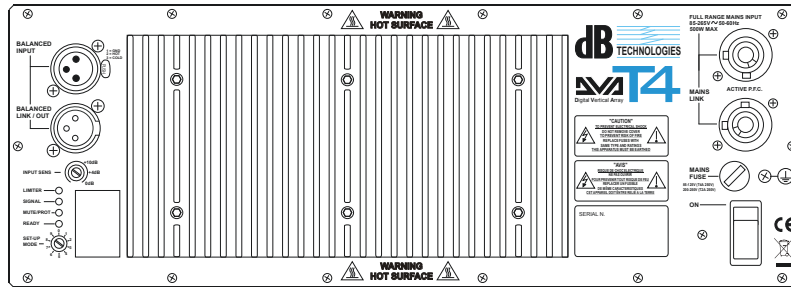
### Mechanics

|                        |                       |  |
|------------------------|-----------------------|--|
| Enclosure              | Box<br>Housing Design | Polypropylene PP reinforced<br>Trapezoidal 15° |
| Rigging Points         |                       | Integrated rigging hardware                    |
| Dimensions (W x H x D) |                       | 580 x 240 x 327 mm<br>(23.2 x 9.6 x 13.08 in)  |
| Weight                 |                       | 13.8 kg (30.42 lbs.)                           |

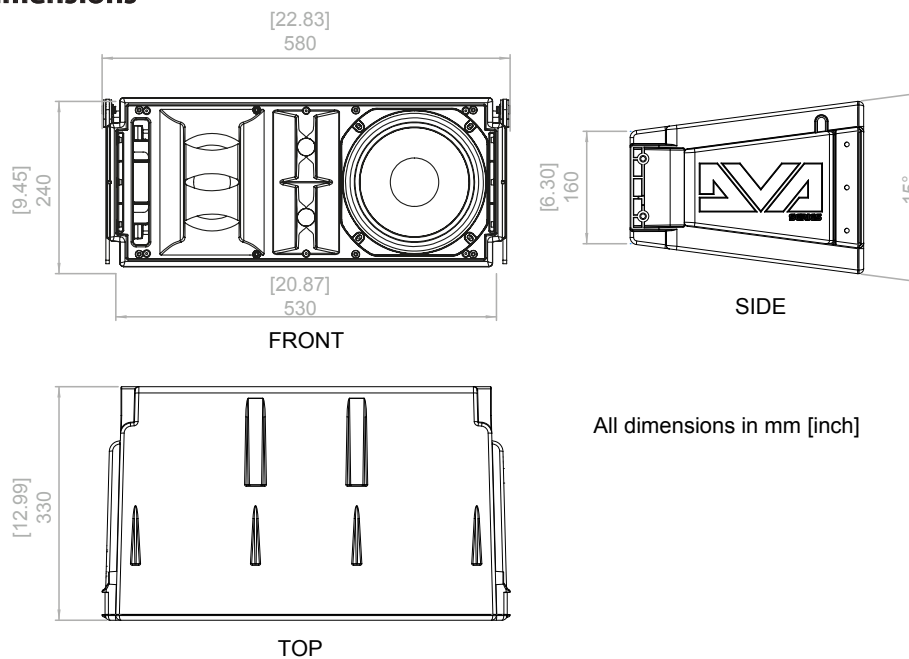
# DVA T4

## Technical Specifications

### Rear Panel



### Overall Dimensions



All dimensions in mm [inch]

### Accessories

|         |   |
|---------|---|
| DAC 15  | Powercon-Powercon link cable. 1,5m length   |
| DCK 15  | Cable-set with 1xPowercon-Powercon Patch Cable 50cm, 1xXLR-XLR Patch Cable 50cm   |
| DCK 45  | Set with 1xPowercon/IEC Plug cable 10m, 3x Powercon slave 50cm, 3xXLR cable 50cm  |
| DF 4    | Fly case for DVA T4 and T8 modules  |
| DPC 15  | Powercon-Powercon power link cable (50cm)   |
| DRK-10  | Fly bar for DVA systems. Designed to hang up to a maximum weight of 250 Kg        |
| DRK-20  | Fly bar for DVA systems. Designed to hang up to a maximum weight of 1800 kg       |
| DRK-20M | Motoryzed fly bar for DVA systems with RDNet control. Maximum weight of 1000 kg   |
| DRP T4  | Rain cover for DVA T4   |
| DS 2    | Pole Mount 35mm, adjustable, M20 thread   |
| DSA 4   | Adapter for up to 3 DVA T4/T8 on a speaker stand/pole or floor use                |
| DT 6    | Metal trolley to carry up to 6 DVA T4/T8 modules or up to 4 DVA T12 modules       |
| DTF 4   | Bundle: DT 6 Metal-Trolley + Professional Flight case DF 4                        |
| DWB 3   | Metal frame for hanging up to 3 DVA T4/T8 modules in fixed installations on walls |

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dBTechnologies products are continually improved. All specifications are therefore subject to change without notice.