TWAUDIO®

Simply your sound.

B series »

B10 B15 B18 B30 BSX

M series »

M6 M8 M10 M12 M15

C series »

C5 C12 C15

T series »

T20 T24N

VERA10 series »

VERA10

VERA L24

VERA S15

VERA S18

VERA S30

VERA20 series »

VERA20

VERA S32

VERA36 series »

VERA36

VERA S33

AMPLIFICATION »

TOURACK-X

SYSRACK-X

TOURACK-L

SYSRACK-L

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History





Today, TW AUDiO solutions are used and trusted in dozens of countries, spread over six continents. But while the company was officially launched by Tobias Wüstner in 2004, the roots of TW AUDiO go far deeper, to a time when a teenage Tobias found himself stood behind a mixing console as his elder brothers performed on stage.

"The story of how TW AUDiO began is the story of how I discovered my own love of audio," explains Tobias. "I was a 16 year old who loved music and while my brothers played gigs, I was put behind the desk. It was a formative moment – I started to listen more consciously, I learned how to understand and feel the music."

In the years that followed, Tobias learned the craft of professional sound, working his way up through apprenticeships within the PA rental market.

"Sometimes my work allowed me the opportunity to test my ideas and make them a reality by building my own loudspeakers and amplifiers. And the experience of working with a huge variety of artists, driving FOH or monitors, was invaluable. It taught me what really matters in the world of touring."

As his knowledge and experience grew, Tobias enthusiastically pounced on the developing technology of the 1990s.

"In the mid-nineties, my world expanded with the introduction of digital system controllers, which greatly expanded the range of possibilities for controlling and optimising a sound system. Again, I had the chance to experiment with my own ideas, creating my own presets to alter the performance of speakers according to their surroundings. It was inspiring to use the technique with artists as varied as David Bowie, Phil Collins, Simply Red and the Backstreet Boys.

Vision

I also used the same concepts to perfect what would become a range of loudspeakers with my own name on them."

At last, in 2004, TW AUDiO was born. "I became we," says Tobias.

The vision of our company founder has always been clear. "The TW AUDiO philosophy reflects my own ideas of innovation in concept, exemplary levels of performance and truly robust design.

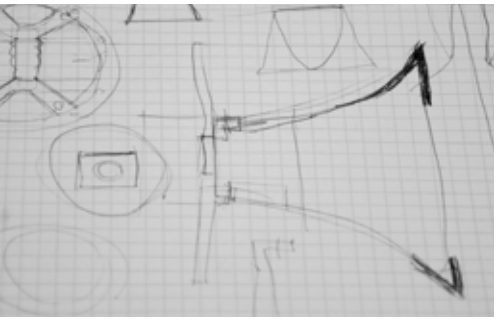
Our passion for extraordinary sound and technology is what drives us forward. The TW AUDiO team has many decades of experience in the rental, touring and installation business and all of that knowledge and passion is poured into every loudspeaker that we build."

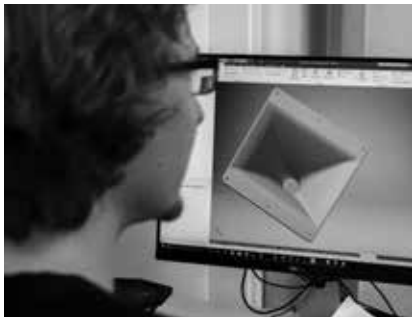
"Most importantly", he adds, "It's all focused on one key objective – maximum customer satisfaction.

Every TW AUDiO loudspeaker is proof of the quality of our work and the character of our brand. When I began TW AUDiO, I never imagined that our products would be trusted and appreciated by so many people in so many places. For the confidence placed in us, I thank every single TW AUDiO customer and friend."

Tobias Wüstner
Founder and developer

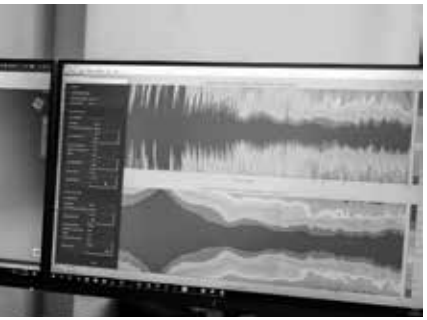
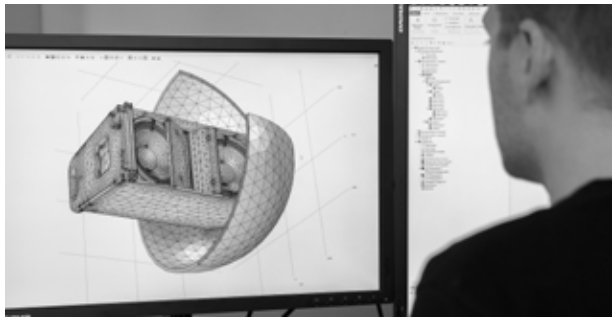
Research

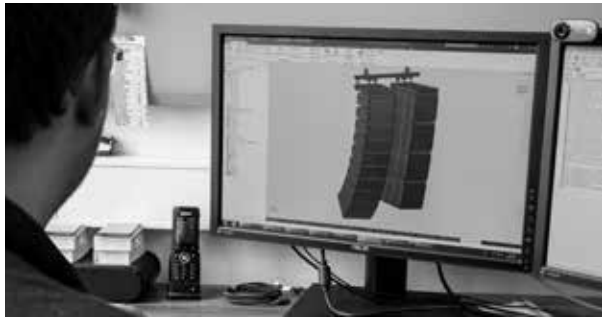




At TW AUDiO, every innovation begins with an idea, drawn not only from our own experience, but from the wisdom and inspiration of the global network of audio professionals who rely on TW AUDiO products each day. Ideas become successes when the user is engaged from the start.

A modern loudspeaker system must meet a growing list of technical demands: More power and market leading technology, all housed in lighter, more compact cabinets; flexible systems that effortlessly scale to meet your requirements, while offering ease of operation for even the most complex, remote-controlled solutions; hardware that is simple to operate yet robust enough to withstand the harshest of environments. Our users rely on TW AUDiO products every day and our mission is to heed these requirements and exceed them, ensuring that every TW AUDiO customer enjoys maximum return on investment.



Development

Above all, TW AUDiO believes in the right of every listener to experience the best possible sound. Our customers have come to rely upon TW AUDiO products to deliver consistent, transparent sound reinforcement across the entire audience in both live and install applications.

Our rigorous R&D procedures rely on exhaustive simulations and precise computer analysis to aid us in the design of our products. Throughout the process, each individual component undergoes exacting tests to guarantee suitability. These completed prototypes are fully evaluated prior to production to ensure they meet the design criteria. Before new products are launched, pilot systems are subjected to thorough, real-world beta testing in the field. No loudspeaker leaves the TW AUDiO factory without our absolute confidence that it will impress.

Every TW AUDiO product is the sum of all these crucial factors, ensuring the quality, value and longevity of our loudspeaker systems.

Production





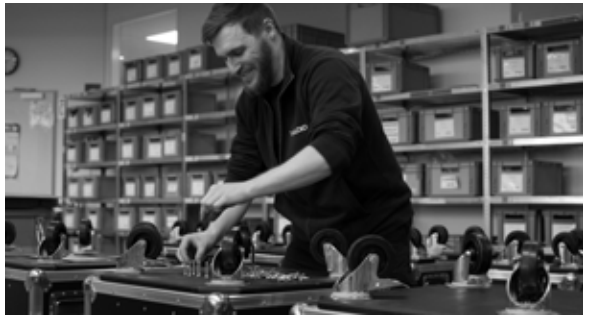
When you take delivery of your TW AUDiO loudspeaker, you can be sure that every component has already undergone rigorous testing and quality control. At every step of its creation, from the selection of parts to our expert assembly and uncompromising test procedures, your TW AUDiO solution has been evaluated to ensure it meets our exacting standards.

All loudspeaker construction within TW AUDiO's dedicated factory begins with complete 3D CAD designs, promoting efficiency from the outset. Using cutting edge manufacturing techniques, components are either produced in house by TW AUDiO's own team of experts or locally sourced from highly specialised and trusted suppliers.

The precision of our manufacturing process is evident in the quality of our metalwork, and the consistency of our woodwork. Our metalwork is produced on automated 3D laser and water jet machines, delivering hardware that simply works. Our cabinet manufacturing begins on 5 axis CNC milling machines before being finished by experienced hands. This results in the ultimate combination of a hardwearing, consistent enclosure that still retains a craftsman's touch.

Finally, each cabinet is finished with high quality, durable coating that ensures it will look as good as it sounds.






Assembly

All TW AUDiO horns and wave guides are manufactured to the same precise standards as our metal work and cabinets.

Our mould makers and injection casters are overseen by TW AUDiO's team of specialists using mould flow analysis to deliver the highest standards of quality and consistency.

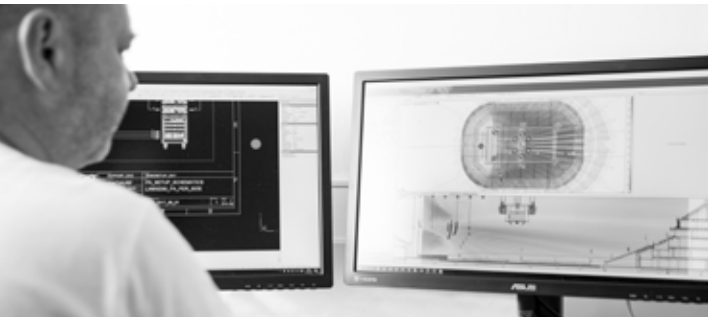
Each stage of your loudspeaker's construction is assigned to specialised production facilities, providing flexibility and redundancy from start to finish. Similarly, when your loudspeaker reaches final assembly in the TW AUDiO factory, our tailored cellular approach to these crucial stages means that we can customise systems according to individual customer requirements.

Every stage of the assembly process is documented for our records and your peace of mind. Before your loudspeaker is packaged for shipping, it undergoes a final, exhaustive quality check.

We believe in building the best, and when you receive your TW AUDiO system, you can be sure it meets that standard because it bears this seal:

TWAUDIO® Made in Germany

Support



TW AUDiO products ensure ease of use, but in an era when loudspeaker technology offers more possibilities than ever before, a little technical know-how can go a long way. With the renowned PA-SYS-ONE, we created a true plug-and-play stack, but for more challenging set-ups, TW AUDiO's dedicated support is on hand to give you all the assistance you need.

For many contemporary projects, whether installations or live events, you may find yourself employing a mix of line arrays, point source, subwoofers, infills and outfills, delays, and monitors in a fully networked, controllable multi-zone deployment.

No matter how complicated the project, you want to achieve the best results for your client and that's when we can offer our support. No matter where in the world you are or what you need to achieve, our team of specialists are available to help. From the first planning phase through to final commissioning, we are committed to working at your side to achieve an outcome that will leave your client delighted… leading to more referrals and more delighted clients.

Seminars

Great support begins with education, ensuring that you are equipped with the knowledge and experience to make the most of your TW AUDiO solution. We believe it is our job to help every audio professional to deepen their existing skills and acquire new ones, no matter whether you come to us as an organisation or as an individual. TW AUDiO is much more than a supplier – we are part of the community that uses our products, and we are proud to stand beside you from the beginning of your TW AUDiO experience to every new high in your career.

Our seminars are based on an expertly moderated curriculum that will leave attendees feeling empowered and inspired. Let us help you approach projects with greater confidence, sure in the knowledge that your expertise outstrips the problem at hand. Engineers are also welcome to visit TW AUDiO to participate in comprehensive single-day training, offering a valuable insight into our technology and the best use of our systems. They will experience first-hand how we live up to our company philosophy – to achieve excellence in every component and to create solutions that are more than the sum of their parts.

TW AUDiO seminars take place regularly, covering topics from line array deployment to the use of remote and measurement software. To find details of upcoming dates, simply sign up to the TW AUDiO newsletter or check the TW AUDiO website.

The product series

B

The foundation of the TW AUDiO sound.

C

High performance coaxial monitor loudspeakers.

M

A true multi-functional product delivering the TW AUDiO sound alone or as part of a system.

T

A high directivity point source alternative in an era of line array dominance.

VERA

Our vertical array systems are light, powerful and offer flexible setup.

B series

When it comes to TW AUDiO's B-series subwoofers, "**B**" stands for bass – specifically high-quality bass reproduction.

B-series subwoofers are the foundation of the TW AUDiO sound. Comprising five subwoofer models of varying size and performance for ground stacked operation, each is optimised to meet a specific challenge, helping you to create your ideal system configuration.

From extremely compact, single speaker bass extension for monitoring or use in small clubs, through to complex bass arrays for concert touring and open-air events, B-series subwoofers will deliver the performance and adaptability you need.

B series

B10

The sudden impact of rich, deep, precisely defined sound – this is how bass should be experienced. Don't be deceived by the compact size of the **B10** – the smallest TW AUDiO subwoofer still bears the power for which the B-series is known. Inside the enclosure is a specially developed long excursion cone driver with an uncompromising 3" dual voice coil, plus an optional passive crossover complete with switchable high-pass outputs, covering countless passive configurations all within the standard bi-amp mode. These include one single B10 in stereo mode together with two C5 tops; two B10 switched to mono, each with one M8; or four B10 together with two M10, all of which can be powered by one standard amplifier.

B15

Slightly larger than the B10, yet still compact, the **B15** is every bit as adaptable as its smaller sibling, especially when used with the optional PWB15 passive crossover. The 1 × 15" bass reflex system can be used simply as a passive bass extension or in switchable bi-amp mode in conjunction with TW AUDiO M- and C-series loudspeakers. The optional PWB15 passive crossover has a satellite output with a switchable high pass filter enabling it to be used with various 8 Ohm loudspeakers and one standard amplifier, without the need for additional system controllers.

B18

B30

BSX

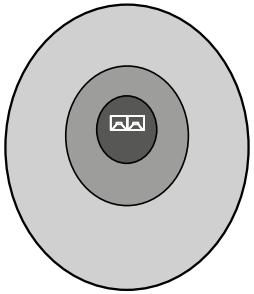
A milestone TW AUDiO development, the **B18** is the result of countless customer requests for a subwoofer of this quality and flexibility. Combining tight control with a remarkably deep and distinctive rumble, the B18 features a symmetrical band pass design that delivers a consistent performance regardless whether vertical or horizontal, stacked vertically or side by side. This includes the creation of directional sub arrays with partly reversed subwoofers. Facilitating the easy and inconspicuous wiring of directional bass clusters, the B18 even offers two speakON™ connectors on its front grille.

Housing two 15" woofers within an innovative enclosure, the TW AUDiO **B30** boasts a hybrid construction that brings together the advantages of bass reflex and horn loaded subwoofer design – high efficiency, a superb range and the ability to reach extraordinarily low frequencies. The unique design engages the subwoofer's entire front baffle to enhance the acoustic field while reducing friction and minimising losses. The result is an impressively efficient signal to noise ratio, faithful low-end reproduction and excellent dynamic coverage. Weighing in at under 39 kg (86 lbs), the relationship of the B30's size, weight and output ensures that this TW AUDiO classic remains something truly special.

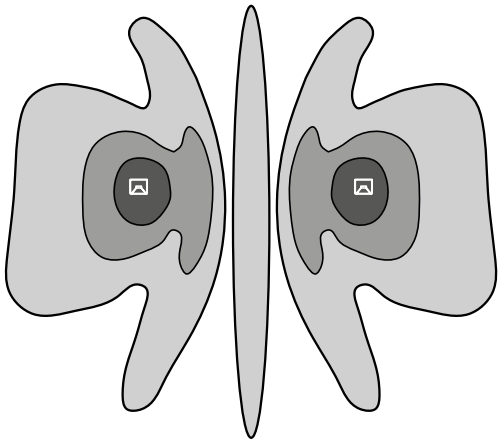
TW AUDiO's biggest subwoofer to date, the **B**ig **S**ubwoofer e**X**tender (**BSX**) employs two immensely powerful 21" drivers, each delivering 10 kW (peak), to create a massive low-end foundation for the biggest of systems. Even in the biggest of stadiums, the hybrid design of the BSX ensures that this true sub bass extension will be felt as well as heard. The use of extremely stiff yet lightweight membranes allows the BSX to deliver frequencies of up to 120 Hz with no sacrifice in fidelity. As a full range sub, the BSX is fully compatible with TW AUDiO's M, T, C or VERA series.

Subwoofer arrays

A



B



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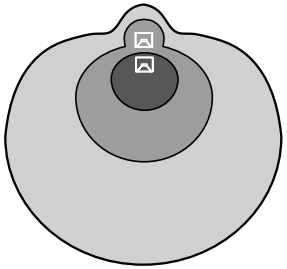

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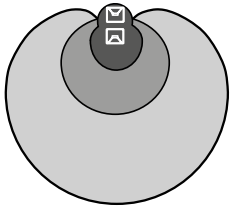


As the solid yet flexible foundation for your TW AUDiO solution, our subwoofers can be optimised to help create your ideal system configuration. The following examples outline the more typical ways that our omni-directional subs are used. The accompanying diagrams illustrate the SPL drop of the 63 Hz, third octave frequencies in -6 dB steps under both free-field and half-space conditions.

A ONE SOURCE

A single subwoofer (or two placed side by side) is referred to as a point source configuration. This produces an evenly dispersed wavefront in all directions with an identical signal phase response and SPL drop around the source.

B STEREO

Two physically separated subwoofers operating in a stereo configuration is one of the most common sub arrangements. While delivering some benefits, this configuration also has a number of inherent acoustic weaknesses, as illustrated in the above diagram. Most notably, significant signal attenuation can result from the difference in soundwave arrival times (interference). This leads to a well-known phenomenon – a concentration of excessive low frequencies at front of house, but gaps to the left and right.

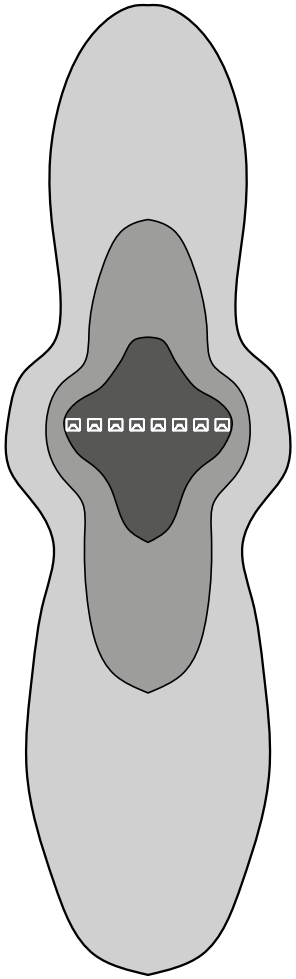
C END-FIRE

An end-fire configuration comprises two subwoofers placed one behind the other, with a delay applied to the front subwoofer's signal to offset the spatial distance between the front and rear. The result is that the soundwaves from both sources arrive simultaneously. In addition to generating forward facing summation, rearward-facing attenuation is caused by the 180 degree phase inversion (at a given frequency) resulting from the enhanced time delay between the rear and front sub. This is the simplest way of producing directional bass dispersion and is achievable with just two subs and a two-channel DSP amplifier.

D CARDIOID

A cardioid configuration is similar to an end-fire arrangement in that it comprises two subwoofers placed one behind another. Here however, the primary purpose of the rear speaker is to attenuate the energy propagated rearward from the front sub as completely as possible. This is achieved by physically rotating the rear sub 180 degrees as well as reversing its polarity, introducing a delay and adjusting the output. Compared to an end-fire arrangement, a cardioid configuration can achieve attenuation greater than -20 dB over a much broader bandwidth.

