

QLight™ series

Passive and Self-Powered
Loudspeaker Systems



 **Turbosound®**

Performance and Flexibility

The QLight™ series is Turbosound's most comprehensive range of portable loudspeaker products to date. Incorporating both non-powered (passive and bi-amplified) and digitally self-powered models, and designed according to proven acoustic principles, the QLight™ series delivers professional quality sound across a broad spectrum of portable and fixed install applications.

The requirement for loudspeaker products to be adaptable to both mobile use and for permanent installation made for a tough and somewhat conflicting design brief. A discreet, professional appearance was essential to allow the loudspeakers to blend effectively into differing environments; so a cosmetic package of semi-matt black textured paint with a black reticulated foam grille was specified. The more traditional TurboBlue™ textured paint is optionally available.

For corporate and audio-visual rental applications QLight™ series loudspeakers need to be physically small, manageable and easy to transport. They must also deliver great sound straight out of the box and be quick and easy to set up and operate with the minimum of technical expertise.

System control options are provided by the LMS-D24, LMS-D6 and LMS-D26 digital loudspeaker



▲ QLight™ series loudspeakers provide the main PA and delay rings for several thousand festival-goers in Old Lyme, Connecticut

management systems, developed for use with the TQ-308, TQ-310, TQ-315, TQ-445, TQ-425 and TQ-115 to optimise the loudspeaker's performance, with tailored equalisation, crossover and limiting functions specific to each model. This ensures the best possible performance, consistency and reliability, in any venue, time after time. LMS series controllers make

parameters such as limiter settings, gain, polarity, plus application-dependent voicing, available to the user in order to match specific operating and room conditions. Multiple units of a single

crossover model can be kept in rental stock, then configured for a particular job by simply calling up the factory pre-set programs from the menu.

The asymmetrical multi-functional cabinet shape of the TQ-308, TQ-310 and TQ-315 lend a high degree of flexibility to these multi-purpose products. They will effortlessly double as front-of-house loudspeakers or as floor monitors, with the equalisation being optimised by its associated LMS series controller. The asymmetrical design provides an optimum wedge angle for monitoring and additionally helps to maintain a low profile on stage.

Mobile use requires that handles and pole mounts should be included, but at a minimum cost penalty to installers. Turbosound's comfortable recessed carrying handles are constructed as an integral part of the cabinet, ergonomically placed over the centre of gravity for safe lifting and carrying.



▲ LMS-D24



▲ LMS-D26

96kHz DSP Technology for Better Sound

Turbosound once again leads the field with a major breakthrough in performance and convenience with the new digitally powered QLight™ DP series of loudspeakers.

The QLight™ DP series features a new generation of professional lightweight Class D power amplifiers with auto-sensing power supplies making it possible to connect to mains supplies virtually anywhere in the world. The DSP is based on a 96kHz sampling rate—twice that of commonly used sampling rates and the result is pristine hi-fi audio quality. But the major breakthrough is in terms of amplifier efficiency.



While it is common for conventional linear power amplifiers to attain efficiencies of around 40% at full output, the new QLight™ DP series has well and truly broken new ground with a typical operating efficiency in excess of 90%. And in contrast to conventional amplifiers, much better efficiency is reached even at low power levels. So more power is delivered to the loudspeaker and considerably less is wasted as heat.

How is that achieved? In the pulse width modulated (PWM) amplifier there is virtually no loss in the output FET's because the devices are either turned on or turned off—and because heat build-up normally occurs chiefly in the transition state between off and on, there is a lot less heat generated in the output transistors. Less heat dissipation consequently means that no heatsinks are required to cool the amplifier's output stages, and that in turn cuts down on the overall weight of the product. Improvements in the power supply department—QLight™ DP loudspeakers use ultra-fast switch-mode PSU's for a smaller, lighter,

low-loss transformer core—also contribute towards a lighter, more manageable product.

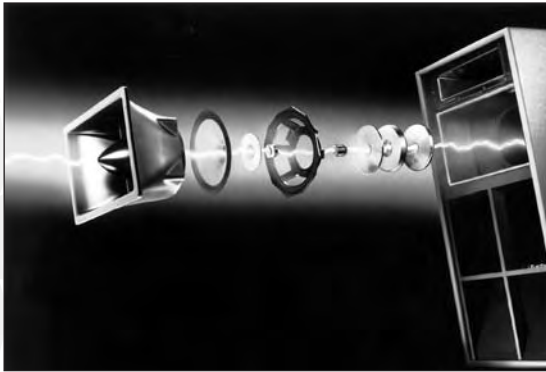
The amplifier modules incorporate sophisticated DSP, including active crossovers and output limiters, making up a completely self-contained and optimised audio system that requires only a line level signal feed from a professional mixing console to give consistent performance without the need for racks of additional outboard equipment and power amplifiers.

The amplifier modules have been designed for easy removal from the loudspeaker enclosure, so making emergency on-site servicing or replacement very practical. The rear panels provide an intuitive connection interface, with balanced input and link XLR's for signal level connections; a lockable Neutrik Powercon and power switch for AC mains input, plus mains power and limiting threshold LED's to monitor system status. In order to enhance system reliability, the modules self-test at switch-on with a diagnostic routine, muting the output for a few seconds to avoid switch-on spikes from equipment in front of the amplifier damaging the speakers.

QLight™ loudspeakers are fitted with a comprehensive range of rigging and mounting options. Present on all models are internal rigging points which are compatible with M10 shoulder eyebolts. Wall and ceiling bracket fixings, OmniMount™ compatibility and pole mounts are standard on all two-way cabinets, and a special-order RT-767 fly point option is also available for the TQ-310 and TQ-315. This simple yet effective method allows cabinets to be rapidly suspended in a venue and accurately angled for optimum room coverage.



Loaded with Innovation



In the early 80's the invention of the TurboMid™ device first made it possible to exploit the inherently low harmonic distortion of a paper cone driver in the mid-range section of a highly efficient three-way horn-loaded design, giving significantly better clarity and projection in the critical vocal ranges over the conventional two-way formats available at the time. These Turbosound designs effectively set the standard for modular PA systems for the next 10 years, with more than 10,000 TMS and TSE series loudspeakers sold and in use around the world.

Flashlight's Virtual Point Source Array took the cone midrange concept to an even higher level in 1990, logically sub-dividing the frequency range across four drive units—with cone-type transducers exclusively dedicated to the entire vocal range—maximising the performance of each component within a restricted bandwidth. The 'turnkey' system approach—combining modular loudspeakers, flying hardware, loaded amplifier racks, processing and all necessary cabling—enabled the creation of a global network of fully compatible sound systems, guaranteeing excellent and consistent sound quality.

Floodlight, with its wider horizontal dispersion, integrated seamlessly with Flashlight—giving the ultimate flexible audio toolbox for concert touring and festivals, arenas and theatres, for

rock and roll and corporate events—and also provided a powerful and efficient stand-alone solution for regional touring and smaller venues.

With a new millennium came a new technology. Turbosound's Aspect® series delivers twice the SPL, twice the power, and in 2/3rds of the size of its predecessors. Using patented Polyhorn™ designs, which dramatically improve the arrayability of flown and ground stacked clusters, the Aspect® series fills the void left by the vast majority of sound systems.



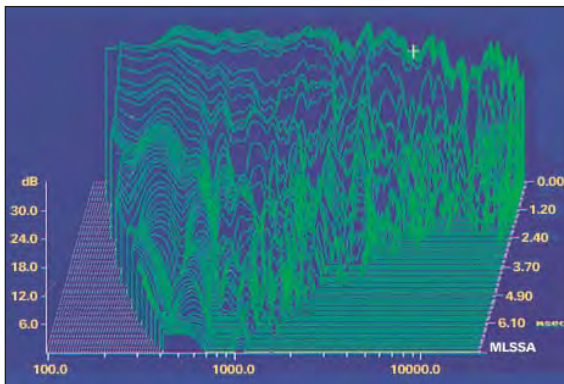
▲ Aspect® TA-890 system

The QLight™ series of portable loudspeaker products not only draws from this rich heritage, but also continues to make use of new innovations in acoustics technology as a result of our on-going investment in research and development.



▲ Converging Elliptical Waveguide™

Converging Elliptical Waveguides™ are used exclusively in QLight™ TQ-300 series enclosures. These distinctive high frequency horns are designed to give very even dispersion with a clearly defined cut-off, smoother frequency response and lower distortion. The comparatively short horn flare results in near physical HF and LF driver alignment to ensure simultaneous time arrival at the listener. This produces a clear and coherent acoustic image that helps to define and locate the direction of the source.