E



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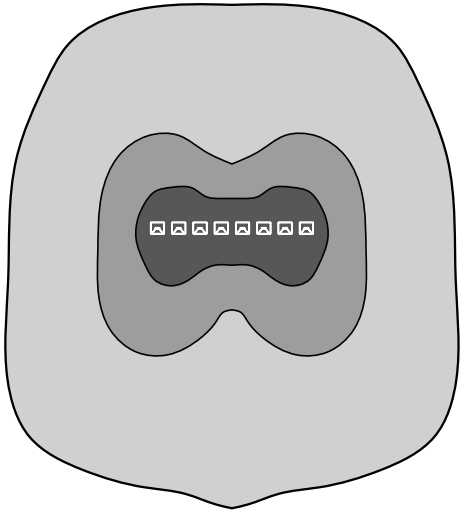
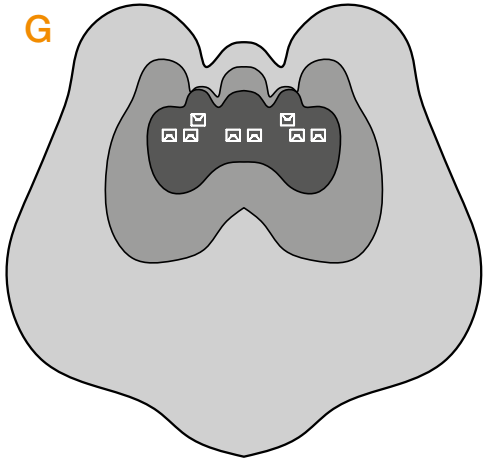


G



SUBWOOFER LINE ARRAY

Arrange your subwoofers in a line, and the principles of line array theory can be observed depending on the number of subs and source intervals between each enclosure. The graphics in figs. E to G are intended as an insight into what you might expect from three varying configurations of eight flown subwoofers.

E A wide, straight-line array positioned crosswise in front of the stage and fed with just one signal. The result is a strong concentration of high sound pressure in the center, the width of this being determined by the distance between the subs. A narrower concentration of bass is achieved by placing the individual units further apart and vice versa. This configuration is therefore best suited to very long and narrow auditoria.

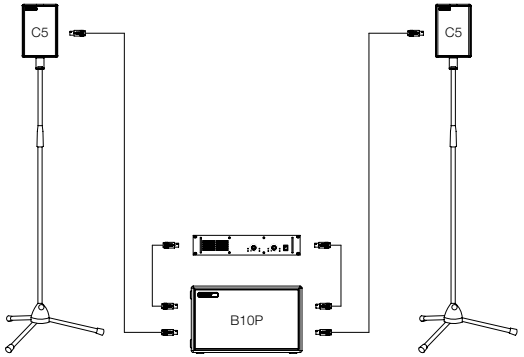
F The same array as in fig. E but electronically curved using DSP to achieve wider coverage with less dispersion. The subs are wired symmetrically in pairs beginning and spreading out from the center and controlled by four amp or DSP channels. By running the two subs in the middle with no delay while incrementally increasing the delay on outer subwoofers, this electronically replicates the sound created by physically arranging the subs in a curve.

G A hybrid combination of an electronically curved array and a cardioid array. In this example, two of the eight subwoofers are positioned behind the rest of the array, rotated 180 degrees and driven with an inverted and delayed signal. As with the electronically curved array, all the other subs except the middle two have an incremental increase in delay spreading out from the center.

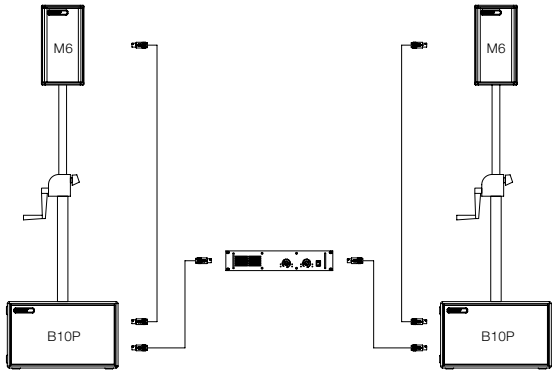
Our dedicated TW AUDiO Support Team is at your disposal to discuss any set-up requirements and ideas you may have. We also offer amplifier presets for end-fired and cardioid configurations.

B series system proposals

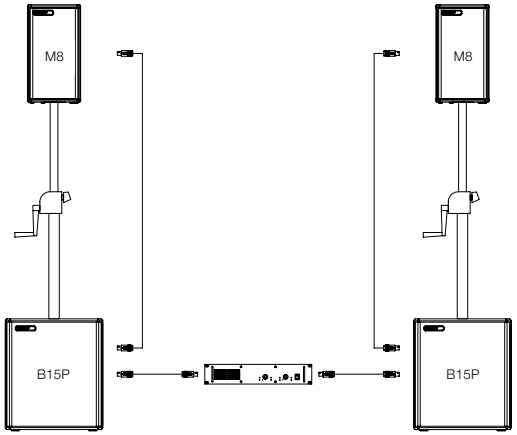
2× C5
1× B10P



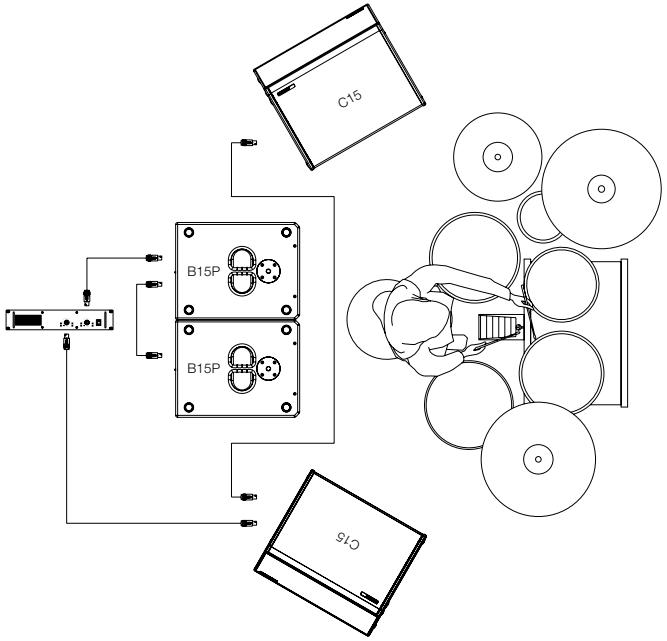
2× M6
2× B10P



2× M8
2× B15P

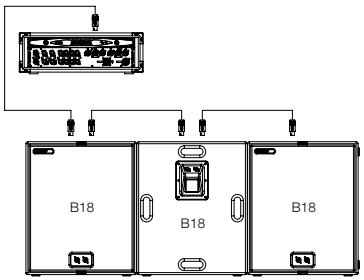


2× C15
2× B15P



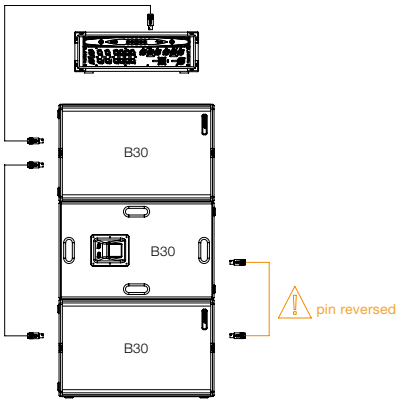
B18 cardioid subwoofer array

3 × B18
1 × SYSRACK



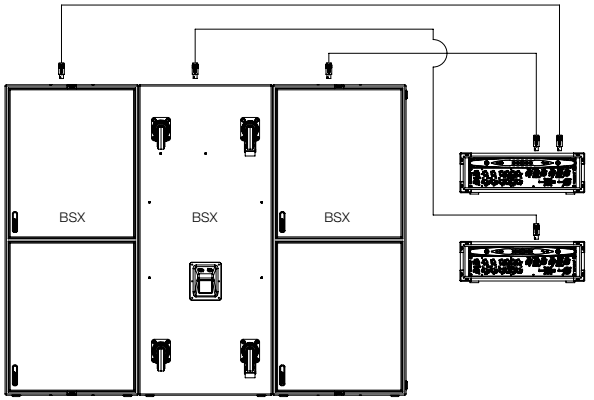
B30 cardioid subwoofer array

3 × B30
1 × SYSRACK



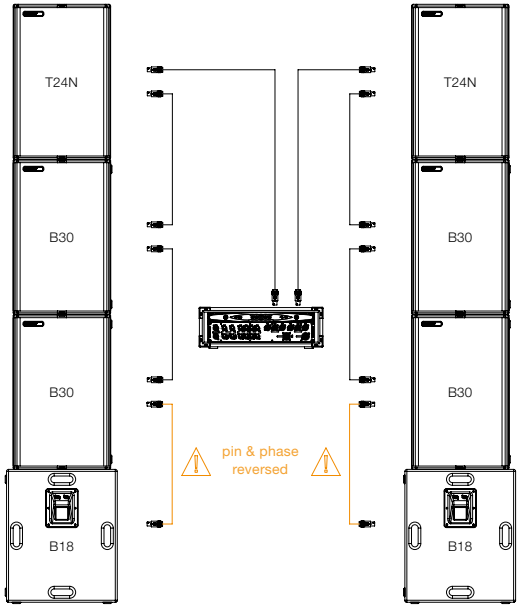
BSX cardioid subwoofer array

3 × BSX
2 × SYSRACK



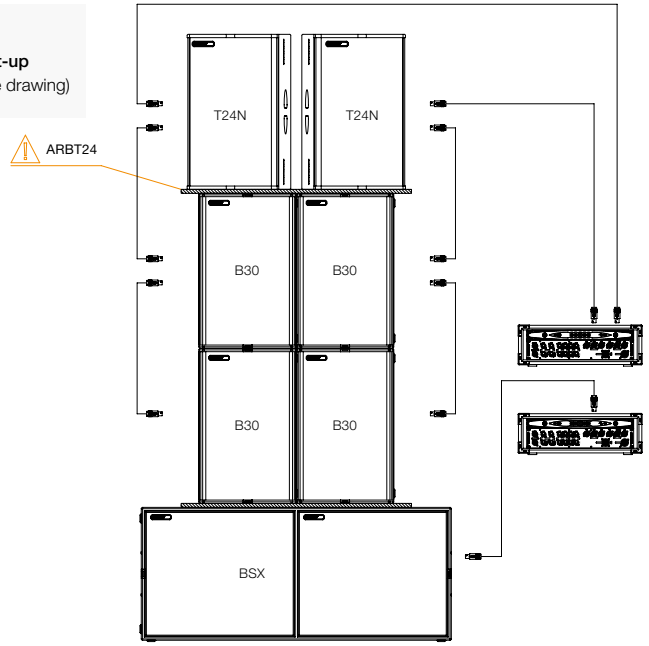
PA-SYS-ONE plus B18 cardioid set-up (with B30 preset)

2 × T24N
4 × B30
2 × B18
1 × SYSRACK



Double PA-SYS-ONE plus BSX wide-dispersion, high-output set-up
(Half of the system is shown by the drawing)

4 × T24N
8 × B30
2 × BSX
4 × SYSRACK



C series

The standout feature of our high performance, coaxial C-series is controlled, interference free dispersion across all axes. As true point source solutions, C-series wedges are ideal for all scenarios when artists require consistent on-stage audio coverage and control. They also distinguish themselves as a powerful option for fills and even a small, pole-mounted main PA.

Comprising three models, the C-series is characterised by vivid and direct sound, capable of cutting through the loudest of stage environments for a clear and musical performance with minimal tendency to feedback and ample headroom irrespective of music style.

As with all TW AUDiO solutions, C-series monitors are designed to work with ease and efficiency. Straight out of the box, your C-series monitor will operate on a single amplifier channel without the need for additional controllers or EQ. For more complex set-ups C-series enclosures are designed for discrete and simple integration into larger configurations. Their robust physical construction ensures they can withstand the rigours of daily use, bringing you the confidence that you can simply plug in, switch on and listen.

C series

C5

The **C5** is our most compact, high performance, universally applicable passive loudspeaker. With a 5" coax driver delivering 110 degree dispersion, the C5 is ideal for near field applications such as an on-stage frontfill, or as an unobtrusive monitor in a TV studio environment.

As loud as it is little, the C5 combines a compact footprint with the natural reproduction and extraordinary SPL of far larger systems. It also benefits from a carefully constructed and precisely balanced passive crossover making it suitable for direct use on standard amplifiers without additional adjustments.

Finally, its rugged construction, including an integral rigid foam enclosure and shock resistant PU varnish as standard, also makes the C5 suitable for permanent outdoor installations*.

*IP54 rating achieved with WPC5 mounted

C12

C15

Built to the same exacting standard, the **C12** and **C15** share a strong visual aesthetic and have been designed to seamlessly and discreetly blend into any environment.

Identical in cross section, the two monitors boast low-profile wedge-shaped enclosures containing coaxial chassis with a 12" or a 15" low frequency woofer and an identical 1.4" mid-high frequency tweeter with a 3" voice coil. The large mid-high horn used in both models ensures perfect mid-high frequency dispersion while their passive frequency crossovers produce accurate and phase-coherent summation of low and mid-high frequencies. The low crossover frequency of the mid-high driver is particularly suited to very high quality speech reproduction. The C12 is ideal for applications where compactness is a priority but audio quality must remain uncompromised.

When additional bass extension is required, the C15 will offer a robust low end response, refined with the enclosure's generously dimensioned bass reflex channels for a tightly defined, punchy response that you will feel as well as hear.

Both the C12 and C15 also benefit from the added versatility which comes from being able to run in two-way active mode. For flexibility, the C12 and C15 can be mounted on poles, or on surfaces using the specially developed swivel brackets which attach using a latching mechanism, meaning assembly does not require tools or separate, easily lost parts.

No matter whether they are used as monitors or as full range speakers, TW AUDiO's C-series enclosures combine high performance, versatility and full integration with the entire TW AUDiO range.

M series

The chameleons of the TW AUDiO range, M-series loudspeakers are designed to adapt to your requirements, no matter whether you need an unobtrusive solution for speech reinforcement, a stage monitor, a full range speaker or even a compact top for a club system or live PA.

Models within the M-series are equipped with specially developed high frequency horns, optimised using the boundary elements method (BEM). The result is wide-angled coverage – both the M6 and M8 offer 90 × 60 degree coverage, while all other models cover 75 × 50 degrees, rotatable by 90 degrees to suit your application.

For the M-series, TW AUDiO developed highly complex passive frequency crossovers, intended not just to coordinate phasing within the enclosure itself but also to ensure a linear frequency response across your entire TW AUDiO system. Simplicity of use is assured – M-series enclosures will work in conjunction with any standard amplifier, even without DSP or external controllers.

M series

M6

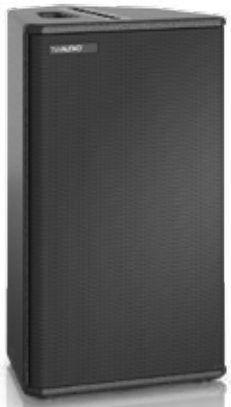
Equipped with a high-performance 16 Ohm, 6.5" cone and the same renowned 1" driver as the larger M8, the compact **M6** produces a natural, pure sound that compels listeners with its clarity. Small and mighty, the M6 is an ideal choice for venues that require inconspicuous appearance but effective coverage. Four speakON™ connectors plus various assembly options for accessories are available and like all the M-series models, the M6 is available in both left and right variants.

M8

According to our users, an undeniable star of the TW AUDiO range. The **M8** is one of our most popular products, heard in venues all over the globe. The M8 can be combined passively with the B15 subwoofer to form the powerful M-SYS-TWO portable PA solution (p.28). With a maximum SPL of 124 dB, the M8 can just as easily be used in combination with the B15, B18 or even B30 subs.

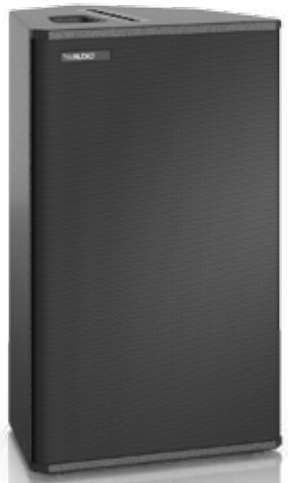
M10

The **M10** is a low-profile enclosure that utilizes the same 1.4" mid-high driver as the M12 and M15, delivering directivity and clarity of speech reproduction that remains unmatched at this size of enclosure. As much of a chameleon as its siblings, the M10 is effective as a full range speaker, a compact monitor or a top – the choice is yours. When used in conjunction with a B18 or B30 subwoofer, for example, this discreet speaker will be hard to spot but impossible to ignore.



M12

An all-purpose tool for the audio industry, the **M12** dispenses with extended bass reproduction and instead turns its focus entirely on perfecting its mid-high performance. The result is an extraordinary increase in efficiency from a compact enclosure that offers precise dispersion characteristics and a tight transient response at lowest distortion. Suited for use as a high-performance frontfill, nearfill, compact delay line loudspeaker or stage monitor, the M12 is particularly effective when deployed as a 12" top in a two-way active set-up with either the B18 or B30 subs, forming the PA-SYS-TWO (p. 29).



M15

Rounding out the series is the **M15** – a loudspeaker with true all round appeal. The M15 is powerful enough to cover small events as a full range system. In larger system applications it can also be deployed as a delay line speaker, or for unmatched vocal reproduction, or as a low profile but surgically precise stage monitor. For small to medium sized venues the M15 can be combined with a B15 to form the M-SYS-ONE (p. 28) or with a more powerful sub for a more substantial solution. With the M15, the options are limitless. The M15 also features the same air cargo rigging tracks as the M10 and M12, into which double stud fittings or flying brackets can easily be mounted without the use of tools. The last word in multi-functional sound reinforcement, the M15 is designed to work anywhere and everywhere, no matter what.

M series systems

M-SYS-ONE

Combining the M15 and B15 passively or actively creates the **M-SYS-ONE**, a flexible plug-n-play solution that has won praise in the media for its compact dimensions, multi-purpose design and high quality German construction. The system is compatible with all standard amplifiers and features extended low end reproduction, a switchable passive filter and, most importantly, the pure sound reproduction for which TW AUDiO is known.

M-SYS-TWO

The **M-SYS-TWO** combines the M8 and B15 to create a compact, portable yet potent passive PA solution. Boasting a sound quality more usually associated with far larger and heavier active systems, the M-SYS-TWO offers the user everything required for a perfect performance. Included are two dollies for the B15 subwoofers, a dedicated and hard-wearing carrying bag for the M8 enclosures, two poles and a set of high quality cables to ensure excellent signal transmission.

PA-SYS-TWO

The **PA-SYS-TWO** has been designed for maximum efficiency and tremendous power, bringing together the mid-high excellence of the M12 and the unbeatable ratio of weight to output embodied by the B30 subwoofer.

For larger applications, the PA-SYS-TWO can be extended with up to six more M12 tops and six B30 subs, all without the need for additional amplification if using our dedicated amplifier SYS-RACK, either equipped with Powersoft® X4 or Lab.gruppen® PLM 12K44 series.

PA-SYS-CLUB

Finally there is the appropriately named **PA-SYS-CLUB** with M10 and B18, a solution which will find a home in every application where consistently high energy, impactive low end and powerful mid-high range are required.

Collectively, each of the system names contain SYS, reflecting the TW AUDiO philosophy, **S**imply **Y**our **S**ound. From packed club nights to live gigs where kick drums stay punchy and vocals sit right at the front of the mix, there is a TW AUDiO solution for you.

T series

In an era when line arrays dominate, does it still make sense to use conventional horn-loaded tops? At TW AUDiO our response is a resounding yes.

No matter how prevalent line arrays become, some audio challenges will always be best met by the use of conventional horn tops. In particular, the TW AUDiO T-series has size and efficiency on its side to help you create optimal audio solutions up to a certain size both quickly and simply.

Adding to this flexibility is the ability to interchange and rotate our 60 × 40 and 90 × 50 degree mid-high range horn tops without the need for tools.

In addition, TW AUDiO offers an extensive range of accessories to support T-series users, serving every conceivable setup and installation variation you may require.

But don't take our word for it – try it for yourself and discover how simple in use the T-series can be.

T series

An innovative modern classic, the **T24N** delivers remarkable lows and low-mids, dynamic highs and pristine intelligibility, all in a compact cabinet that can be pole-mounted or flown as required. It's no wonder that Germany's respected Production Partner magazine described it as representing "perfect loudspeaker construction at all levels".

The story of the T24N goes back to the beginning of TW AUDiO itself and the original T24 – the first TW AUDiO loudspeaker. Widely considered a benchmark product in the live sound market and beyond, the T24 was compact yet strikingly powerful with an innovative 2×12"/1.4" horn-in-horn construction, enabling outstanding dynamic range and a maximum sound pressure level of 143 dB with a front panel measuring just 70×40 cm (27.6"×15.7").

After a highly successful decade, the T24 underwent a substantial upgrade, becoming the lighter T24N. The T24N is fitted with custom 12" neodymium woofers which work in tandem with the upgraded enclosure construction to achieve full range capability from 65 to 18,000 Hz. A newly designed 1.4" mid-high tweeter with a 3" titanium membrane reproduces precise, silky highs that remain free of distortion even at the highest levels. The standard 60×40 degree horn can be quickly and easily exchanged for a 90×50 degree alternative, without the use of tools. Additionally, the bi-amp/passive switch gives you the choice between an uncompromising two-way active mode or an efficient passive mode.

Most importantly, the T24N is truly multi-functional, ensuring excellent audio quality for both speech or music in every environment. It can be deployed either as a single enclosure, in a pole mounted configuration, or flown from a rig where multiple boxes can be hung or clustered as required up to 360 degrees for presentations in the round. All of this

T24N

T20

functionality is housed in an enclosure weighing just 33 kg (73 lbs).

Today, the global popularity of the T24N continues to rise as it takes its place in the inventory of rental companies, and in installations as varied as theatres, churches, stadiums, indoor arenas, nightclubs, restaurants and more. Few contemporary loudspeakers can be relied upon to deliver the fidelity, ROI value and sheer audio quality of the T24N – a loudspeaker of many talents.

The **T20** has been finely honed to meet the high expectations of our customers. A slim, compact top measuring 30 cm (11.8") wide and comprising two 10" woofers and a 1.4" mid-high section, the T20 boasts a symmetrical design that makes it ideal for use both horizontally and vertically. Within the enclosure, a sophisticated driver array and passive crossover mean the T20 achieves constant directivity across both planes. However, its potential is fully realized when oriented horizontally, perhaps for use as a front or drum-fill. In this configuration, the performance of most two-way enclosures is compromised, but the T20 remains entirely consistent. Other applications for the T20 include use as a center channel or in installations where ceiling height is a challenge. Should a longer, narrower application be required, the standard 90 × 50 degree high range horn can easily be rotated or changed to a 60 × 40 degree variation, all without the need for tools. Whether working in full-range, standalone mode, with a subwoofer or in conjunction with vertical arrays, the T20 has the power to exceed your expectations in every environment.

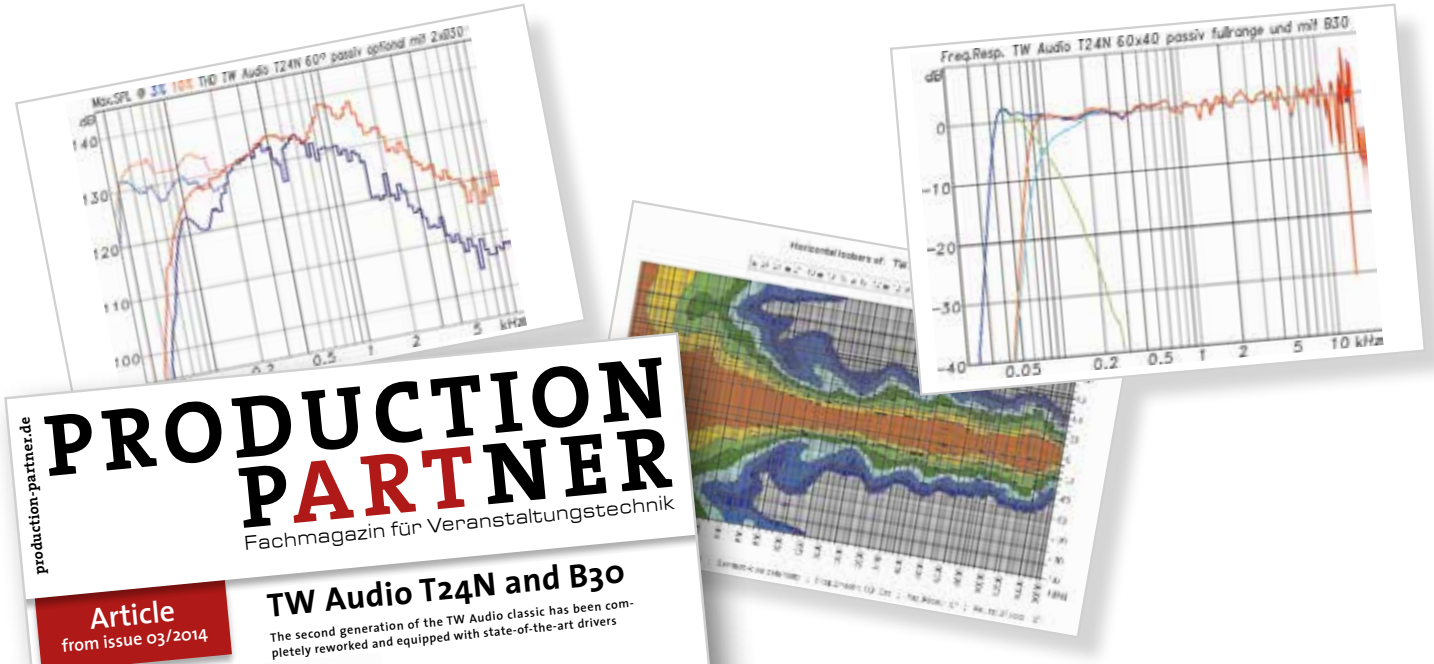
PA-SYS-ONE

The **PA-SYS-ONE** is our proven and trusted plug 'n' play solution offering high quality audio reproduction in a simple, absolutely reliable format.

Comprising two T24N tops, four B30 subwoofers and a SYSRACK with an integral patch panel, the PA-SYS-ONE is recognised and welcomed wherever it's used. The system's compact and modular design means that a complete rig can be easily transported in the back of a van, unloaded and set up by just one person. It's just one of the many reasons why the PA-SYS-ONE has become the dependable choice of touring bands, small to medium sized venues, theatres, houses of worship and even open-air events.

And if you need more power, simply add another PA-SYS-ONE – the system's modularity allows you to construct the PA solution you require without compromising on quality. Alternatively, you can drive up to four T24N and eight B30 with one SYSRACK or extend the system in the infra bass range with the inclusion of BSX subwoofers and additional amplifiers. For all these reasons and more, the PA-SYS-ONE is a TW AUDiO classic.

Explore the possibilities over the next few pages and discover how our systems can help you.



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Fachmagazin für Veranstaltungstechnik

Article
from issue 03/2014

TW Audio T24N and B30

The second generation of the TW Audio classic has been completely reworked and equipped with state-of-the-art drivers

TW Audio – named after its founder and now co-managing director, Tobias Wüstner – is celebrating its tenth birthday in 2014. Not only was the top part/subwoofer combination of T24 and B30 one of the first speakers in the TW Audio range ten years ago, it has been able to remain part of it, unchanged, to the present day. According to Tobias Wüstner, several thousand models of the T24 top part alone have been sold over the years, and the box continues to enjoy ongoing popularity. The T24 thus fortunately never shared the same fate as many other known horn systems, which today eke out a miserable existence behind the line arrays (or have completely disappeared from the market).

How could this be, even though TW Audio's range naturally also includes line arrays in the form of the VERA series? It may be due to the good performance despite an extremely compact design. Weighing "just" 46 kg, the original T24 has always been a lightweight compared to the "100 kg plus" offered by some other manufacturers. The T24 thus escaped this extinction phase and without any doubt: there are still many areas in which classic horn systems are equal or even superior to line arrays. When we think about several top 40 bands, club concerts, fittings, smaller dance floors or monitoring systems on large stages, the horn top is always the first choice.

A lot of work has gone into speaker chassis development in recent years – the drivers have become lighter, more resilient, and better in general – and it is only logical to modernise and upgrade the tried-and-tested T24 design. The T24 is therefore currently being presented at the Prolight + Sound 2014. in its new, locally tested T24N version.

T24N for "new" or neodymium

Externally, an expert eye is needed to distinguish the T24N from the original T24, with only the slightly more rounded rear side giving it away. But lifting up the box reveals another significant distinction. 33 instead of 46 kg is a crucial difference when it comes to transporting and even setting up a top on one's own.

"With a subwoofer the system was really amped up, producing a high-end sound with the dynamics of a live performance. At this point, it was pure enjoyment to use the system and even the sceptics could not find any criticism."

"...and every person present could imagine the applications for which the systems are best suited for: Club gigs, DJ acts, events in marquees, speech amplification over long distances, installations of all sizes..."

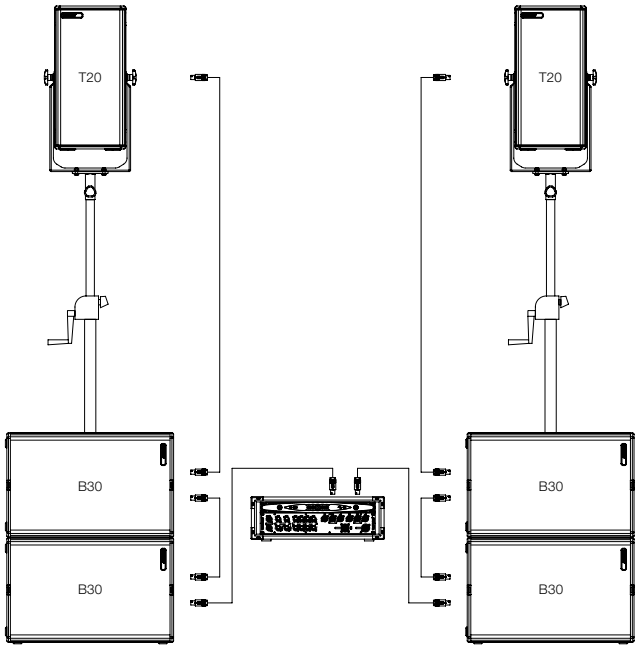
"Particularly striking was the system's sound, which remained pleasant even at very high levels, and tonal balance."

Summary: "… Loudspeaker construction in highest perfection on all levels."

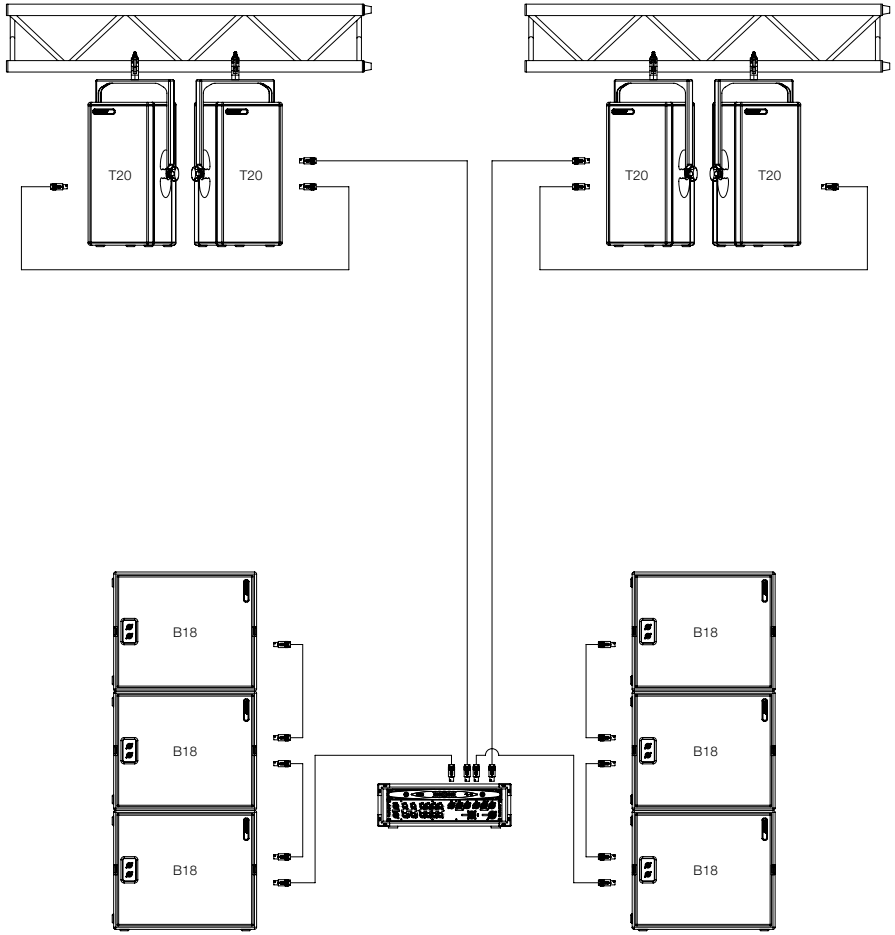
You can find the test on our homepage or directly download it here:

T series system proposals

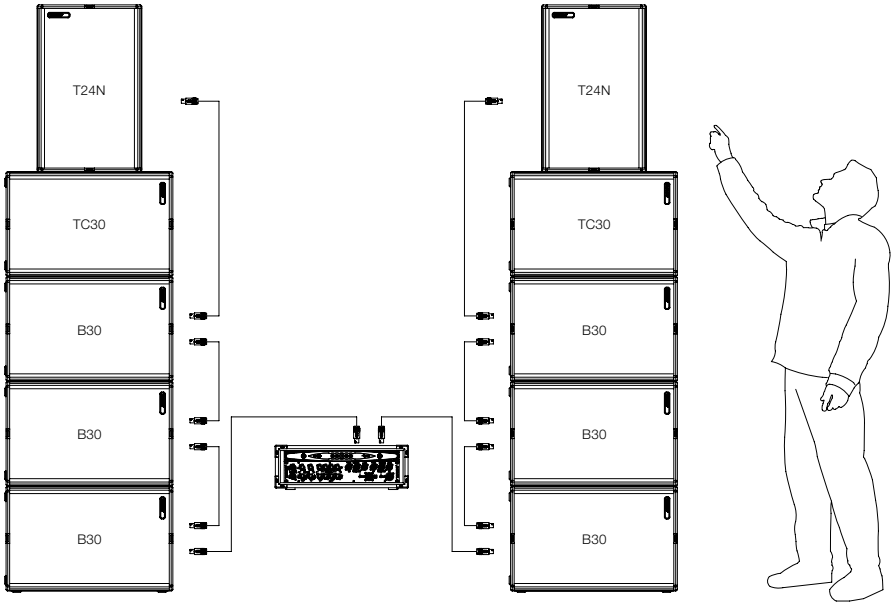
2× T20 (90°×50°)
4× B30
1× SYSRACK



4× T20 (60°×40°)
6× B18
1× SYSRACK

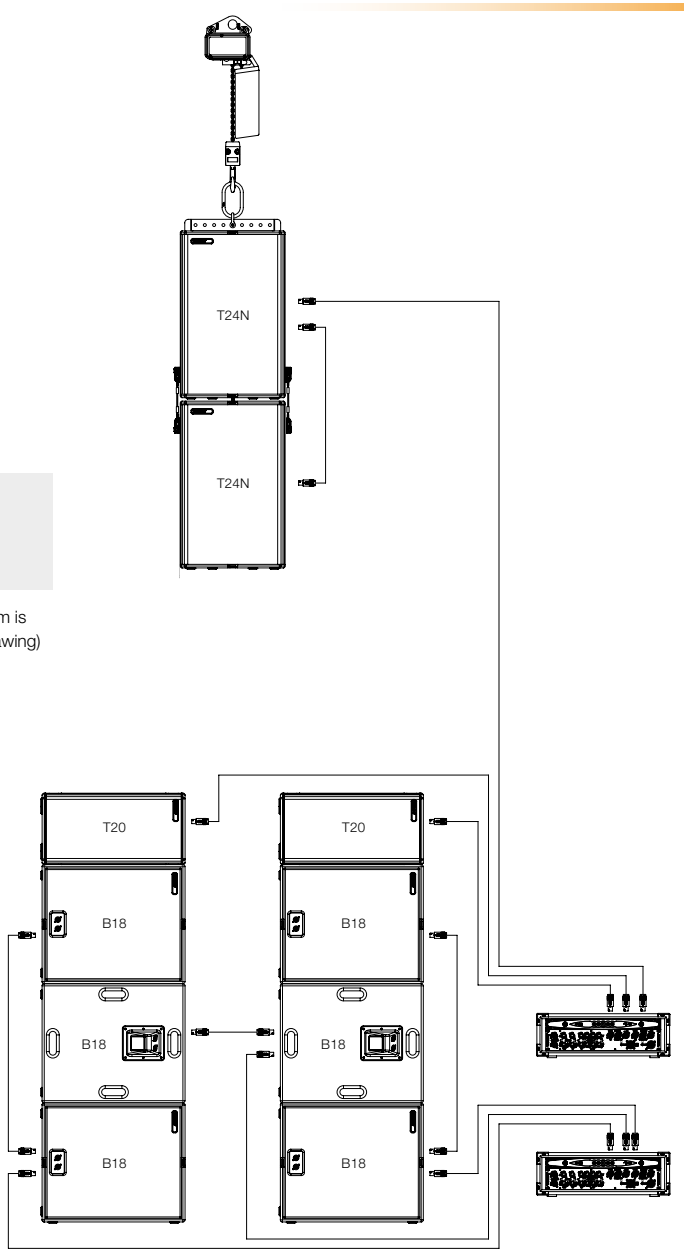


2× T24N
6× B30
2× TC30
1× SYSRACK



4× T24N
12× B18
4× T20
4× SYSRACK

(Half of the system is shown by the drawing)



VERA10

Named for the **VER**tical **A**rrays in which these systems are used, our VERA line array solutions are transforming large-format sound reinforcement, led by the VERA10 series.

The series is based on the VERA10 top, a compact line array element measuring just 50 cm (19.7") in width yet scalable up to an array length of 18 elements. This means that the VERA10 is arguably the most versatile component in the whole TW AUDiO range – with just two tops, a core VERA10 system can be created to deliver uncompromising high quality sound reproduction in an extremely compact format. Yet VERA10 has been designed and developed to deliver so much more.

The starting point was the desire to provide our customers with a single, flexible system that can be extended with a multitude of additional components to meet their specific requirements. Everything from gala events, touring roadshows, through to large, open-air or stadium rock concerts can be served with an investment in VERA10.

Adding low-mid energy is the VERA L24, developed to introduce new configuration possibilities for all VERA10 users.

Subwoofer options comprise the VERA S15, S18 and S30, all of which are flyable with matching widths for easy integration into VERA10 arrays. Their dimensions, configurations and performance are identical to those of the B-series models B15, B18 and B30. The S30 subs can also be flown in either horizontal or vertical orientations in separate bass columns.

The modular design of the VERA10 series offers countless possibilities for every user. Whether flown or stacked, VERA10 offers you a fully flexible solution for delivering the very best in audio reproduction for every event, from small gigs to mid-sized indoor shows and even open-air concerts.

VERA10

VERA10

Within the **VERA10** top element itself is a single 10" loudspeaker and two 1" high frequency drivers. Our compression chamber phase plug is positioned in front of the 10" chassis while VERA10's optimised waveguide is coupled to the HF-drivers, all combining to deliver striking tonal depth with sparkling high end in 10 degree vertical dispersion.

Exchanging the mid-high horn allows the horizontal dispersion to be set to either 80 or 120 degrees. Additional versatility is achieved by the addition of the optional PWVERA10 passive crossover which makes it possible to switch between passive operation on a single amplifier channel and standard bi-amped, two-way active operation.

VERA L24

The **VERA L24** augments the low-mid range performance of VERA10 arrays between 60 and 300 Hz. Equipped with two 12" loudspeakers, the hybrid enclosure combines the advantages of bass

VERA S15

reflex and horn design, so that a single VERA L24 will support up to four VERA10 elements with clear low-mid boost and plenty of punch. The top side of the enclosure has a rear facing, five-degree slope that makes it possible to easily integrate the L24 into VERA10 arrays.