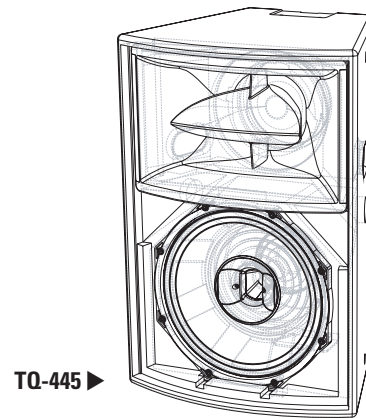


▲ TQ-445 waterfall analysis shows clean decay

Secondly, the horn flare is both short and wide, and therefore ensures that the acoustic wavefront is shaped quickly and smoothly, eliminating unwanted reflections in the throat area. Finally, the CEW™ horn

lacks the sharp break angles found in many conventional constant directivity horns, and so does not suffer from undesirable diffraction edge distortion. The result is simple: better high frequency sound and improved pattern control.

The TQ-445 is unique in applying the benefits of midrange cone-type transducers to a compact format. The three-way design maximises the potential performance from each individual drive unit, and offers tangible advantages when compared to conventional 12"/2" two-way designs of a similar size.



Firstly, because of the compression driver's relatively high crossover at 8kHz, it is subjected to less mechanical stress and sounds more transparent and natural, reproducing high frequencies and particularly vocal sibilants clearly and without distortion. Secondly, the midrange speaker is specially developed to enhance vocals naturally and without excessive DSP, and project them at a distance. This greatly improves the intelligibility of a PA system. Thirdly, the co-axial arrangement of the 12" LF and 1" HF drivers—as well as resulting in a far smaller cabinet—allows bass and treble frequencies to be emitted on a common axis.

The subjective impression is very much like listening to a loud hi-fi, allowing the listener to focus on the music rather than on the loudspeaker.

TQ-230

The TQ-230 is the ideal in-fill or background music two-way loudspeaker enclosure for a wide variety of mobile theatre, corporate and audio-visual applications, as well as being recommended for use in many types of fixed installations ranging from cafés, bars, pubs and restaurants to retail stores and houses of worship.

It consists of two 5" reflex-loaded low frequency drivers and a 1" high frequency compression driver on a rotatable 100°H x 60°V horn matched with an internal passive crossover network in a vented birch plywood enclosure.

Its wide dispersion pattern is designed to maximise sound coverage evenly over a wide area, and this makes the TQ-230 the ideal choice for use in corporate rooms, lecture theatres or restaurants and cafes. The HF horn is rotatable through 90° to allow enclosures to be mounted in a landscape format if required. In this orientation the TQ-230 is well suited for use as an unobtrusive theatre under-balcony loudspeaker.

The TQ-230 is magnetically shielded as standard to enable use in audio-visual applications, and in close proximity to TV screens and computer monitors. Input and parallel link-out connections to the speaker are provided on the rear panel by two Neutrik Speakon NL4MP connectors. For extended bass response simply add QLight™ bass enclosures such as the TQ-115 for a wider frequency response, with an LMS-D24 digital crossover for system control.

Installing the TQ-230 is easy using the internal rigging points provided. M6 inserts on the rear panel mate with OmniMount™ brackets and a range of Turbosound wall and ceiling brackets, and the loudspeaker can also be suspended and angled from lighting truss using Turbosound scaffold clamps. A pole mount socket is included for use with tripod stands and 35mm speaker poles.



▲ TQ-230

technical specifications

- **frequency range** 70Hz - 20kHz ±4dB
- **power handling** 125 watts r.m.s., 250 watts program
- **sensitivity (1w@1m)** 90dB
- **maximum SPL** 114dB cont., 120dB peak
- **dispersion (av.)** 100°H x 60°V @-6dB points
- **impedance (nom.)** 8 ohms
- **dimensions (hxwxhd)** 528mm x 210mm x 200mm
- **net weight** 9.5kg (20.9lbs)



TQ-308



▲ TQ-308

technical specifications

- **frequency range** 68Hz - 20kHz \pm 4dB
- **power handling** 250 watts r.m.s., 500 watts program
- **sensitivity (1w@1m)** 96dB
- **maximum SPL** 123dB cont., 129dB peak
- **dispersion (av.)** 100°H x 60°V @-6dB points
- **impedance (nom.)** 8 ohms
- **dimensions (hwxvxd)** 464mm x 270mm x 241mm
- **net weight** 11.5kg (25.3lbs)

TQ-308DP

- **amplifier type** Two channels, Class D
- **dynamic range** 110dB
- **power requirement** 100V – 240V AC, 50/60Hz
- **dimensions (hwxvxd)** 464mm x 270mm x 301mm
- **net weight** 15.5kg (34.1lbs)

The TQ-308 is a compact full range loudspeaker that excels in corporate rental applications where the speakers must remain virtually invisible and yet provide wide and even sound coverage.

Loaded with an 8" low-mid frequency driver and a 1" high frequency compression driver, the TQ-308 features Turbosound's 100°H x 60°V Converging Elliptical Waveguide™ (CEW™), which generates a smooth wavefront and reduces harmonic distortion. The HF pattern may be changed by rotating the horn through 90° within the enclosure. The TQ-308 must be used with LMS series digital crossovers for correct operation, providing excellent performance with speech and music program. Its asymmetrical cabinet shape enables the TQ-308 to be used as a compact floor monitor. The integral rigging points for use with a range of mounting hardware including Turbosound wall and ceiling brackets, swivel brackets and flying frames, as well as 35mm pole mount socket.

TQ-308DP

A compact digitally self-powered version incorporating integral amplifiers and control electronics with a high degree of convenient 'plug-and-play' functionality, perfect for corporate and theatre shows where loudspeakers have to be virtually invisible. It delivers high quality, full range audio from an unobtrusive and easily transportable package, and can be set up and operated quickly and accurately.

The TQ-308DP combines two independent channels of Class D power amplification, utilising revolutionary 96kHz DSP technology, with an intelligent crossover/limiter in an integrated electronics module.

All connections and operating controls are located on a recessed panel, including XLR signal input and link connections, and a lockable Powercon® mains connector. A low frequency contour switch is provided to shelve the bass response when using additional subs, as well as an RS232 port for program upgrades.



TQ-310

The TQ-310 provides more bass response and overall sound pressure level than the TQ-308 due to its larger cabinet and 10" bass driver.

It is used with the LMS series digital crossovers, which provides model-specific EQ and limiter parameters. The TQ-310 can also be used as a compact wedge monitor due to its asymmetrical cabinet shape.

The loudspeaker complement consists of a front-loaded 10" low-mid frequency driver and a 1" high frequency compression driver on a rotatable 100°H x 60°V HF horn, matched with an internal passive crossover network.

Internal M10 rigging points are included for use with Turbosound wall and ceiling brackets. The standard finish is black textured paint, although the TQ-310 can also be supplied in TurboBlue™ textured paint. Connection to the loudspeaker is via two Neutrik Speakon NL4 connectors.

TQ-310DP

The TQ-310DP is recommended for corporate and dry hire applications where you need high quality, full range audio from an unobtrusive package that can be set up quickly and accurately without the complication of external amplifiers and crossovers.

It features light-weight Class D power amplifiers, plus active crossovers and output limiters for a lightweight yet powerful package. The rear panel carries all necessary signal and mains connections, plus a power switch, status LED's and an RS232 port for program upgrades and future network capability.

The HF waveguide can be removed and rotated through 90°, making it possible to install the cabinet in a landscape format where room height is limited, while retaining the 100°H x 60°V pattern. Rigging points are fitted to the cabinet for use with optional M10 eyebolts, enabling it to be suspended and angled in permanent installations. A pole mount socket is also fitted on the bottom of the cabinet.



▲ TQ-310

technical specifications

- **frequency range** 65Hz - 20kHz ±4dB
- **power handling** 350 watts r.m.s., 700 watts program
- **sensitivity (1w@1m)** 96dB
- **maximum SPL** 124dB cont., 130dB peak
- **dispersion (av.)** 100°H x 60°V @-6dB points
- **impedance (nom.)** 8 ohms
- **dimensions (hxwxhd)** 525mm x 319mm x 277mm
- **net weight** 18kg (39.6lbs)

TQ-310DP

- **amplifier type** Two channels, Class D
- **dynamic range** 110dB
- **power requirement** 100V – 240V AC, 50/60Hz
- **dimensions (hxwxhd)** 525mm x 315mm x 300mm
- **net weight** 20.5kg (45.1lbs)



TQ-315



▲ TQ-315

technical specifications

- **frequency range** 55Hz - 20kHz ±4dB
- **power handling** 680 watts r.m.s., 1360 watts program
- **sensitivity (1w@1m)** 99dB
- **maximum SPL** 130dB cont., 136dB peak
- **dispersion (av.)** 80°H x 50°V @-6dB points
- **impedance (nom.)** 8 ohms
- **dimensions (hwxwd)** 691mm x 443mm x 381mm
- **net weight** 35.5kg (78.1lbs)

TQ-315DP

- **frequency range** 50Hz - 20kHz ±4dB
- **amplifier type** Two channels, Class D
- **dynamic range** 110dB
- **power requirement** 100V – 240V AC, 50/60Hz
- **dimensions (hwxwd)** 691mm x 443mm x 420mm
- **net weight** 32kg (70.4lbs)

The TQ-315 gives true full range response from a portable trapezoidal enclosure, designed for use in corporate rental, theatre, and fixed installations. Its asymmetrical shape and rotatable HF waveguide enable it to double as a monitor wedge.