The **VERA S15** is the most compact bass extension option for the VERA10. Weighing only 23 kg (51 lbs) and standing just 44 cm (17.3") tall, it's the

VERA S18

first choice for applications with load restricted flying points and low rigging heights. With the optional PWS15 passive crossover, the S15 can provide active or passive bass support to TW AUDiO M- and C-series loudspeakers.

With the **VERA S18** subwoofer, it is now possible to configure cardioid sub arrays with reversed subs, within a VERA10 array. The creation of these clusters is facilitated by additional

VERA S30

connectors positioned in the front grille, while its band-pass design, inspired by the B18 subwoofer, guarantees the same acoustic quality, with deeper low frequency extension, defined punch and high SPL. All of which makes the S18 the universal subwoofer for the VERA10 system.

Finally, the **VERA S30** subwoofer has integrated rigging tracks on all four sides allowing you to build flown columns of horizontally or vertically configured S30, including directional dispersion arrays with individual subs reversed by 180 degrees. This combined with a first-class ratio of volume/weight to output is what makes the S30 the standard sub for our VERA-SYS-ONE and VERA-SYS-TWO (p. 42-43) systems.

VERA-SYS-TWO

VERA-SYS-TWO is the ideal entry-level, highly versatile, line array system offering quick and easy setup. It comprises four VERA10 modules with integrated passive crossovers that can be transported in a VERA DL10 dolly, two VERA S30 subs on a QDB30 dolly, cables, two SF10 frames and two poles. Also available is a SYSRACK, incorporating a dedicated patch panel configured to suit your choice of amplification platform.

Thanks to its integrated switchable crossover, a VERA10 element can be operated in passive mode on just one amplifier channel or in bi-amped mode.

Another advantage of the passive crossover is that the high frequency level can be set at 0, -3 or -6 dB, in both passive and bi-amped modes.
This adds to its usability when additional VERA10 elements are required to operate as down fill or near fill for larger sound system solutions, and can be further enhanced with the interchangeability of the 80 and 120 degree horn.

Adaptable, quick to deploy and easy to use, VERA-SYS-TWO is the ideal choice for a wide variety of audio challenges.

VERA-SYS-ONE

The **VERA-SYS-ONE** is our high performance, complete line array system based on perfectly matched system components. Designed for maximum scalability and unmatched performance.

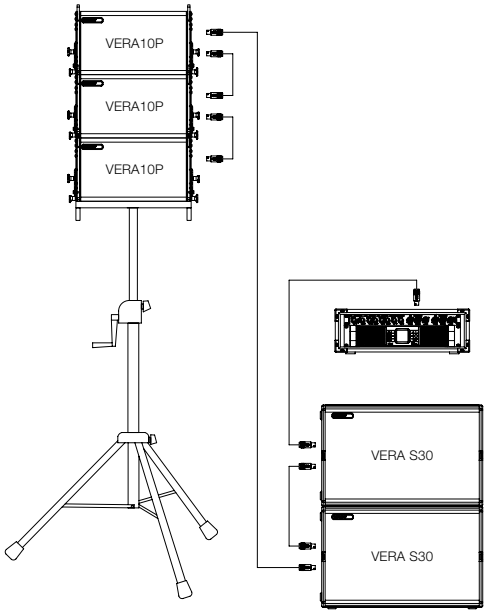
Comprising twelve VERA10 elements, eight VERA S30 subwoofers complete with dollies, two flying frames, full cabling, the VERA-SYS-ONE is a sonically superior choice for mid-size events. Just as importantly, it offers quick rigging, unobtrusive appearance and intuitive operation. As above, a SYSRACK amplifier rack is available, incorporating a dedicated patch panel configured to suit your choice of Powersoft® or Lab.gruppen® amplifier platforms.

Up to 36 VERA10 and 24 VERA S30 can be powered from just six SYSRACKs making the VERA-SYS-ONE easily scalable for larger events. If needed, the VERA-SYS-ONE can also be augmented with the VERA L24 low-mid extender, or the VERA S18 subwoofer in an array with VERA10 elements, plus the BSX extension for the infra-sub range.

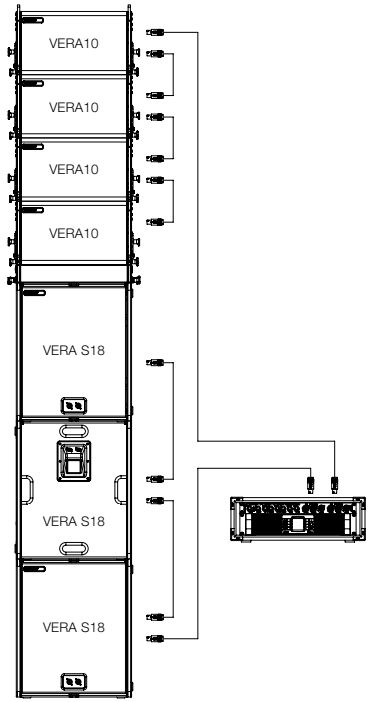
Yet even with such power at your fingertips, operation still remains simple with the use of industry standard EASE Focus software. Courtesy of the dedicated TW AUDiO plug-in, users can easily simulate a live sound environment and optimise the performance of their system to achieve the best possible results. In the meantime, our dedicated TW AUDiO team is at your disposal to make sure you have the answers you need and the support you deserve to get the very best out of your TW AUDiO technology.

VERA10 system proposals

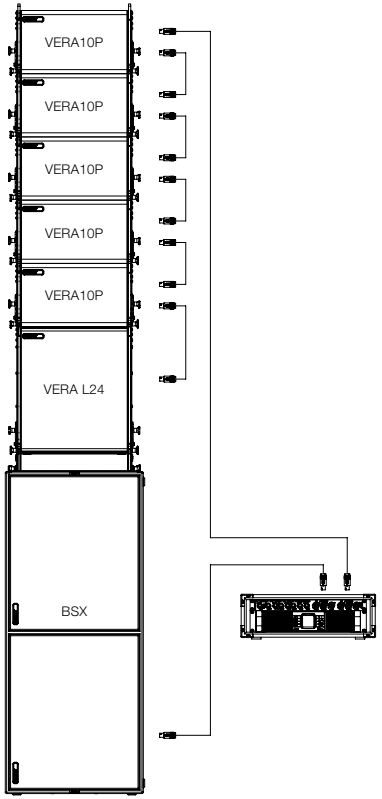
VERA-SYS-TWO with extensions (Half of the system is shown by the drawing)	6 × VERA10P 4 × VERA S30 1 × SYSRACK



VERA10 ground-stack with cardioid subwoofer array (Half of the system is shown by the drawing)	8 × VERA10 6 × VERA S18 2 × SYSRACK

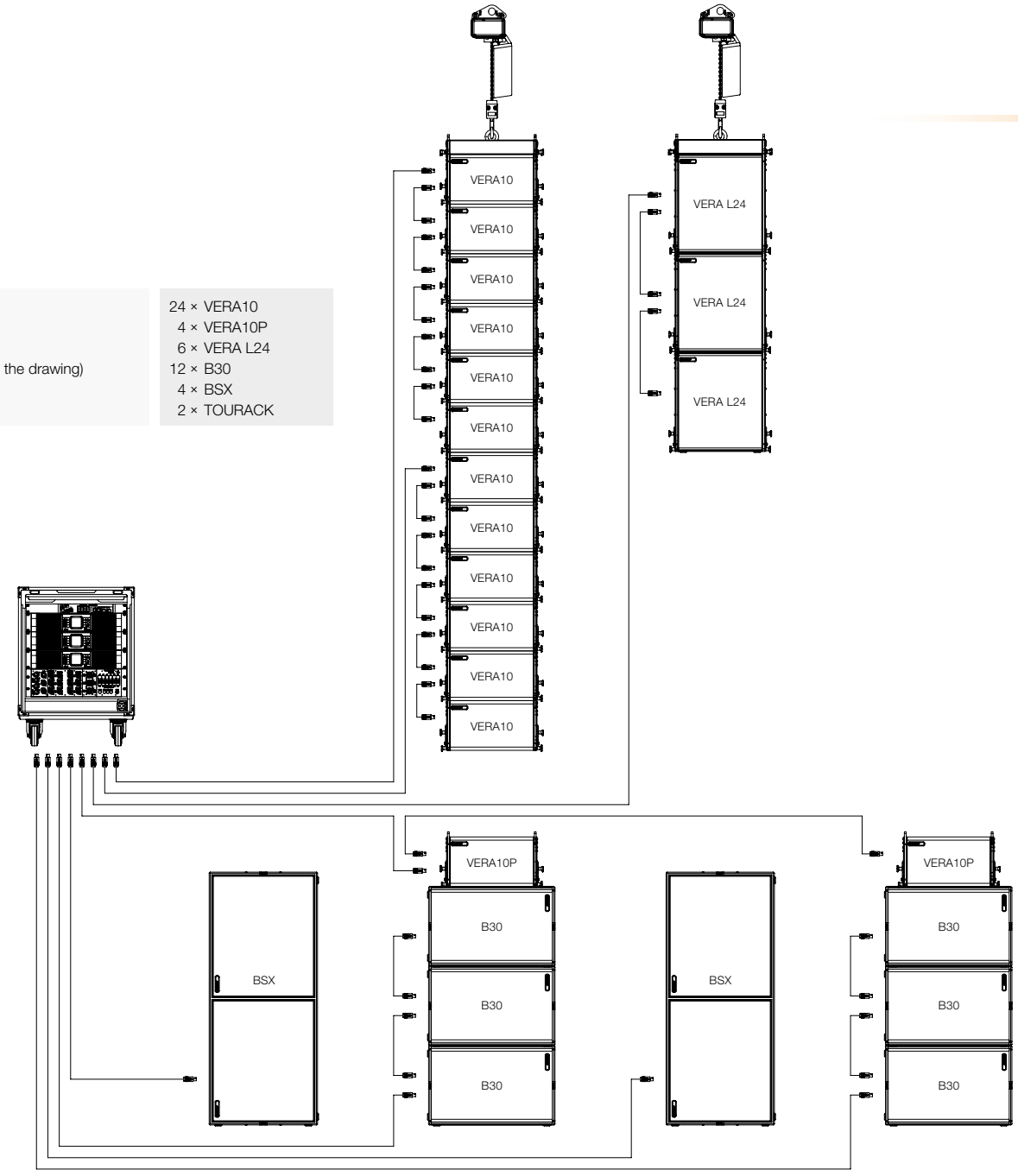


VERA10P ground-stack with BSX (Half of the system is shown by the drawing)	10 × VERA10P 2 × VERA L24 2 × BSX 2 × SYSRACK



VERA10 festival package
(Half of the system is shown by the drawing)

24 × VERA10
4 × VERA10P
6 × VERA L24
12 × B30
4 × BSX
2 × TOURACK



VERA20

Boasting the power, throw and performance of a larger system but in a stunningly compact enclosure, the VERA20 rewrites the rules of mid-sized line arrays.

At the heart of every TW AUDiO design is the philosophy of delivering absolutely faithful sound reproduction, but for the modern audio professional it's sometimes just as important to choose a system that's compact, easy to use and simple to transport. Our answer is the VERA20, a mid-sized line source enclosure offering a level of performance that far outstrips its nearest competitors.

VERA20

Measuring just 60 cm (23.6") in width, the **VERA20** houses two powerful 10" woofers despite being of a comparable size to many of the less impactive double 8" cabinets found in the market today. More than many similarly sized compact alternatives, the VERA20's double 10" design packs a punch, delivering a throaty low-mid growl with up to 6 dB more output in the low-mid frequency range plus lower distortion.

Meanwhile the custom chassis boasts a purpose developed waveguide producing 12 degree vertical dispersion and either 80 or 120 degrees horizontal dispersion, as required. This combines a 1.4" mid-high compression driver with a 3" diaphragm to produce sparkling top-end. When you choose VERA20, you can expect a smooth and precise mid-range response that lends itself to sharply defined speech intelligibility and exacting musical reproduction.

In addition, low frequency crossover point delivers consistently uniform coverage, while the extraordinarily fast transient response contributes to a detailed and crisp performance in the high frequencies.

Crucially, the VERA20 offers you the capacity to form arrays of up to 24 elements, meaning it can be deployed in an extremely broad variety of applications, both inside concert halls and outdoors in arenas. Rigging is speedy, accurate and cost-efficient with the inclusion of TW AUDiO's innovative EasyRig™ hardware, with which an entire system can be set up and flown or dismantled by just one technician. That same hardware will also allow you to fly your VERA20 array with incredible precision, setting angles of less than one degree to swiftly achieve unsurpassed accuracy and far longer throws for improved coverage.

VERA20

VERA S32

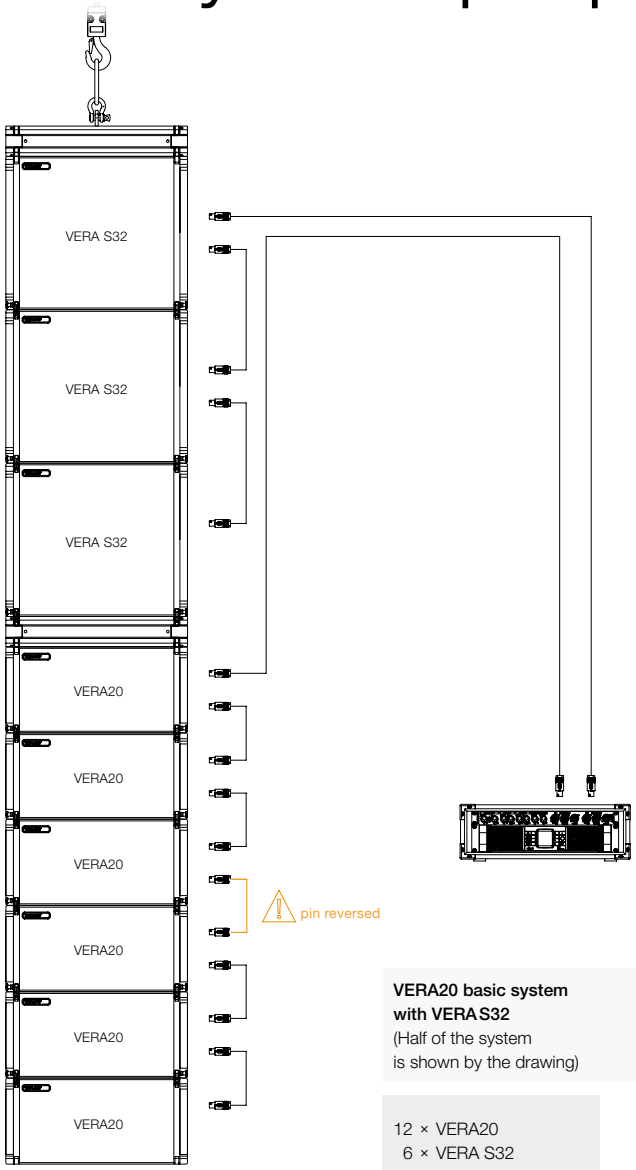
For low end, the VERA20 is accompanied by the **VERA S32**, a compact flyable subwoofer with the same 60 cm (23.6") width as the VERA20, and equipped with an 18" driver in the front and a 14" driver to the rear.

Perfectly matched with VERA20 as its full range partner in terms of power and throw, the S32 offers a number of dispersion options to suit every situation including cardioid and end-fire modes. Cardioid mode is optimised for maximum attenuation of rearward sound dispersion and is capable of achieving attenuation higher than 15 dB over the entire LF spectrum. End-fire mode is optimised for maximum sound pressure at the front with simultaneous partial reduction at the rear.

Indeed, the directionality of the S32 delivers a distinctively solid and pleasingly musical low frequency performance, particularly in venues that are reverb heavy, without causing undue rearward and sideways spillage.

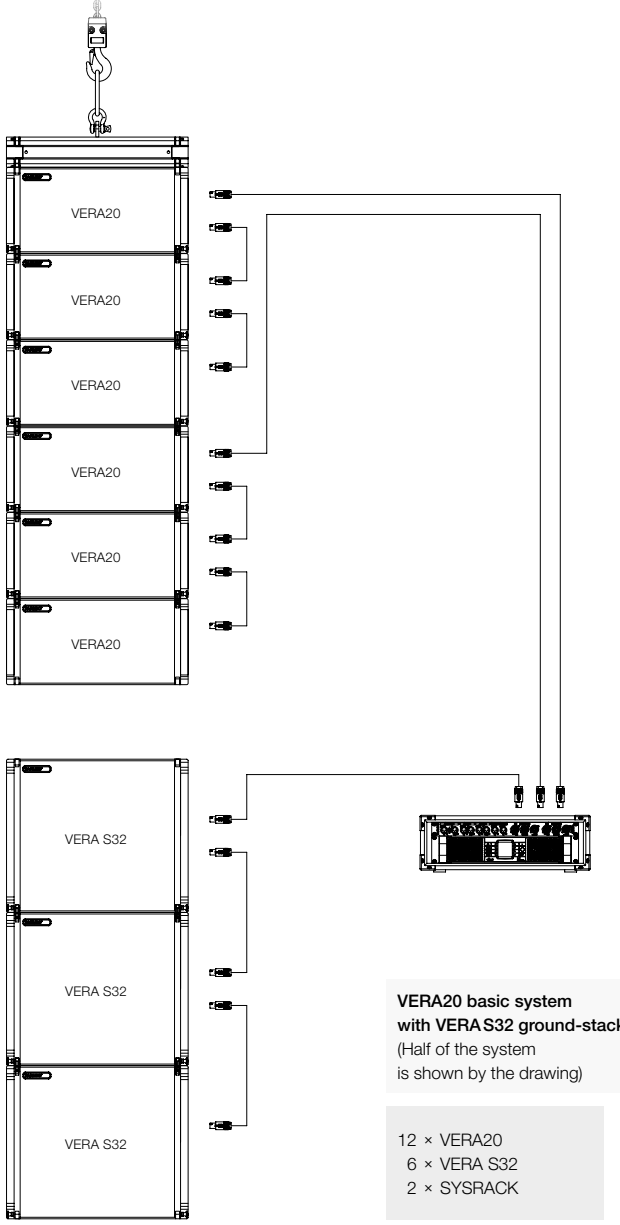
Integration into a VERA20 array is also simple thanks to the complementary, fully integrated rigging hardware. In fact, with its coherent phase response, the S32 is a plug'n'play option that will match a great many TW AUDiO tops and subs, adding to its ROI and sub-hire value.