It consists of a front loaded 15" low frequency driver and a 3" diaphragm high frequency compression driver on a rotatable 80°H x 50°V Converging Elliptical Waveguide™, allowing the HF horn to be rotated through 90° in the enclosure.

The TQ-315 is a switchable bi-amp/passive loudspeaker, meaning that it is adaptable to either bi-amplified operation in conjunction with LMS series Loudspeaker Management Systems, or in fully passive mode, by means of an easily accessible rear panel toggle switch. The TQ-315 features a range of rigging options including M10 inserts, wall and ceiling brackets fittings and OmniMount™ compatibility.

TQ-315DP

The TQ-315DP's integrated self-powered format allows it to be set up and operated with consistent and repeatable performance without the complication of external amplifiers and crossovers.

The TQ-315DP features two discrete 800 watt r.m.s. Class D power amplifiers, together with active crossovers and output limiters in a lightweight integrated package.

Signal input and link XLR connectors are available on the rear panel, plus mains connection and power switch, status LED's and an RS232 port for program upgrades and future network capability. The auto-sensing power supply allows the TQ-315DP to operate with mains supplies ranging from 100 volts to 240 volts.

The cabinet is fitted with internal rigging points for use with M10 eyebolts and a pole mount socket is fitted on the bottom of the cabinet.



TQ-445

The TQ-445 offers the highest level of audio performance and definition, thanks to its unique horn-loaded three-way design and co-axial 12"/1" driver. The exclusive use of similar type cone transducers in both the low and mid frequency bands guarantees not only a seamless transition at the crossover frequency, but also exceptional efficiency and vocal projection.

The TQ-445 is intended for all types of nightclub and theatre tour applications, with a huge variety of hardware options for single point mounting and scaffold bar fixing, including a fully tiltable flying frame. It can also be used with 35mm speaker stands, and in conjunction with Turbosound bass and sub-bass enclosures on straight poles.

For permanent installations the cabinet can be flown using cost effective eyebolts attached to the built-in M10 rigging points.

TQ-445DP

A digitally self-powered version offering the highest level of audio performance in the QLight™ DP series. The use of digital power amplifier technology achieves efficiency levels of more than 90% under typical operating conditions. Packaging the entire electro-acoustic system—including crossovers and output limiters—in one convenient, easily transportable package offers unprecedented ease of use.

The trapezoidal cabinet shape allows the loudspeaker to be arrayed with optimum horizontal coverage, and a range of load-tested flying hardware facilitates the rigging of either single or multiple boxes.

The rear panel carries signal, control and power connections. The TQ-445DP will operate on AC mains supplies ranging from 100 volts to 240 volts. The limit Hi and limit Lo LEDs give an instant indication of system status. A switchable high-pass filter switch is provided to optimise the frequency response for either speech or music applications or with additional subs.



▲ TQ-445

technical specifications

- **frequency range** 55Hz - 20kHz ±4dB (with LMS-D6/D26)
- **power handling** 400 watts r.m.s., 880 watts program
- **sensitivity (1w@1m)** LF: 103dB, MF/HF: 104dB
- **maximum SPL** 131dB cont., 137dB peak
- **dispersion (av.)** 60°H x 40°V @-6dB points
- **dimensions (h x w x d)** 588mm x 409mm x 363mm
- **impedance (nom.)** LF: 8 ohms, MF/HF: 12 ohms
- **net weight** 30kg (66lbs)

TQ-445DP

- **amplifier type** Two channels, Class D
- **dynamic range** 110dB
- **power requirement** 100V – 240V AC, 50/60Hz
- **net weight** 34.5kg (75.9lbs)



TQ-425



▲ TQ-425

technical specifications

- **frequency range** 45Hz - 125Hz \pm 4dB
- **power handling** 800 watts r.m.s., 1600 watts program
- **sensitivity (1w@1m)** 100dB
- **maximum SPL** 132dB cont., 138dB peak
- **impedance (nom.)** 4 ohms
- **dimensions (h \times w \times d)** 836mm x 511mm x 632mm
- **net weight** 68kg (149.6lbs)

TQ-425DP

- **amplifier type** Two channels, Class D
- **dynamic range** 110dB
- **power requirement** 100V – 240V AC, 50/60Hz
- **net weight** 72kg (158.4lbs)

The TQ-425 provides sub-bass reinforcement for many QLight™ enclosures: in particular the TQ-310, TQ-315 and TQ-445. It is equally suited to mobile use in corporate, industrial and audio-visual applications as well as permanent sound reinforcement installations.