VERA20 system proposals



VERA20 basic system
with VERA S32
(Half of the system
is shown by the drawing)

12 × VERA20
6 × VERA S32
2 × SYSRACK

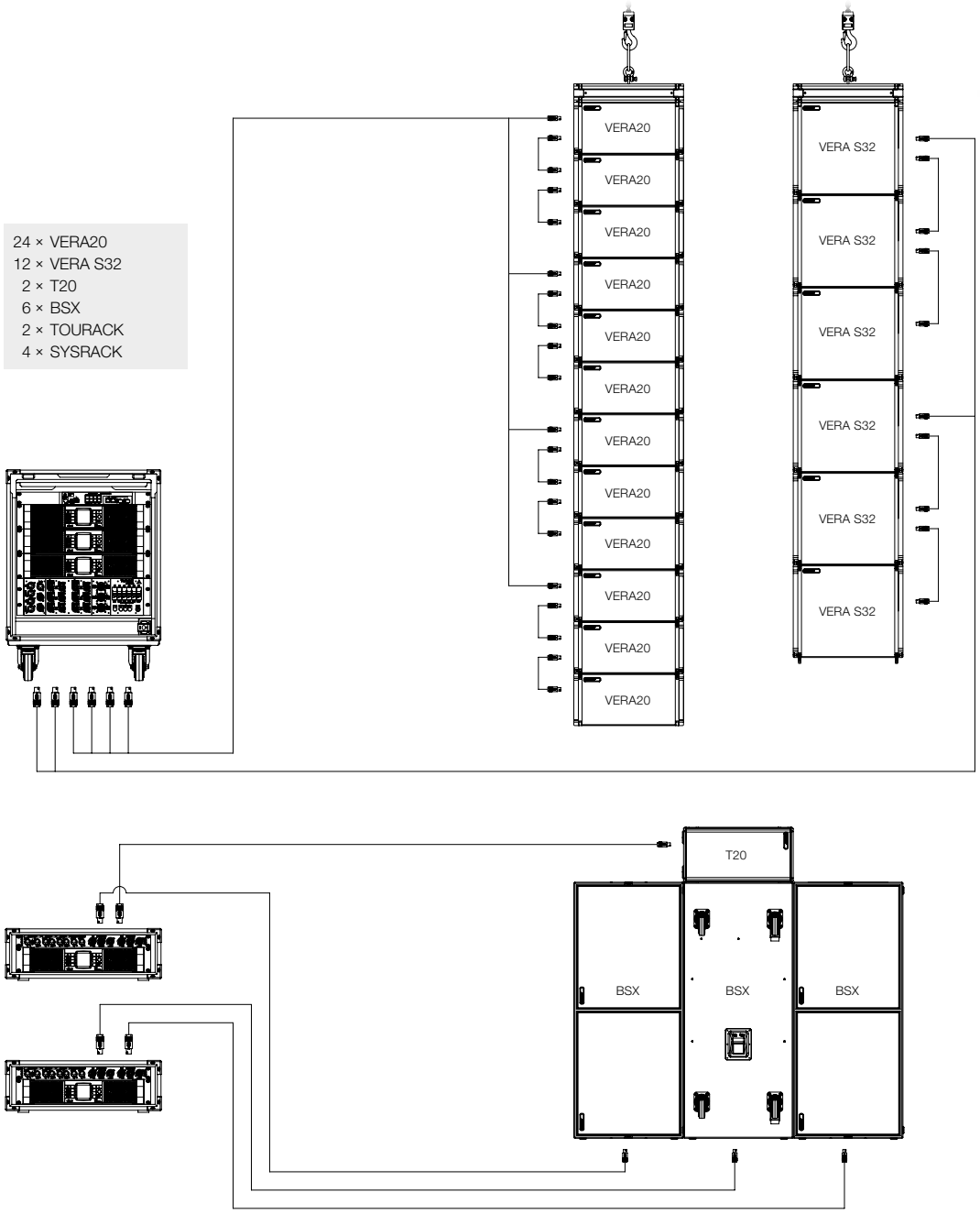


VERA20 basic system
with VERA S32 ground-stack
(Half of the system
is shown by the drawing)

12 × VERA20
6 × VERA S32
2 × SYSRACK

VERA20 festival package
(Half of the system is shown by the drawing)

24 × VERA20
12 × VERA S32
2 × T20
6 × BSX
2 × TOURACK
4 × SYSRACK



VERA36

From the beginning, TW AUDiO's vision has been to expand the possibilities of large scale sound reinforcement, bringing an entirely new dimension to the technology of concert sound.

Our answer is the VERA36 and its complementary VERA S33 subwoofer, an elegant solution capable of outperforming far larger alternatives, yet still scalable to meet the needs of our users. With VERA36, a simple ground-stacked set-up of just two tops and two subs per side is enough to deliver the perfect solution for small to medium sized events or as a monitoring solution for performers or DJs.

At just 70 cm (27.6") wide and 31 cm (12.2") tall, VERA36 is startlingly compact for the power that it delivers. As with all TW AUDiO solutions, our flagship system delivers extraordinary clarity in sound reproduction plus wide dynamic range and the kind of low-mid growl more usually found in much larger systems. Don't be fooled by the size of the enclosures – with the VERA36, expect high-end, high-impact, dynamically balanced sound to hit you hard at the edge of the listening area.

VERA36

The intrinsic qualities of the **VERA36** speak for themselves with no fewer than six drivers working within the compact confines of the enclosure. The central mid-range horn is driven by two 8" cone speakers while the mid-high frequency unit comprises two 1.4" compression drivers plus a purpose-developed wave-guide, coaxially positioned in the center. The result is a vertical dispersion of 10 degrees with horizontal dispersion across either 80 or 120 degrees as required. Supplementing the low-mid range are two 10" long excursion bass speakers. Below 400 Hz, all four cone speakers work in tandem to deliver vast reserves of low-mid punch.

The result is that the VERA36 can compete with much bigger double 12" systems and more besides.

But for a contemporary loudspeaker system to achieve real success, impressive performance alone just isn't enough. Today, systems must be easy to operate, quick to rig and simple to transport, and in all of these areas VERA36 excels. Set-up times are dramatically reduced courtesy of a newly developed, fully integrated, three-point rigging system incorporating an innovative mechanism with logarithmically stepped splay angles, enabling optimal array curving and precise directional targeting. The combination of TW AUDiO's deep expertise and the precision of the VERA36 hardware equals coverage right to the back rows of even a large venue. No matter whether you fly the system straight from the dolly, rig from the floor or build as a ground-stack, every variation is swiftly and safely achievable.

VERA36

VERA S33

As for low end, the **VERA S33** is leading the way in subwoofer design. Comprising an 18" speaker at the front and a 15" speaker at the rear, the bi-amplified S33 offers preset options for different dispersion patterns. Cardioid mode is optimised for maximum attenuation of rearward sound dispersion and is capable of achieving attenuation higher than 15 dB over the entire LF spectrum.

End-fire mode is optimised for maximum sound pressure at the front with simultaneous partial reduction at the rear.

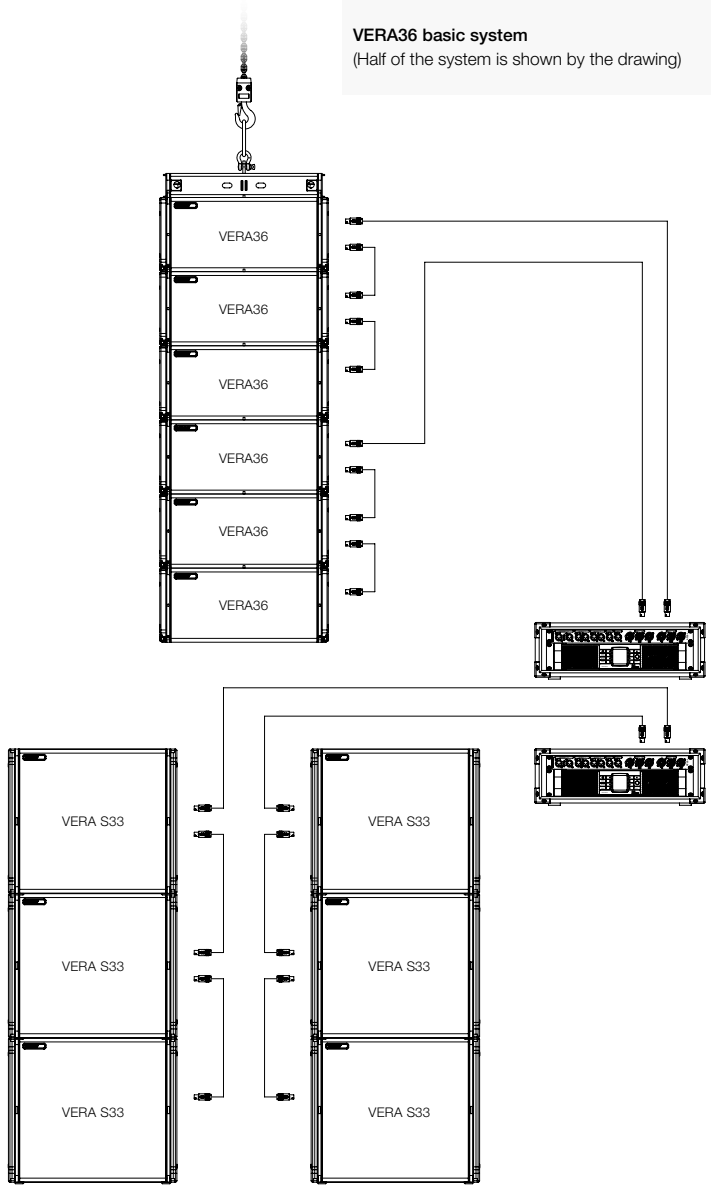
In action, the S33 is unlike traditional subwoofers. The inherent directivity of each sub creates a more solid and musical low frequency experience, particularly in naturally reverberant venues. Yet artists on stage and those working in back of house are spared the unwelcome impact of excessive low-end spill.

As with all TW AUDiO solutions, the VERA S33 can be used in a wide variety of configurations, depending on the specific audio challenges faced. The same width as the VERA36 and equipped with the same rigging, S33 subs can easily and unobtrusively be integrated into VERA36 arrays. They can also be deployed in traditional left-right stacks, horizontal rows in front of the stage, vertical stacks or in flown arrays as well as in any combination with B-series subs.

VERA36 system proposals

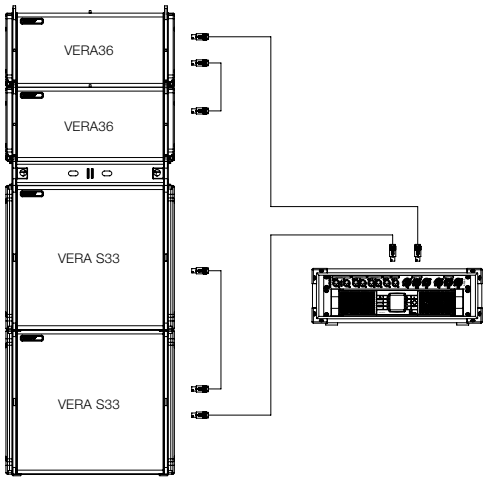
VERA36 basic system
(Half of the system is shown by the drawing)

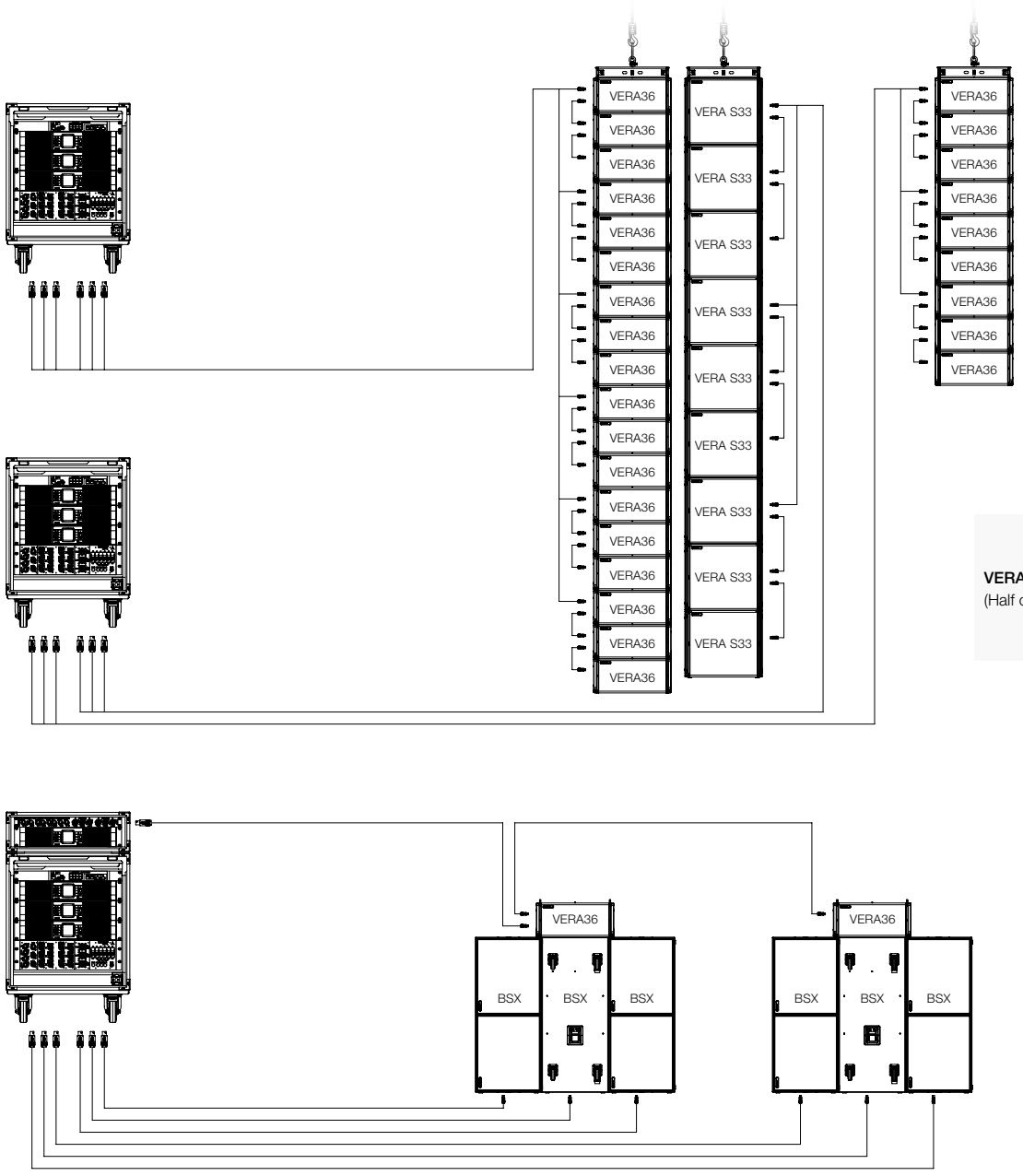
12 × VERA36
12 × VERA S33
4 × SYSRACK



VERA36 ground-stack
(Half of the system is shown by the drawing)

4 × VERA36
4 × VERA S33
2 × SYSRACK





VERA36 arena system
(Half of the system is shown by the drawing)

58 × VERA36
18 × VERA S33
12 × BSX
6 × TOURACK
2 × SYSRACK

AMPLIFICATION

Amplification

No matter how impressive your loudspeaker set-up is, your choice of amplifier greatly impacts its performance. That means taking more than just power into consideration.

Factors such as tonal neutrality, high power output levels, load stability and efficiency remain crucial in selecting the best amplifier for your requirements. For a modern sound reinforcement system, however, digital signal processing (DSP) is arguably just as important.

DSP is about more than just speaker presets – used skilfully, it can shape the characteristics of each element of a sound reinforcement solution, from a single component speaker to an entire rig. In addition, today's market leading amplifiers must incorporate features such as audio networking with matching remote software, a compact footprint, lightweight construction and a universal power supply. All of this is in addition to system reliability and after-sales support.

TOURACK-X

SYSRACK-X

For all of these reasons, TW AUDiO chooses to work with the most trusted brands in professional audio amplification – Powersoft® and Lab.gruppen®. Both highly respected brands benefit from extensive TW AUDiO preset libraries designed for the Powersoft® X-series and Lab.gruppen® PLM+ series.

Trusted the world over and considered industry standards by many, the Powersoft® X4 and Lab.gruppen® PLM12K44 can be found built into our modular SYSRACK or TOURACK systems.

Following intense A-B listening tests and complex measurements, we believe that the Powersoft® and Lab.gruppen® presets are equally impressive. Both manufacturers offer the highest levels of quality and functionality.

All loudspeaker specific preset parameters are stored in protected DSP but made freely available and pre-installed by TW AUDiO for either standard or customised systems.

This plug 'n' play approach means you can simply select your required presets within your amplifier and your TW AUDiO loudspeaker system will be ready to use.

For system management and individual tuning, both platforms offer comprehensive software suites.

LAB.GRUPPEN lake

SYSRACK-L

TOURACK-L

For example, amplifier channels from dozens of devices can be combined and controlled together in individual groups, with variable group-specific levels, delays and input EQs.

Of particular note is the Raised Cosine Filter which, unlike conventional parametric and graphic EQs, facilitates the modelling of almost any filter function with minimal phase shifting. Room resonances, for example, can be precisely and accurately filtered out of the spectrum with minimal influence on the original signal.

Each platform also provides extensive monitoring, allowing input and output voltage including current values, temperature, load impedance and operating time to be accurately tracked and clearly displayed. Powersoft® and Lab.gruppen® devices are more than just amplifiers, they are powerful loudspeaker management systems.

Impressions

LANXESS Arena

In April 2016, having won out against all competition, TW AUDiO was selected as the ideal solution for the demanding requirements of Cologne's world famous LANXESS Arena. The choice followed exhaustive comparisons by sound engineer Michael Häck, who describes the new TW AUDiO VERA36 installation as delivering "exceptional power and directivity".

As the biggest ice hockey arena outside of the US, the LANXESS Arena is among the busiest sports and entertainment venues on the planet. Constructed between 1996 and 1998, the building originally known as the "Kölnarena" now ranks sixth on the list of the 'Top 200 Arena Venues Worldwide by Ticket Sales'. Yet until recently the 18,500 capacity arena had to contend with its original 20 year old loudspeakers.

A replacement was needed, but a strict set of criteria had to be met including not just high quality audio but the capacity to handle critical voice alarm

announcements. A speech intelligibility index of 0.5 seconds had to be achieved for every seat, despite a natural reverberation time of 3 seconds. The system also had to be flexible, as effective in use for a sporting event as a rock concert, or simply rallying the fans of the Kölner Haie, the LANXESS Arena's home team.

The TW AUDiO solution comprises a central cluster of 56 VERA36 cabinets and 16 VERA S33 subwoofers with 10 T24N enclosures serving the field and the stands. Custom rigging was created for the arrays and flown Lab.gruppen® amplifiers. Having been in service since October 2016, the system meets every technical requirement and has exceeded the coverage and quality expectations of Michael Häck. "The system's incredible intelligibility and defined sound coverage is utterly convincing," he confirms. "We enjoyed close collaboration with TW AUDiO where every inspirational, constructive idea was thought through and implemented, and that still continues."

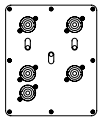
Impressions

ACCESSORIES

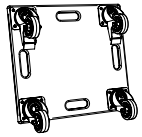
Accessories B series

B10

BagB10
Professional grade carrying bag for one B10, constructed from black polyester with durable, inner foam protective cladding, complete with additional space for accessories and carrying straps.



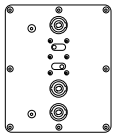
PWB10
Passive internal crossover for the B10, with switchable high-pass outputs to operate in passive stereo mode with the C5 and passive mono mode with M6/M8/M10 loudspeakers on one amplifier channel. Weight 3 kg (6.6 lbs).



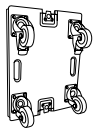
QDB10
Dolly to transport up to four, vertically stacked B10. Supplied with four 80 mm (3.1") swivel castors, two with brakes, plus four carrying handles.
Dimensions 500 × 440 × 120 mm, weight 5 kg.
(19.7" × 17.3" × 4.7", 11 lbs)

B15

CoverB15
Professional grade protective cover for one B15 when transported on FDB15, constructed from black polyester with durable, inner foam protective cladding.



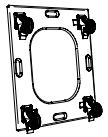
PWB15
Passive internal crossover for the B15, with switchable high and low-pass filters to operate B15 with M8/M6/M10/M12/M15 in passive mode at one amplifier channel. Weight 2.1 kg (4.6 lbs).



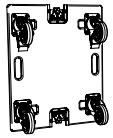
FDB15
Dolly to transport one B15. Supplied with four 80 mm (3.1") swivel castors, two with brakes, plus two butterfly catches and two carrying handles.
Dimensions 500 × 440 × 138 mm, weight 5.5 kg.
(19.7" × 17.3" × 5.4", 12.1 lbs)

B18

CoverB18
Professional grade protective cover for one B18/VERA S18 when transported on FDB18, constructed from black polyester with durable, inner foam protective cladding.



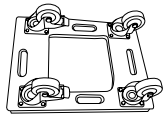
QDB18
Dolly to transport up to four, vertically stacked B18/S18/S32. Supplied with four 100 mm (3.9") swivel castors, two with brakes, plus four carrying handles.
Dimensions 800 × 600 × 150 mm, weight 9.6 kg.
(31.5" × 23.6" × 5.9", 21.2 lbs)



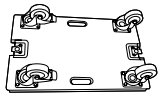
FDB18
Dolly to transport one B18/S18. Supplied with four 100 mm (3.9") swivel castors, two with brakes, plus two butterfly catches and two carrying handles.
Dimensions 600 × 500 × 170 mm, weight 9 kg.
(23.6" × 19.7" × 6.7", 19.8 lbs)

B30

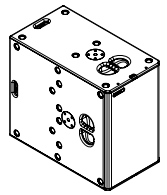
CoverB30
Professional grade protective cover for one B30/VERA S30 when transported on FDB30, constructed from black polyester with durable, inner foam protective cladding.