It consists of two high efficiency 4" voice coil 15" low frequency drivers in a compact vented enclosure, which are carefully designed and optimally tuned with the enclosure to reproduce high sound pressure levels at bass and sub-bass frequencies. The TQ-425 is designed for use with the LMS-D26 or LMS-D24 digital loudspeaker management systems, providing factory presets for QLight™ series products.

The TQ-425 is also provided with internal rigging points for M10 eyebolts or proprietary Turbosound flying strips. The enclosure is constructed from 3/4" (18mm) birch plywood, and is finished in a durable black semi-matt textured paint.

TQ-425DP

The TQ-425DP is a self-powered double 15" subwoofer incorporating an integral two-channel power amplifier with 96kHz DSP. It combines with the TQ-445DP enclosure, and other QLight™ speakers, to give a high quality, full range sound reinforcement system ideally suited to corporate, theatre and medium touring applications. The power amplifiers and DSP are combined into a single self-contained module which is accessible from the rear of the cabinet, carrying all audio, data and power connections to the loudspeaker, as well as a rotary gain trim. The amplifier can deliver large amounts of power to the loudspeaker drivers, giving the TQ-425DP the capability to reproduce large transients accurately with ample headroom. Each driver is mounted in its own chamber and is fed by a discrete amplifier channel, ensuring exceptional performance and long term reliability. The drivers are additionally protected from excessive excursion and thermal overload by limiters built into the DSP.



TQ-115

The TQ-115 provides a convenient way of augmenting the bass response of TQ-230, TQ-308, TQ-310 enclosures with a very compact bass cabinet. It is small enough to fit into confined spaces, and yet delivers great performance.

This front-loaded subwoofer consists of a custom 15" low frequency driver in a reflex enclosure, designed for use in a variety of theatre, corporate and audio-visual applications, as well as in numerous fixed installations ranging from nightclubs and bars to themed environments and houses of worship.

Recessed flush handles are provided for easy lifting and carrying, and an integral pole mount is fitted to the top of the enclosure to allow QLight™ series enclosures such as the TQ-230 or TQ-310 to be mounted at the correct height above the subwoofer.



▲ TQ-115

technical specifications

- **frequency range** 45Hz - 125Hz ±4dB
- **power handling** 400 watts r.m.s., 800 watts program
- **sensitivity (1w@1m)** 97dB
- **maximum SPL** 126dB cont., 132dB peak
- **impedance (nom.)** 8 ohms
- **dimensions (hxwx d)** 559mm x 450mm x 578mm
- **net weight** 34.6kg (76.1lbs)

TQ-115DP

- **amplifier type** One channel, Class D
- **dynamic range** 110dB
- **power requirement** 100V – 240V AC, 50/60Hz
- **dimensions (hxwx d)** 559mm x 450mm x 600mm
- **net weight** 39kg (85.8lbs)

TQ-115DP

A self-powered single 15" subwoofer enclosure incorporating an integral power amplifier and control electronics module. The Class D power amplifier technology offers exceptional output and solid bass response from a small, easily transportable enclosure.

The TQ-115DP is designed to combine with the TQ-308DP or TQ-310DP to give a high quality, plug-and-play, full-range sound reinforcement system. This combination is ideally suited to all corporate, industrial, theatre and audio visual applications. Due to the consistent voicing across the QLight™ range, this system is also recommended for delays and fills as part of larger QLight™ sound systems.

The integral power amplifier provides accurate power matching to the drive unit to ensure consistent and reliable performance, and also offers a 6dB low frequency EQ switch to cater for different placement options within a venue.



LMS-D26



▲ LMS-D26

The LMS-D26 is a 2-in, 6-out digital controller in a compact 1U x 19" rack mount package that boasts superb audio quality. It is designed for use with QLight™ loudspeaker products and provides steep slope crossover, equalisation and output limiting functions specific to various QLight™ models.