QDB30
Dolly to transport up to four vertically stacked B30/VERA S30/VERA S33 subwoofers. Supplied with four 100 mm (3.9") swivel castors with brakes, plus four carrying handles.
Dimensions 800 × 700 × 150 mm, weight 9.6 kg.
(31.5" × 27.6" × 5.9", 21.2 lbs)



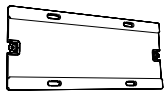
FDB30
Dolly to transport one B30/VERA S30/T24N. Supplied with four 100 mm (3.9") swivel castors, two with brakes, plus two butterfly catches and four carrying handles.
Dimensions 700 × 440 × 170 mm, weight 9 kg.
(27.6" × 17.3" × 6.7", 19.8 lbs)



TC30
A rugged tool case for transportation, matching the dimensions and boasting an identical design to the B30 with rear panel access. Can also be used as a spacer in ground-stacks (as shown in T-series system diagrams on page 37).

BSX

CoverBSX
Professional grade protective cover for one BSX when transported on its own castors, constructed from black polyester with durable, inner foam protective cladding.

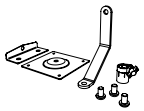


FDBSX
Front mountable cover for one BSX with four recessed gripping handles.
Dimensions 1400 × 600 × 30 mm, weight 12 kg.
(55.1" × 23.6" × 1.2", 26.5 lbs)

Accessories C series

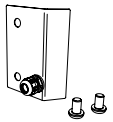
C5

BagC5
Professional carrying bag for two C5, constructed from black polyester with durable, inner foam protective cladding, complete with additional space for accessories and carrying straps.



MKC5
Mounting kit for one C5, consisting of ball mount, wall plate, mounting bracket, adaptor bracket and three M10 screws. Allows mounting of one C5 to a wall, ceiling or tripod. Weight 0.8 kg (1.8 lbs).

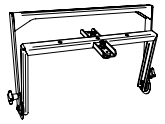
WHC5
Wall mount for one C5, consisting of two M6 threads at the rear of the enclosure.
Dimensions 160 × 90 × 104 mm, weight 0.9 kg.
(6.3" × 3.5" × 4.1", 2 lbs)



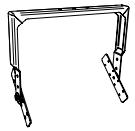
WPC5
Installation cover for one C5 with cable gland and two M10 screws. IP54 protection class will be achieved when mounted. Weight 0.2 kg (0.4 lbs).

C12

CaseC12
Professional grade flight case for two C12, constructed from black, PVC laminated, 9 mm (0.4") birch plywood. Supplied with high quality interior fittings, four 100 mm (3.9") swivel castors, two with brakes, plus six recessed sprung handles.
Dimensions 685 × 600 × 600 mm, weight 31.5 kg.
(27" × 23.6" × 23.6", 69.4 lbs)



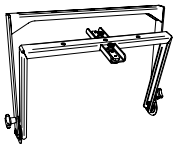
SBC12
Swivel bracket with latching mechanism for rotational upright installation of one C12 with HSF on stand / pole or with DHST directly on truss / pipe.
Dimensions 375 × 610 × 190 mm, weight 5.5 kg.
(14.8" × 24" × 7.5", 12.1 lbs)



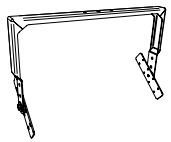
QBC12
Installation swivel bracket for horizontal installation of one C12 with HSF on tripod or with DHST directly on truss / pipe. Mounting comes complete with two adaptor plates and additional screws.
Dimensions 340 × 485 × 82 mm, weight 2.8 kg.
(13.4" × 19.1" × 3.2", 6.2 lbs)

C15

CaseC15
Professional grade flight case for two C15, constructed from black, PVC laminated, 9 mm (0.4") birch plywood. Supplied with high quality interior fittings, four 100 mm (3.9") swivel castors, two with brakes, plus six recessed sprung handles.
Dimensions 825 × 600 × 600 mm, weight 36.5 kg.
(32.5" × 23.6" × 23.6", 80.5 lbs)



SBC15
Swivel bracket with grid mechanism for rotatable upright installation of the C15 loudspeaker with HSF on stand / distance pole or with DHST directly on truss / pipe.
Dimensions 430 × 610 × 190 mm, weight 6.3 kg.
(16.9" × 24" × 7.5", 13.9 lbs)



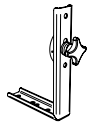
QBC15
Installation swivel bracket for horizontal installation of one C15 with HSF on tripod or with DHST directly on truss / pipe. Mounting comes complete with two adaptor plates and additional screws.
Dimensions 340 × 645 × 82 mm, weight 3 kg.
(13.4" × 25.4" × 3.2", 6.6 lbs)

M series

M6

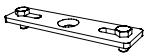
BagM6
Professional carrying bag for two M6 enclosures, constructed from black polyester with durable, inner foam protective cladding, complete with additional space for accessories and carrying straps.

CaseM6
Professional grade flight case for four M6, constructed from black, PVC laminated, 9 mm (0.4") birch plywood. Supplied with high quality interior fittings, four 100 mm (3.9") swivel castors, two with brakes, plus six recessed sprung handles.
Dimensions 600 × 480 × 700 mm, weight 29 kg.
(23.6" × 18.9" × 27.6", 63.9 lbs)



SBM6
Swivel bracket for upright or horizontal installation of the M6 loudspeaker with HSF on stand / pole or with DHST directly on truss / pipe.
Dimensions 272 × 230 × 45 mm, weight 1 kg.
(10.7" × 9.1" × 1.8", 2.2 lbs)

WHM6
Wall mount for one M6 loudspeaker, comprising two M6 threads at the rear of the enclosure.
Dimensions 160 × 90 × 104 mm, weight 0.9 kg.
(6.3" × 3.5" × 4.1", 2 lbs)



CBL
Cluster plate for mounting two M6 to HSF. Please note you will need two CBLs to mount two M6 or M8 to DHST, TV-spigot or HSA. Supplied with M10 screws.
Dimensions 180 × 42 × 6 mm, weight 0.3 kg.
(7.1" × 1.7" × 0.2", 0.7 lbs)

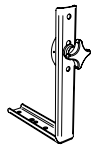
QBM6
Installation swivel bracket for horizontal installation of one M6 loudspeaker with HSF on tripod or with DHST directly on truss / pipe. Mounting comprises M10 screws.
Dimensions 148 × 372 × 40 mm, weight 1 kg.
(5.8" × 14.6" × 1.6", 2.2 lbs)

Accessories M series

M8

BagM8
Professional carrying bag for two M8, constructed from black polyester with durable, inner foam protective cladding, complete with additional space for accessories and carrying straps.

CaseM8
Professional grade flight case for four M8, constructed from black, PVC laminated, 9 mm (0.4") birch plywood. Supplied with high quality interior fittings, four 100 mm (3.9") swivel castors, two with brakes, plus six recessed sprung handles.
Dimensions 600 × 710 × 640 mm, weight 34.5 kg.
(23.6" × 28" × 25.2", 76.1 lbs)



SBM8
Swivel bracket for upright or horizontal installation of the M8 loudspeaker with HSF on stand / pole or with DHST directly on truss / pipe.
Dimensions 350 × 260 × 46 mm, weight 1.3 kg.
(13.8" × 10.2" × 1.8", 76.1 lbs)

WHM8
Wall mount for one M8, comprising two M6 threads at the rear of the enclosure.
Dimensions 160 × 90 × 104 mm, weight 0.9 kg.
(6.3" × 3.5" × 4.1", 2 lbs)

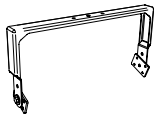
QBM8
Installation swivel bracket for horizontal installation of one M8 loudspeaker with HSF on tripod or with DHST directly on truss / pipe. Mounting comprises M10 screws.
Dimensions 163 × 462 × 40 mm, weight 1.2 kg.
(6.4" × 18.2" × 1.6", 2.6 lbs)

M10

CoverM10
Professional protective cover for one M10 constructed from black polyester with durable, inner foam protective cladding.

CaseM10
Professional grade flight case for two M10, constructed from black, PVC laminated, 9 mm (0.4") birch plywood. Supplied with high quality interior fittings, four 100 mm (3.9") swivel castors, two with brakes, plus six recessed sprung handles.
Dimensions 700 × 350 × 620 mm, weight 24 kg.
(27.6" × 13.8" × 24.4", 52.9 lbs)

SBM10
Swivel bracket with latching mechanism for upright installation of one M10 with HSF on stand / pole or with DHST directly on truss / pipe.
Dimensions 305 × 400 × 225 mm, weight 4.4 kg.
(12" × 15.7" × 8.9", 9.7 lbs)



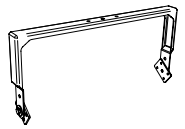
QBM10
Installation swivel bracket for horizontal installation of one M10 with HSF on tripod or with DHST directly on truss / pipe. Mounting comprises M10 screws.
Dimensions 255 × 544 × 82 mm, weight 2.6 kg.
(10" × 21.4" × 3.2", 5.7 lbs)

M12

CoverM12
Professional protective cover for one M12 constructed from black polyester with durable, inner foam protective cladding.

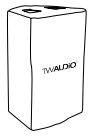
CaseM12
Professional grade flight case for two M12, constructed from black, PVC laminated, 9 mm (0.4") birch plywood. Supplied with high quality interior fittings, four 100 mm (3.9") swivel castors, two with brakes, plus six recessed sprung handles.
Dimensions 800 × 410 × 700 mm, weight 29.2 kg.
(31.5" × 16.1" × 27.6", 64.4 lbs)

SBM12
Swivel bracket with latching mechanism for upright installation of one M12 with HSF on stand / pole or with DHST directly on truss / pipe.
Dimensions 460 × 405 × 225 mm, weight 4.9 kg.
(18.1" × 15.9" × 8.9", 10.8 lbs)



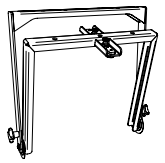
QBM12
Installation swivel bracket for horizontal installation of one M12 with HSF on tripod or with DHST directly on truss / pipe. Mounting comprises M10 screws.
Dimensions 280 × 645 × 82 mm, weight 3 kg.
(11" × 25.4" × 3.2", 6.6 lbs)

M15

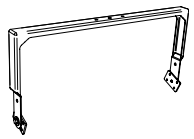


CoverM15
Professional protective cover for one M15, constructed from black polyester with durable, inner foam protective cladding.

CaseM15
Professional grade flight case for two M15, constructed from black, PVC laminated, 9 mm (0.4") birch plywood. Supplied with high quality interior fittings, four 100 mm (3.9") swivel castors, two with brakes, plus six recessed sprung handles.
Dimensions 830 × 480 × 920 mm, weight 36.5 kg.
(32.7" × 18.9" × 36.2", 80.5 lbs)



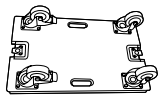
SBM15
Swivel bracket with latching mechanism for upright installation of one M15 with HSF on stand / pole or with DHST directly on truss / pipe.
Dimensions 570 × 450 × 225 mm, weight 5.6 kg.
(22.4" × 17.7" × 8.9", 12.3 lbs)



QBM15
Installation swivel bracket for horizontal installation of one M15 with HSF on tripod or with DHST directly on truss / pipe. Mounting comprises M10 screws.
Dimensions 340 × 745 × 82 mm, weight 3.5 kg.
(13.4" × 29.3" × 3.2", 7.7 lbs)

Accessories T series

T24N

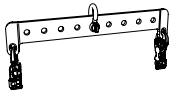


FDB30
Dolly to transport one B30/VERA S30/T24N. Supplied with four 100 mm (3.9") swivel castors, two with brakes, plus two butterfly catches and four carrying handles.
Dimensions 700 × 440 × 170 mm, weight 9 kg.
(27.6" × 17.3" × 6.7", 19.8 lbs)

CoverT24
Professional grade protective cover for one T24N when transported on FDB30, constructed from black polyester with durable, inner foam protective cladding.

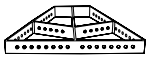
CaseT24
Professional grade flight case for two T24N, constructed from black, PVC laminated, 9 mm (0.4") birch plywood. Supplied with high quality interior fittings, four 100 mm (3.9") swivel castors, two with brakes, plus six recessed sprung handles.
Dimensions 960 × 920 × 480 mm, weight 40 kg.
(37.8" × 36.2" × 18.9", 88.2 lbs)

SBT24
Swivel bracket with tool-free, latching mechanism to mount one T24N on stand/pole or with DHST directly on truss/pipe.
Dimensions 520 × 495 × 110 mm, weight 6.3 kg.
(20.5" × 19.5" × 4.3", 13.9 lbs)



CBT24
Cradle bar with two double studs and locking splints to fly one T24N loudspeaker, including one SK10 shackle.
Dimensions 410 × 90 × 8 mm, weight 1.7 kg.
(16.1" × 3.5" × 0.3", 3.7 lbs)

BLT24
Steel box link connector with double studs and locking splints to install the T24N and VERA S30 in a vertical array, offering a capacity of 135 kg based on BGV-C1 with a safety factor of 10.
Dimensions are 280 × 30 × 30 mm, weight 0.3 kg.
(11" × 1.2" × 1.2", 0.7 lbs)

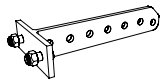


MCT24
Main cradle frame for flying two T24N cradle bars in a horizontal arrangement, extendable in 45 degree angles up to 360 degrees.
Dimensions 585 × 475 × 60 mm, weight 9.4 kg.
(23" × 18.7" × 2.4", 20.7 lbs)

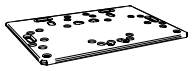
ASK4
Four leg chain for hanging one MCT24 at a single rigging point, comprising 1 × SK20 and 4 × SK10 shackles with a combined carrying capacity of 1.12 t WLL.
Dimensions 510 × 80 × 80 mm, weight 2.7 kg.
(20.1" × 3.1" × 3.1", 6 lbs)

BAT24
Adaptor for connecting the BBT24 with the MCT24 comprising a bolt and split pin adaptor.
Dimensions 124 × 46 × 40 mm, weight 0.9 kg.
(4.9" × 1.8" × 1.6", 2 lbs)

BBT24
Rear mounted bracket for hanging T24N enclosures in a vertical array, comprising a locking mechanism with quicklock pin.
Dimensions 732 × 100 × 105 mm, weight 2.2 kg.
(28.8" × 3.9" × 4.1", 4.9 lbs)



BCT24
Adaptor for connecting the BBT24 with the CBT24 with connection via quick lock pin and screws, including two M12 × 30 screws and two M12 locking nuts.
Dimensions 260 × 126 × 48 mm, weight 1 kg.
(10.2" × 5" × 1.9", 2.2 lbs)

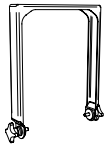


ARBT24
Array board with predesigned angle for double-stacking T24N side by side on upright B30/S30.
Dimensions 882 × 600 × 26 mm, weight 6.6 kg.
(34.7" × 23.6" × 1", 14.6 lbs)

T20

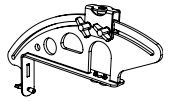
CoverT20
Professional protective cover for one T20 constructed from black polyester with durable, inner foam protective cladding.

CaseT20
Professional grade flight case for two T20, constructed from black, PVC laminated, 9 mm (0.4") birch plywood. Supplied with high quality interior fittings, four 100 mm (3.9") swivel castors, two with brakes, plus six recessed sprung handles.
Dimensions 900 × 860 × 460 mm, weight 34 kg.
(35.4" × 33.9" × 18.1", 75 lbs)



SBT20
Swivel bracket to mount T20 system on tripod/pole or with DHST directly on truss. Supplied with two M10 handles.
Dimensions 415 × 410 × 50 mm, weight 3 kg.
(16.3" × 16.1" × 2", 6.6 lbs)

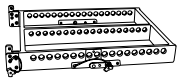
QBT20
Installation swivel bracket for horizontal installation of one T20 with HSF on tripod or with DHST directly on truss/pipe. Mounting comprises two M10 screws.
Dimensions 645 × 285 × 50 mm, weight 2.3 kg.
(25.4" × 11.2" × 2", 5.1 lbs)



URA20
Universal rigging adapter for tiltable horizontal and vertical mounting of one T20 on tripod/pole with HSA or with DHST directly on truss.
Dimensions 440 x 265 x 40 mm, weight 4.2 kg.
(17.3" × 10.4" × 1.6", 9.3 lbs)

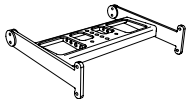
Accessories VERA10 series

RIGGING

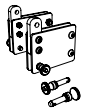


VERA RF300
Rigging frame for VERA10/VERA S15/VERA L24, capable of flying up to 18 VERA10 elements based on BGV-C1. Can also be used as ground-stacking frame for up to eight VERA10. Supplied with connection ear and self-lock pins.
Dimensions 690×580×110mm, weight 19kg.
(27.2"×22.8"×4.3", 41.9lbs)

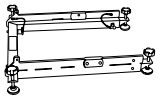
VERA UF10
Universal frame for up to four VERA10 elements to place on tripod with HSF or to hang arrays with up to eight VERA10. Additional M20 connector will mount up to eight VERA10 units on top of every TWAUDiO subwoofer with M20 flange, based on BGV-C1.
Dimensions 500×380×110mm, weight 6kg.
(19.7"×15"×4.3", 13.2lbs)



VERA SF10
Small frame for up to three VERA10 to place on tripod with HSF or to hang with DHST.
Dimensions 500×380×110mm, weight 5.5kg.
(19.7"×15"×4.3", 12.1lbs)

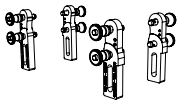


VERA RFEX
Adaptor to extend the rear of the VERA RF300, enabling it to hang up to eight VERA S18 in an array according to BGV-C1. Supplied with all necessary fixings. Weight 2kg (4.4lbs).

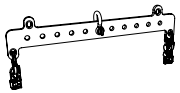


VERA GF10
Ground frame for up to 12 VERA10/VERA S15/VERA L24 units, complete with extendable and adjustable spindle feet for tilt resistant setup and height compensation.
Dimensions 690×620×150mm, weight 13.5kg.
(27.2"×24.4"×5.9", 29.8lbs)

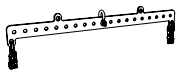
BLT24
Steel box link connector with double studs and locking splints to install the T24N and VERA S30 in a vertical array, offering a capacity of 135kg based on BGV-C1 with a safety factor of 10.
Dimensions are 280×30×30mm, weight 0.3kg.
(11"×1.2"×1.2", 0.7lbs)



BLS
Box link set to vertically connect VERA S18/VERA S32/VERA S33 subwoofers with RF300/RF600/RF900 units. Comprises four links, each with two quick-lock pins, weight 1kg (2.2lbs).

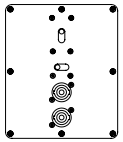


CBH30
Cradle with two double studs and locking splints for flying up to six vertically arranged VERA S30, including one shackle SK10.
Dimensions 495×93×8mm, weight 2.1kg.
(19.5"×3.7"×0.3", 4.6lbs)



CBQ30
Cradle with two double studs and locking splints for flying up to six horizontally arranged VERA S30, including one shackle SK10.
Dimensions 755×93×8mm, weight 2.8kg.
(29.7"×3.7"×0.3", 6.2lbs)

VERA10



PWVERA10
Passive internal crossover to operate one VERA10 top in either single channel passive mode or bi-amped active mode. Nominal impedance in passive mode is 12Ω. Supplied with a switchable high shelf attenuator offering settings of 0/-3/-6dB. Weight 1kg (2.2lbs).