LMS-D24



▲ LMS-D24

A compact and powerful DSP based 2-in, 4-out audio processing unit, ideally suited to live sound and fixed installation applications, and is designed for use with Turbosound QLight™ series enclosures.

LMS-D6



▲ LMS-D6

The LMS-D6 is a 2-in, 6-out digital controller in a compact 1U x 19" rack mount package that boasts superb audio quality. It is designed for use with QLight™ loudspeaker products and provides steep slope crossover, equalisation and output limiting functions specific to various QLight™ models.

technical specifications

	LMS-D26	LMS-D24	LMS-D6
• inputs	2 x XLR, pin 2 hot	2 x XLR, pin 2 hot	2 x XLR, pin 2 hot
• outputs	6 x XLR, pin 2 hot	4 x XLR, pin 2 hot	6 x XLR, pin 2 hot
• frequency response	20Hz – 20kHz ±0.5dB	20Hz – 20kHz ±0.5dB	20Hz – 20kHz ±0.5dB
• dynamic range	108dB, 20Hz – 20kHz, unweighted	108dB, 20Hz – 20kHz, unweighted	108dB, 20Hz – 20kHz, unweighted
• maximum delay	up to 650ms	up to 42ms	up to 650ms
• net weight	3.5kg (7.7lbs)	2.3kg (5.1lbs)	3.5kg (7.7lbs)
• power req.	90 to 240 volts AC, 50/60 Hz	90 to 240 volts AC, 50/60 Hz	90 to 240 volts AC, 50/60 Hz



Rigging Hardware

A comprehensive range of rigging and flying options is available for QLight™ series loudspeakers, designed for both portable and fixed installation applications, some examples of which are shown here.

Smaller QLight™ models such as the TQ-230 are also compatible with Omnimount™ series wall and ceiling brackets. Please check the manufacturer's specifications for suitability.



Options for wall and ceiling mounting include proprietary Turbosound brackets which fix to the rear of the cabinets using the internal threaded rigging points provided, or to the pole mount sockets fitted to all cabinets. These unobtrusive brackets allow for generous adjustment of both vertical and horizontal angles to ensure that room coverage is optimised, and are simple to install—cables can be run and wall plates can be installed in advance and secured independently without loudspeakers being on site, and then the loudspeakers can be lifted into position, connected and commissioned later.

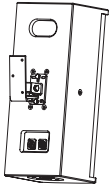
In certain situations where sound transmission through a building structure is a problem, causing sound leakage into adjoining areas, a special shock mount bracket with neoprene isolation pads is also available which has a useful level of isolation at low frequencies. Turbosound wall and ceiling brackets are load rated for safe and secure installation, and are available in black (standard) or white (optional) powder coat finish.

Fixed installations that require ceiling brackets of a non-standard or specific length, especially where suspended ceilings are involved, can be catered for by special order.

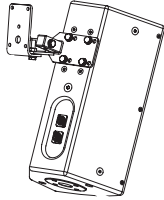
A range of swivel brackets has been designed for the TQ-230, TQ-308, TQ-310 and TQ-315 to allow these cabinets to be installed either vertically on a wall with variable horizontal angle, or horizontally from a ceiling or wall with variable downward angle. The brackets attach to a swivel point on one end of the cabinet, and via the pole mount socket on the other. Turbosound swivel brackets are supplied with all necessary speaker fixing hardware and scaffold clamps for attaching to standard 2" lighting truss or bars. They are finished in black or white powder coat.

All QLight™ models are equipped with pole mount sockets, to allow them to be mounted at the correct height above complementary bass cabinets such as the TQ-115 or TQ-425, and for use with standard 35mm speaker stands and tripods.