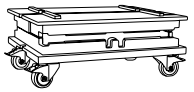
VERA DL10
2-part dolly with top and base part to transport up to twelve VERA10 plus RF300, four 100mm (3.9") swivel castors with brakes.
Dimensions 800 × 600 × 325mm, weight 26.5kg.
(31.5"×23.6"×12.8", 58.4lbs)

CaseVERA10
Professional grade flight case for four VERA10 and one RF300, constructed from black, PVC laminated, 9mm (0.4") birch plywood. Supplied with high quality interior fittings, four 100mm (3.9") swivel castors, two with brakes, plus six recessed sprung handles.
Dimensions 800×670×910mm, weight 43kg.
(31.5"×26.4"×35.8", 94.8lbs)

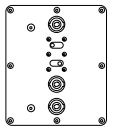
VERA L24

VERA DL24
Two-part dolly comprising top and base units to transport up to six VERA L24 plus one RF300. Supplied with four 100mm (3.9") swivel castors with brakes.
Dimensions 1200×600×320mm, weight 29 kg.
(47.2"×23.6"×12.6", 63.9lbs)

VERA S15

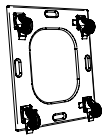


VERA DL15
Two-part dolly comprising top and base units to transport up to six VERA S15. Supplied with four 100mm (3.9") swivel castors with brakes.
Dimensions 1200×600×320mm, weight 29 kg.
(47.2"×23.6"×12.6", 63.9lbs)

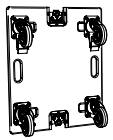


PWS15
Passive internal crossover for the VERA S15, with switchable high and low-pass filters to operate S15 with M8/M12/M15 in passive mode or with two VERA10P at one amplifier channel.
Weight 2.1kg (4.6lbs).

VERA S18



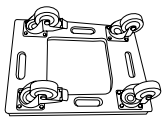
QDB18
Dolly to transport up to four, vertically stacked B18/S18. Supplied with four 100mm (3.9") swivel castors, two with brakes, plus four carrying handles.
Dimensions 800×600×150 mm, weight 9.6kg.
(31.5"×23.6"×5.9", 21.2lbs)



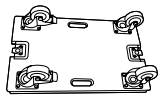
FDB18
Dolly to transport one B18/S18. Supplied with four 100mm (3.9") swivel castors, two with brakes, plus two butterfly catches and two carrying handles.
Dimensions 600×500×170mm, weight 9kg.
(23.6"×19.7"×6.7", 19.8lbs)

VERA S30

CoverB30
Professional grade protective cover for one B30/VERA S30 when transported on FDB30, constructed from black polyester with durable, inner foam protective cladding.



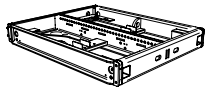
QDB30
Dolly to transport up to four vertically stacked B30/VERA S30 or two VERA S33 subwoofers. Supplied with four 100mm (3.9") swivel castors with brakes, plus four carrying handles.
Dimensions 800×700×150mm, weight 9.6kg.
(31.5"×27.6"×5.9", 21.2lbs)



FDB30
Dolly to transport one B30/VERA S30/T24N. Supplied with four 100mm (3.9") swivel castors, two with brakes, plus two butterfly catches and four carrying handles.
Dimensions 700×440×170mm, weight 9kg.
(27.6"×17.3"×6.7", 19.8lbs)

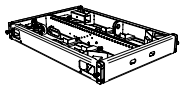
Accessories VERA20 | VERA36 series

RIGGING



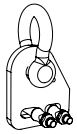
VERA RF900
Rigging frame, capable of hanging up to 24 VERA36 or 12 VERA S33 elements, based on BGV-C1. Can also be used as ground-stacking frame with ORF900/GSK36/BLS. Supplied with one LA900 and three locking pins.
Dimensions 700×850×100 mm, weight 35 kg. (27.6"×33.5"×3.9", 77.2 lbs)

CaseRF900
Professional grade flight case for two RF900 rigging frames complete with all accessories. Constructed from black, PVC laminated, 9 mm (0.4") birch plywood and supplied with high quality interior fittings, four 100 mm (3.9") swivel castors, two with brakes, plus 14 recessed sprung handles.
Dimensions 1040×800×600 mm, weight 56.8 kg. (40.9"×31.5"×23.6", 125.2 lbs)

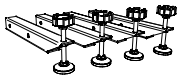


VERA RF600
Rigging frame, capable of hanging up to 24 VERA20 or 12 VERA S32 elements, based on BGV-C1. Can also be used as ground-stacking frame with ORF900/BLS. Supplied with one LA900 and six locking pins.
Dimensions 600×800×100 mm, weight 27 kg. (23.6"×18.9"×3.9", 59.5 lbs)

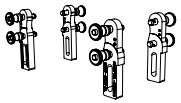
CaseRF600
Professional grade flight case for two RF600 rigging frames complete with all accessories. Constructed from black, PVC laminated, 9 mm (0.4") birch plywood and supplied with high quality interior fittings, four 100 mm (3.9") swivel castors, two with brakes, plus 14 recessed sprung handles.
Dimensions 1000×700×600 mm, weight 53 kg. (39.4"×27.6"×23.6", 116.8 lbs)



VERA LA900
Load adapter with shackle and two locking pins to hang RF900/RF600 on one or two-stranded rigging points.
Dimensions 150×100×70 mm, weight 1.1 kg. (5.9"×3.9"×2.8", 2.4 lbs)

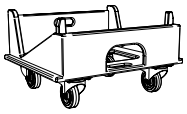


VERA ORF900
Outrigger which enables the RF900/RF600 to be used as a ground frame. Supplied with four adjustable spindle feet for tilt resistant setup and height compensation. Weight 5 kg (11 lbs).



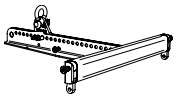
BLS
Box link set to vertically connect VERA S18/VERA S32/VERA S33 subwoofers with RF300/RF600/RF900 units. Comprises four links, each with two quick-lock pins, weight 1 kg (2.2 lbs).

VERA20

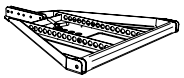


VERA DLV20
Dolly to transport up to six vertically stacked VERA20 elements. Supplied with four 100 mm (3.9") swivel castors, two carrying handles and highly-resistant PUR coating.
Dimensions 600×500×350 mm, weight 9.4 kg. (23.6"×19.7"×13.8", 20.7 lbs)

CoverV20
Protective cover professional version made of black polyester with inner foam to cover VERA20, when mounted on DLV20.

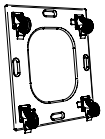


SFV20
Rigging frame to hang up to nine VERA20 elements based on BGV-C1. Supplied with one LA900 and three locking pins; can also be used as an adapter for compression mode.
Dimensions 600×550×90 mm, weight 8.2 kg. (23.6"×21.7"×3.5", 18.1 lbs)

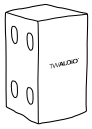


GSP20
Ground stack plate for stacking up to eight VERA20 on top of every TW AUDiO subwoofer with M20 flange.
Dimensions 700×650×100 mm, weight 9.1 kg. (27.6"×25.6"×3.9", 20.1 lbs)

VERA S32

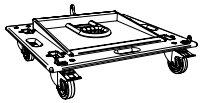


QDB18
Dolly to transport up to four, vertically stacked B18/S18/S32. Supplied with four 100 mm (3.9") swivel castors, two with brakes, plus four carrying handles.
Dimensions 800×600×150 mm, weight 9.6 kg. (31.5"×23.6"×5.9", 21.2 lbs)



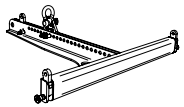
Cover2S32
Professional protective cover made of black polyester with durable, inner foam protective cladding to cover two VERA S32 elements when mounted on QDB18.

VERA36

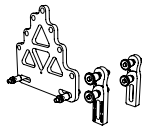


VERA DLV36
Dolly to transport up to six vertically stacked VERA36 elements. Supplied with four 100 mm (3.9") swivel castors, one carrying handle, highly-resistant PUR coating, and connection via rigging mechanism.
Dimensions 700×600×240 mm, weight 10.5 kg. (27.6"×23.6"×9.4", 23.1 lbs)

Cover4V36
Professional protective cover made of black polyester with durable, inner foam protective cladding to cover four VERA36 elements when mounted on DLV36.

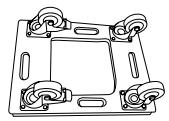


SFV36
Rigging frame to hang up to nine VERA36 elements based on BGV-C1. Supplied with one LA900 and three locking pins; can also be used as an adapter for compression mode.
Dimensions 700×650×100 mm, weight 9.1 kg. (27.6"×25.6"×3.9", 20.1 lbs)

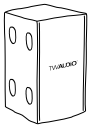


VERA GSK36
Kit for ground-stacking VERA36 enclosures on the RF900 frame or VERA S33 subwoofers. Supplied with two front links and four locking pins, plus one rear adapter with two locking pins. Weight 1 kg (2.2 lbs).

VERA S33



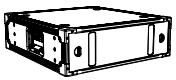
QDB30
Dolly to transport up to four vertically stacked B30/VERA S30 or two VERA S33 subwoofers. Supplied with four 100 mm (3.9") swivel castors with brakes, plus four carrying handles.
Dimensions 800×700×150 mm, weight 9.6 kg. (31.5"×27.6"×5.9", 21.2 lbs)



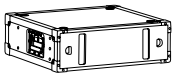
Cover2S33
Professional protective cover made of black polyester with durable, inner foam protective cladding to cover two VERA S33 units when mounted on QDB30.

Accessories Amplification

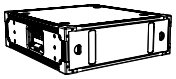
RACKS



Rack3X
Modular 19"/3U stackable rack for one Powersoft® X4 amplifier and dedicated connection panel, complete with shock mounted front and rear rack rails, front cover with quick-lock and fixed rear cover with air outlets for controlled airflow, highly resistant PUR coating, plus two recessed sprung handles.
Dimensions 700×505×186mm, weight 13.1kg. (27.6"×19.9"×7.3", 28.9lbs)

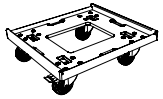


Rack3M
Modular 19"/3U stackable rack for two Powersoft® K3 or M30D amplifiers and dedicated connection panel, complete with shock mounted front and rear rack rails, front and rear cover with quick-lock, highly resistant PUR coating, plus two recessed sprung handles.
Dimensions 560×505×186mm, weight 10.5kg. (22"×19.9"×7.3", 23.1lbs)

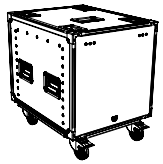


Rack3L
Modular 19"/3U stackable rack for one Lab.gruppen® PLM-series amplifier and dedicated connection panel, complete with shock mounted front and rear rack rails, front and rear cover with quick-lock, highly resistant PUR coating, plus two recessed sprung handles.
Dimensions 700×505×186mm, weight 12.3kg. (27.6"×19.9"×7.3", 27.1lbs)

DLRL
Lower transport dolly for Rack3L and Rack3X, complete with PUR coating, four 100mm (3.9") castors with wheel stops, plus four recessed gripping handles.
Dimensions 594×700×180mm, weight 8.1kg. (23.4"×27.6"×7.1", 17.9lbs)



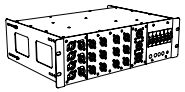
DLRM
Lower transport dolly for Rack3M, complete with PUR coating, four 100mm (3.9") castors with wheel stops, plus four recessed gripping handles.
Dimensions 594×538×180mm, weight 7.6kg. (23.4"×21.2"×7.1", 16.8lbs)



RACK10T
19"/10U stackable rack for 3× Powersoft® X4/6× K3/3× Lab.gruppen® PLM amplifiers, network switch and dedicated ACP1 connection panel constructed from 12mm (0.5") birch ply-wood complete with highly resistant PUR coating, shock mounted front and rear rack rails, front cover with quick-shut/rear cover with quick-lock. Supplied with four 100mm (3.9") swivel castors, two with brakes, plus five recessed sprung handles.
Dimensions 765×560×700mm, weight 38kg. (30.1"×22"×27.6", 17.9lbs)

Powersoft X-series

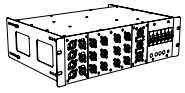
APL6-X
19"/2U connection panel to connect one Powersoft® X4 amplifier, includes 6× speakON™ NL4 outputs, 1× speakON™ NL8 output and one powerCON 32A power inlet.
(Mains sold separately)



ACP1-X
19"/3U panel for the connection of up to three Powersoft® X4 amplifiers. Specification includes power input and link output CEE 3×32A, control light per phase, 3× Schuko connectors at the back, plus 3× speakON™ NL8 and 12× speakON™ NL4 outputs.
Depth 345mm (13.6"), weight 15.2kg (18.1lbs).

Powersoft K-series

APL4-K
19"/1U connection panel to connect two K3 DSP amplifiers, includes 8× speakON™ outputs.



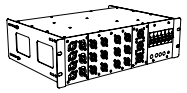
ACP1-K
19"/3U panel for the connection of up to six Powersoft® K3 amplifiers. Specification includes power input and link output CEE 3×32A, control light per phase, 3× Schuko connectors at the back, plus 3× speakON™ NL8 and 12× speakON™ NL4 outputs.
Depth 345mm (13.6"), weight 15.2kg (18.1lbs).

Powersoft M-series

APL4-M
19"/1U connection panel to connect two Powersoft® M30Ds, includes 8× speakON™ outputs.

Lab.gruppen PLM-series

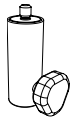
APL4-L
19"/1U connection panel to connect one Lab.gruppen® PLM 12K44 or one PLM 20K44, includes 8× speakON™ outputs.



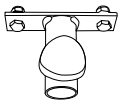
ACP1-L
19"/3U panel for the connection of up to three Lab.gruppen® PLM+ amplifiers. Specification includes power input and link output CEE 3×32A, control light per phase, 3× Schuko connectors at the back, plus 3× speakON™ NL8 and 12× speakON™ NL4 outputs.
Depth 345mm (13.6"), weight 15.2kg (18.1lbs).

APL5-L
19"/1U connection panel to connect one Lab.gruppen® PLM 12K44 or one PLM 20K44 amplifier, includes 6× speakON™ outputs.

Accessories Miscellaneous



HSA
Pole mount to fix swivel brackets and rigging parts on a standard speaker stand or pole (Ø36mm/1.4"), attached to a M12 thread.

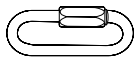


HSF
Flange to mount swivel brackets on a standard speaker stand or pole (Ø36mm/1.4"). Supplied with two M10×20 bolts plus nuts.

DHST
Doughty half coupler slim-line with M12 bolt and lock, providing a maximum load of 0.75t for single point installation with 45-48mm (1.8"-1.9") diameter circular tubes.

DHRT
Doughty half coupler slim-line with M12 ring nut, providing a maximum load of 0.34t for single point installation with Ø45-48mm (1.8"-1.9") circular tubes.

DSF
Air cargo double stud fitting for M12/M15/T24/T24N/S30 loudspeakers, latchable in flying track.



KSV06-035
Hardened, tempered and galvanised chain fastener that enables direct connection of two DSFs or connection between DSF and DHRT. CE certified, 0.35t WLL.

SD06-100
Ø 6mm (0.2") rigging steel cable (length: 1m/3.3ft). One end DSF, the other KSV06-035 - both ends with thimble eyes. Capable of carrying 195kg (429.9lbs) in accordance with BGI-810 with a safety factor of 10.

SS06-100
Ø 6mm (0.2") rigging steel cable (length: 1m/3.3ft). Both ends with thimble eyes and supplied with 2× shackle SK05 units for supporting loads up to 195kg (429.9lbs) based on BGI-810.

SS08-100
Ø 8mm (0.3") rigging steel cable (length: 1m/3.3ft). Both ends with thimble eyes and supplied with 2× shackle SK10 units for supporting loads up to 350kg (771.6lbs) based on BGI-810.

SS10-100
Ø 10mm (0.4") rigging steel cable (length: 1m/3.3ft). Both ends with thimble eyes and supplied with 2 x shackle SK20 units for supporting loads up to 350kg (771.6lbs) based on BGI-810.

SS12-100
Ø 12mm (0.5") rigging steel cable (length: 1m/3.3ft). Both ends with thimble eyes and supplied with 2 x shackle SK32 units for supporting loads up to 750kg (1653.5lbs) based on BGI-810.

RSM6
Eyebolt M6, DIN 580, drop-forged, galvanized, 0.14t WLL.

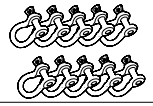
RSM10
Eyebolt M10, DIN 580, drop-forged, galvanized, 0.23t WLL.

RSM12
Eyebolt M12, DIN 580, drop-forged, galvanized, 0.34t WLL.

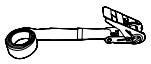
SK05X10
Package of 10 high tensile steel shackles with a carrying capacity of 0.5 t WLL.

SK10X10
Package of 10 high tensile steel shackles with a carrying capacity of 1.0 t WLL.

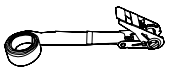
SK20X10
Package of 10 high tensile steel shackles with a carrying capacity of 2.0 t WLL.



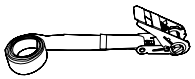
SK32X10
Package of 10 high tensile steel shackles with a carrying capacity of 3.25 t WLL.



ZG25-1
Lashing strap, length 1m (3.3ft). Black, one-piece, 25mm (1") width, 400 kg nominal load capacity.



ZG25-2
Lashing strap, length 2m (6.6ft). Black, one-piece, 25mm (1") width, 400 kg nominal load capacity.



ZG25-5
Lashing strap, length 5m (16.4ft). Black, one-piece, 25mm (1") width, 400 kg nominal load capacity.

LSK44-005
Loudspeaker cable, length 0.5m (1.6ft). 4×4mm² assembled with Neutrik®NL4, supplied with VELCRO® strip.

LSK44-010
Loudspeaker cable, length 1m (3.3ft). 4×4mm² assembled with Neutrik®NL4, supplied with VELCRO® strip.

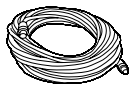
LSK44-025
Loudspeaker cable, length 2.5m (8.2ft). 4×4mm² assembled with Neutrik®NL4, supplied with VELCRO® strip.

LSK44-050
Loudspeaker cable, length 5m (16.4ft). 4×4mm² assembled with Neutrik®NL4, supplied with VELCRO® strip.

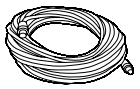
LSK44-050 reversed
Reversible loudspeaker cable, length 5m (16.4ft). 4×4mm² (Pin 1+ 2+/1- 2-) assembled with Neutrik®NL4, supplied with VELCRO® strip.

LSK44-100
Loudspeaker cable, length 10m (32.8ft). 4×4mm² assembled with Neutrik®NL4, supplied with VELCRO® strip.

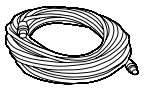
LSK44-150
Loudspeaker cable, length 15m (49.2ft). 4×4mm² assembled with Neutrik®NL4, supplied with VELCRO® strip.



LSK44-200
Loudspeaker cable, length 20m (65.6ft). 4×4mm² assembled with Neutrik®NL4, supplied with VELCRO® strip.

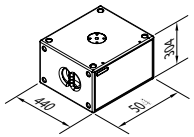
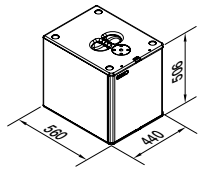


LSK44-250
Loudspeaker cable, length 25m (82ft). 4×4mm² assembled with Neutrik®NL4, supplied with VELCRO® strip.



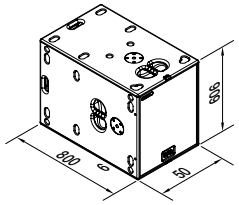
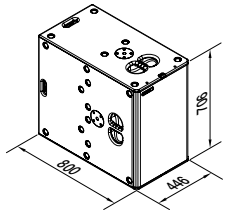
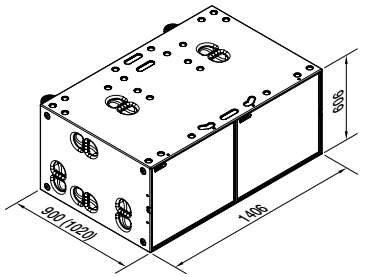
LSK44-300
Loudspeaker cable, length 30m (98.4ft). 4×4mm² assembled with Neutrik®NL4, supplied with VELCRO® strip.

Technical data B series

Model	B10*	B15
		
Drivers	1 × 10"	1 × 15"
Frequency range	40 – 400 Hz	40 – 1500 Hz
Power capacity program / peak	700 / 1400 W	1200 / 2400 W
Impedance	active mode 1 × 8 Ω (optional 2 × 16 Ω) passive mode 2 × 12 Ω or 1 × 6 Ω switchable	active mode 4 Ω passive mode 2.5 Ω with M8 at highpass output
Coverage (h × v)	omni	omni
Sensitivity 1 W / 1 m	91 dB	94 dB
SPLmax / 1 m	123 dB	127 dB
Connector	2 × speakON™ NL4, Pin2+/-	2 × speakON™ NL4, Pin2+/-
Dimensions (h × w × d)	304 × 504 × 440 mm (11.97" × 19.84" × 17.32")	506 × 440 × 560 mm (19.92" × 17.32" × 22.05")
Weight	16.1 kg (35.5 lbs) 20.1 kg (44.3 lbs) with PWB10	22.1 kg (48.7 lbs) 24.2 kg (53.4 lbs) with PWB15
Finish	Warnex texture paint	Warnex texture paint
Accessories	BagB10, QDB10	FDB15, CoverB15
Options	PWB10 internal passive crossover, passive lowpass, stereo- / mono-mode switchable, two switchable highpass outputs for 8 – 24 Ω satellite speakers, RAL colors	PWB15 internal passive crossover, switchable active and passive mode, switchable highpass output for 8 Ω satellite speaker, RAL colors

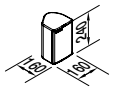
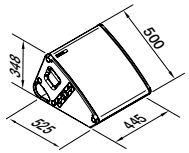
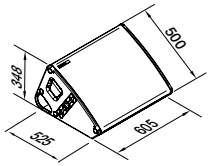
*also available as i-series installation version

Technical data B series

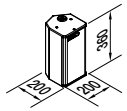
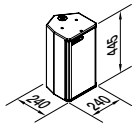
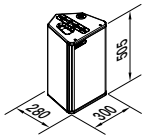
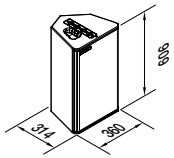
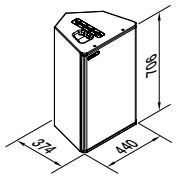
Model	B18	B30*	BSX
			
Drivers	1 × 18"	2 × 15"	2 × 21"
Frequency range	32 – 160 Hz	35 – 200 Hz	27 – 120 Hz
Power capacity program / peak	2400 / 4800 W	2000 / 4000 W	2 × 3600 W / 2 × 10000 W
Impedance	8 Ω	8 Ω	2 × 4 Ω
Coverage (h × v)	omni	omni	omni
Sensitivity 1 W / 1 m	96 dB	97 dB	99 dB
SPLmax / 1 m	132 dB	133 dB	142 dB
Connector	4 × speakON™ NL4, REAR: Pin2+/-, FRONT: Pin1 connected	2 × speakON™ NL4, Pin2+/-	2 × speakON™ NL4, Pin1+/- = LS1, Pin2+/- = LS2
Dimensions (h × w × d)	606 × 506 × 800 mm (23.86" × 19.92" × 31.5")	706 × 446 × 800 mm (27.8" × 17.56" × 31.5")	606 × 1406 × 900 mm (without castors) (23.86" × 55.35" × 35.43")
Weight	42.6 kg (93.9 lbs)	38.7 kg (85.3 lbs)	109 kg (240.3 lbs)
Finish	Warnex texture paint	Warnex texture paint	polyurea coating
Accessories	FDB18, QDB18, CoverB18	FDB30, QDB30, CoverB30	FDBSX, CoverBSX
Options	RAL colors	RAL colors	RAL colors (Warnex texture paint)

***** also available as i-series installation version

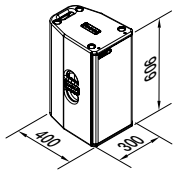
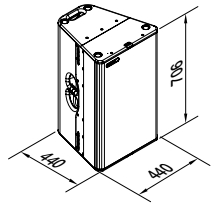
Technical data C series

Model	C5	C12		C15	
					
Drivers	1 × 5" LF | 1 × 1" HF coaxial	1 × 12" LF | 1 × 1.4" HF coaxial		1 × 15" LF | 1 × 1,4" HF coaxial	
Frequency range	90 – 20000 Hz	62 – 17000 Hz		55 – 17000 Hz	
Power capacity program / peak	250 / 500 W (passive)	700 W (bi-amped LF) 280 W (bi-amped HF)	700 / 1400 W (passive)	800 W (bi-amped LF) 280 W (bi-amped HF)	800 / 1600 W (passive)
Impedance	24 Ω (passive)	8 Ω (bi-amped LF) 20 Ω (bi-amped HF)	8 Ω (passive)	8 Ω (bi-amped LF) 20 Ω (bi-amped HF)	8 Ω (passive)
Coverage (h × v)	110° radial	In monitor use 55° × 70° HF-horn, rotatable		In monitor use 55° × 70° HF-horn, rotatable	
Sensitivity 1 W / 1 m	91 dB	101 dB		101 dB	
SPLmax / 1 m	117 dB	132 dB		133 dB	
Connector	2 × speakON™ NL4, Pin1+/-, push terminal	3 × speakON™ NL4, Pin1+/- HF | Pin2+/- LF (bi-amped)	3 × speakON™ NL4, Pin1+/- (passive)	3 × speakON™ NL4, Pin1+/- HF | Pin2+/- LF (bi-amped)	3 × speakON™ NL4, Pin1+/- (passive)
Dimensions (h × w × d)	240 × 160 × 160 mm (9.45" × 6.3" × 6.3")	348 × 445 × 525 mm (13.7" × 17.52" × 20.67")		348 × 605 × 525 mm (13.7" × 23.82" × 20.67")	
Weight	3.9 kg (8.6 lbs)	19.6 kg (43.2 lbs)		23.8 kg (52.5 lbs)	
Finish	Warnex texture paint	Warnex texture paint		Warnex texture paint	
Accessories	BagC5, MKC5, WHC5, WPC5 (for IP 54 rating)	SBC12, CaseC12, QBC12		SBC15, CaseC15, QBC15	
Options	RAL colors	RAL colors		RAL colors	

Technical data M series

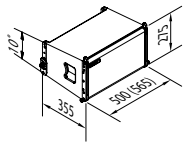
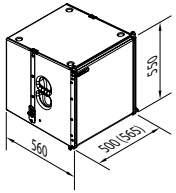
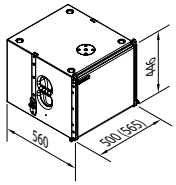
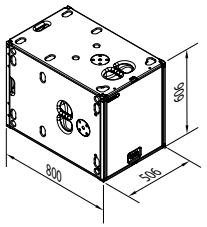
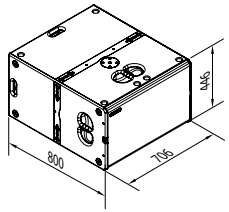
Model	M6	M8	M10	M12	M15
					
Drivers	1 × 6.5" LF | 1 × 1" HF	1 × 8" LF | 1 × 1" HF	1 × 10" LF | 1 × 1.4" HF	1 × 12" LF | 1 × 1.4" HF	1 × 15" LF | 1 × 1.4" HF
Frequency range	80 – 20000 Hz	70 – 20000 Hz	68 – 19000 Hz	60 – 19000 Hz	50 – 19000 Hz
Power capacity program / peak	250 / 500 W	400 / 800 W	600 / 1200 W	700 / 1400 W	800 / 1600 W
Impedance	16 Ω	8 Ω	8 Ω	8 Ω	8 Ω
Coverage (h × v)	90° × 60° HF-horn, rotatable	90° × 60° HF-horn, rotatable	75° × 50° HF-horn, rotatable	75° × 50° HF-horn, rotatable	75° × 50° HF-horn, rotatable
Sensitivity 1 W / 1 m	92 dB	95 dB	97 dB	101 dB	99 dB
SPLmax / 1 m	119 dB	124 dB	127 dB	132 dB	131 dB
Connector	4 × speakON™ NL4, Pin1+/-	4 × speakON™ NL4, Pin1+/-	4 × speakON™ NL4, Pin1+/-	2 × speakON™ NL4, Pin1+/-	2 × speakON™ NL4, Pin1+/-
Dimensions (h × w × d)	360 × 200 × 200 mm (14.17" × 7.87" × 7.87")	440 × 240 × 240 mm (17.32" × 9.45" × 9.45")	505 × 300 × 280 mm (19.88" × 11.81" × 11.02")	604 × 360 × 314 mm (23.78" × 14.17" × 12.36")	706 × 440 × 374 mm (27.8" × 17.32" × 14.72")
Weight	5.8 kg (12.8 lbs)	10 kg (22 lbs)	15.2 kg (33.5 lbs)	20.2 kg (44.5 lbs)	24.4 kg (53.8 lbs)
Finish	Warnex texture paint	Warnex texture paint	Warnex texture paint	Warnex texture paint	Warnex texture paint
Accessories	SBM6, WHM6, CBL, BagM6, CaseM6	SBM8, WHM8, BagM8, CaseM8, QBM8	SBM10, CoverM10, CaseM10, QBM10	SBM12, CoverM12, CaseM12, QBM12	SBM15, CoverM15, CaseM15, QBM15
Options	Left and right version, RAL colors	Left and right version, RAL colors	Left and right version, RAL colors	Left and right version, RAL colors	Left and right version, RAL colors

Technical data T series

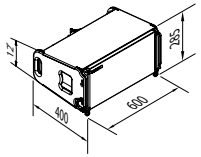
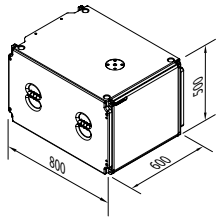
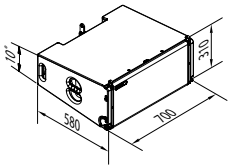
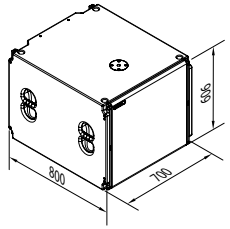
Model	T20*	T24N	
			
Drivers	2 × 10" LF | 1 × 1.4" HF	2 × 12" LF | 1 × 1.4" HF	
Frequency range	60 – 18000 Hz	65 – 18000 Hz	
Power capacity program / peak	1000 / 2000 W	1400 / 2400 W (bi-amped LF) 220 / 400 W (bi-amped HF)	1400 / 2400 W (passive)
Impedance	8 Ω (passive)	4 Ω (bi-amped LF) 8 Ω (bi-amped HF)	4 Ω (passive)
Coverage (h × v)	90° × 50° or 60° × 40° HF-horn exchangeable and rotatable	60° × 40° or 90° × 50° HF-horn exchangeable and rotatable	
Sensitivity 1 W / 1 m	106 dB (passive)	107 dB (bi-amped LF) 112 dB (bi-amped HF)	110 dB (passive)
SPLmax / 1 m	138 dB	143 dB	
Connector	2 × speakON™ NL4, Pin1+/- (passive)	2 × speakON™ NL4, Pin1+/- HF Pin 2+/- LF (bi-amped)	2 × speakON™ NL4, Pin1+/- (passive)
Dimensions (h × w × d)	606 × 300 × 400 mm (23.86" × 11.81" × 15.75")	706 × 440 × 440 mm (27.8" × 17.32" × 17.32")	
Weight	21.8 kg (48.1 lbs)	33 kg (72.8 lbs)	
Finish	Warnex texture paint	Warnex texture paint	
Accessories	HornT20-60, CaseT20, CoverT20, QBT20, SBT20, URA20	HornT24-90, CaseT24, CoverT24, FDB30, SBT24, CBT24, BLT24, MCT24, ASK4, BAT24, BBT24, BCT24, ARBT24	
Options	RAL colors	RAL colors, IP54	

*also available as i-series installation version

Technical data VERA10 series

Model	VERA10		VERA L24	VERA S15	VERA S18	VERA S30
						
Drivers	1 × 10" LF | 2 × 1" HF		2 × 12"	1 × 15"	1 × 18"	2 × 15"
Frequency range	60 – 16000 Hz		63 – 400 Hz	40 – 200 Hz	32 – 160 Hz	35 – 200 Hz
Power capacity program / peak	500 / 1000 W (bi-amped LF) 200 / 400 W (bi-amped HF)	600 / 1200 W (passive)	1300 / 2600 W	1200 / 2000 W	2400 / 4800 W	2000 / 4000 W
Impedance	16 Ω (bi-amped LF) 16 Ω (bi-amped HF)	12 Ω (passive)	8 Ω	active mode 4 Ω, passive mode 2.5 Ω with M8 at highpass output	8 Ω	8 Ω
Coverage (h × v)	80 ° or 120° × 10°			omni	omni	omni
Sensitivity 1 W / 1 m	103 dB (bi-amped LF) 111 dB (bi-amped HF)	104 dB (passive)	102 dB	94 dB	96 dB	97 dB
SPLmax / 1 m	133 dB		135 dB	127 dB	132 dB	133 dB
Connector	2 × speakON™ NL4, Pin1+/ HF Pin 2+/- LF (bi-amped)	2 × speakON™ NL4, Pin1+/- (passive)	2 × speakON™ NL4, Pin2+/-	2 × speakON™ NL4, Pin2+/-	4 × speakON™ NL4, REAR: Pin2+/-, FRONT: Pin1+/-	2 × speakON™ NL4, Pin2+/-
Dimensions (h × w × d)	275 × 500 × 355 mm (without pins) (10.83" × 19.69" × 13.98")		550 × 500 × 560 mm (without pins) (21.65" × 19.69" × 22.05")	446 × 500 × 560 mm (without pins) (17.56" × 19.69" × 22.05")	606 × 506 × 800 mm (23.86" × 19.92" × 31.5")	446 × 706 × 800 mm (17.56" × 27.8" × 31.5")
Weight	16.7 kg (36.8 lbs) 18 kg (39.7 lbs) with crossover		33.6 kg (74.1 lbs)	23 kg (50.7 lbs) 25.1 kg (55.3 lbs) with crossover	48.4 kg (106.7 lbs)	40.4 kg (89.1 lbs)
Finish	polyurea coating		polyurea coating	polyurea coating	polyurea coating	polyurea coating
Accessories	HornV10-120, CaseVERA10, DL10, RF300, GF10, SF10, UF10		DL24, RF300, GF10, UF10	DL15, RF300, GF10, UF10	FDB18, DL18, CoverB18, RFEX	FDB30, QDB30, CBH30, CBQ30, BLT24, CoverB30
Options	PWVERA10 internal passive crossover with bi-amped/ passive switch, RAL colors (Warnex texture paint)		RAL colors (Warnex texture paint)	PWS15 internal passive crossover, switchable active and passive mode, switchable highpass output for 8 Ω satellite speaker, RAL colors (Warnex texture paint)	RAL colors (Warnex texture paint)	RAL colors (Warnex texture paint)

Technical data VERA20 | VERA36 series

Model	VERA20*	VERA S32	VERA36	VERA S33
				
Drivers	2 × 10" LF | 1 × 1.4" HF	1 × 18" front | 1 × 14" rear	2 × 10" LF | 2 × 8" MF | 2 × 1.4" HF	1 × 18" front | 1 × 15" rear
Frequency range	67 – 18000 Hz	38 – 120 Hz	60 – 16000 Hz	33 – 120 Hz
Power capacity program / peak	1000 / 2000 W (passive)	2400 / 4800 W 18" 1400 / 2800 W 14"	1000 / 2000 W LF 800 / 1600 W MHF	2400 / 4800 W 18" 2000 / 4000 W 15"
Impedance	8 Ω	8 Ω 18" 8 Ω 14"	8 Ω LF 8 Ω MHF	8 Ω 18" 8 Ω 15"
Coverage (h × v)	80° or 120° × 12°	cardioid / hypercardioid / omni	80° or 120° × 10°	cardioid / hypercardioid / omni
Sensitivity 1 W / 1 m	107 dB	99 dB	98 dB LF 110 dB MHF	99 dB
SPLmax / 1 m	138 dB	134 dB	141 dB	134 dB
Connector	2 × speakON™ NL4, Pin1+/- (passive)	2 × speakON™ NL4, bi-amped Pin1+/- = 14" | Pin2+/- = 18"	2 × speakON™ NL4, bi-amped Pin1+/- = MHF | Pin2+/- = LF	2 × speakON™ NL4, bi-amped Pin1+/- = 15" | Pin2+/- = 18"
Dimensions (h × w × d)	284 × 600 × 400 mm (11.18" × 23.62" × 15.75")	506 × 600 × 800 mm (19.92" × 23.62" × 31.5")	310 × 700 × 580 mm (12.2" × 27.56" × 22.83")	606 × 700 × 800 mm (23.86" × 27.56" × 31.5")
Weight	24 kg (52.9 lbs)	53 kg (116.8 lbs)	41.6 kg (91.7 lbs)	67.2 kg (148.2 lbs)
Finish	polyurea coating	polyurea coating	polyurea coating	polyurea coating
Accessories	HornV20-120, RF600, SFV20, LA900, ORF900, BLS, GSP20, VERA DL20, CoverV20	RF600, BLS, ORF900, QDB18, Cover2S32	RF900, LA900, ORF900, GSK36, DLV36, Cover4V36	RF900, LA900, ORF900, BLS, QDB30, Cover2S33
Options	RAL colors (Warnex texture paint)	RAL colors (Warnex texture paint)	RAL colors (Warnex texture paint)	RAL colors (Warnex texture paint)

*also available as i-series installation version

Technical data Amplification

	SYSRACK-X with Powersoft X4 and APL6-X 	**SYSRACK-L with Lab.gruppen PLM12K44 and APL5-L** 
Design	- class-D technology with zero-latency - switched-mode power supply with power factor correction and three phase load balancing	- class-TD technology - switched-mode power supply with power factor correction
Operating modes	four channels or two channels bridged	four channels or two channels bridged
Power specifications	4 × 1600 W on 8 Ω 4 × 3000 W on 4 Ω 4 × 5200 W on 2 Ω	4 × 1900 W on 8 Ω 4 × 3000 W on 4 Ω 4 × 3000 W on 2 Ω
Mains voltage	100 – 240 V, 50 / 60 Hz	70 – 265 V, 45 – 66 Hz
Memory	1000+ speaker presets	100 internal
DSP	- raised cosine equalization - 2000 + 100 ms delay - FIR and parametric filters (IIR, highpass, lowpass, allpass) - definable peak- and power-limiter per channel, TruePower™, Active Damping Control™	- raised cosine equalization - 1800 ms delay - linear phase and parametric filters (IIR, highpass, lowpass, allpass) - definable LimiterMax™ – peak- and power-limiter per channel
Operation / remote	via mobile browser on iOS / Android device or via network and Powersoft® Armonía Pro Audio Suite™	via display on the device or via network and Lake® controller software
SYSRACK Input & link connectors	APL6-X patch panel input section: - 2 × AES3 in & link via XLR, 4 × analog in & link via XLR - ethernet primary / secondary for Dante™ audio network and controlling	APL5-L patch panel input section: - 1 × AES3 in & link via XLR, 4 × analog in, input 1 & 2 with link - ethernet primary / secondary for Dante™ audio network and controlling via direct connection to amp
SYSRACK Output connectors	APL6-X patch panel output section: 6 × speakON™ NL4, 1 × speakON™ NL8	APL5-L patch panel output section: 6 × speakON™ NL4
SYSRACK Mains connector	Neutrik powerCON 32 A	Neutrik powerCON 32 A direct to amp connection
SYSRACK Dimensions	700 × 505 × 186 mm (27.6" × 19.9" × 7.3")	700 × 505 × 186 mm (27.6" × 19.9" × 7.3")
SYSRACK Weight	28.6 kg (63.1 lbs)	29.5 kg (65 lbs)
This data is based on the manufacturer datasheets. Technical specifications refer to a single device.		

TW AUDiO GmbH
Osterholzallee 140-2
71636 Ludwigsburg
Germany

Tel.: +49 7141 488989-0
Fax: +49 7141 48898-99
www.twaudio.com
info@twaudio.com

Made in
Germany