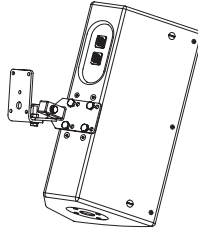
WALL BRACKETS



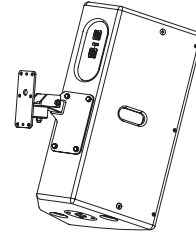
▲ TQ-230 WITH WB-10 WALL BRACKET



▲ TQ-308 WITH WB-20A WALL BRACKET

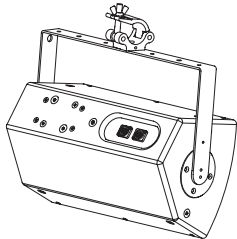


▲ TQ-310 WITH WB-20A WALL BRACKET

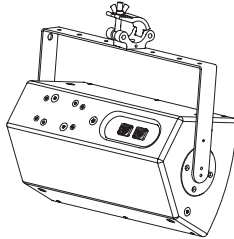


▲ TQ-315 WITH WB-55A WALL BRACKET

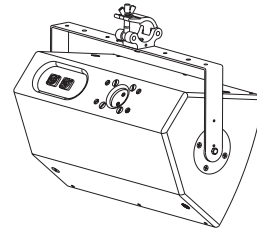
SWIVEL BRACKETS



▲ TQ-308 WITH SB-308 SWIVEL BRACKET



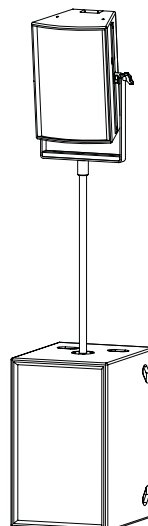
▲ TQ-310 WITH SB-310 SWIVEL BRACKET



▲ TQ-315 WITH SB-315 SWIVEL BRACKET

POLE MOUNTS

▶ TQ-445DP WITH FY-445 FLYING YOKE ON TQ-425DP



Rigging Hardware

A universal PB-55 pole-mount wall bracket allows all QLight™ models—and any Turbosound loudspeaker fitted with a pole mount socket—to be conveniently wall mounted. It has a locking facility for extra security.

In venues where rigging points are freely accessible, it is often convenient to hang QLight™ speakers using a three point rigging system, attaching to two corresponding rigging points on the top of the box with a third rigging point acting as a pull-back provided on the rear for adjusting the downward angle. This can be achieved using M10 shoulder eyebolts attached to the internal rigging points provided on the cabinets. TQ-310 and TQ-315 cabinets can also be fitted as special order with optional detachable RT-767 ring type flying fittings.

In some situations only a single rigging point is available, in which case the use of a flying frame is recommended with a scaffold clamp assembly (for TQ-308, TQ-310, TQ-315 and TQ-445). Attached to the rigging points on the sides of the box, these frames allow finely variable tilt angle. Turbosound flying frames are supplied with a scaffold clamp for use on 2" scaffold bar or lighting truss.

A specially designed FB-12 T-bar is available for the TQ-445 when a single rigging point is available. It

attaches to the top of the cabinet, and provides multiple pick-up points along its spine. The position of the chosen pick-up point relative to the centre of gravity determines the initial vertical inclination, and so provides a total of twelve incremental angle positions from which finer adjustment can be made using a pull-back on the rear of the cabinet. A number of accessories are available for use with the FB-12, including a scaffold clamp assembly for use with lighting truss and bars.

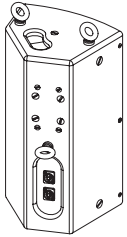
Notes on flying loudspeaker systems:

Turbosound rigging hardware has been designed and constructed to a high standard of safety and tested to the most demanding of specifications. However, anyone involved in flying ANY sound system, especially in a touring capacity, should take note of the following advice:

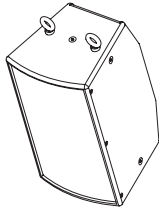
The rigging of a flown sound system may be dangerous unless undertaken by qualified personnel with the required experience to perform the necessary tasks. Fixing of hanging points in a roof should always be carried out by a professional rigger and in accordance with the local rules of the venue. The house rigger and/or building manager must always be consulted.



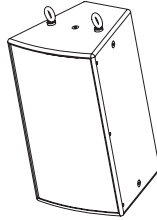
THREE POINT RIGGING



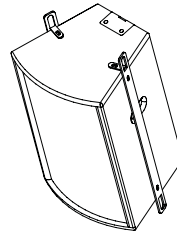
▲ TQ-308 WITH M10 EYEBOLTS



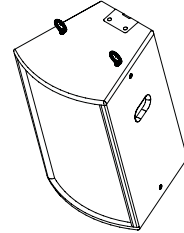
▲ TQ-308DP WITH M10 EYEBOLTS



▲ TQ-310DP WITH M10 EYEBOLTS

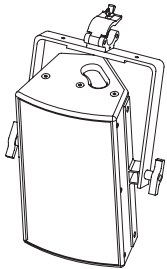


▲ TQ-445 WITH FF-445 FLYING STRIPS

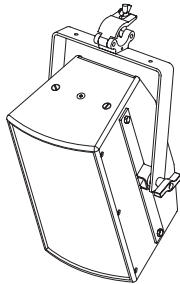


▲ TQ-445 WITH M10 EYEBOLTS

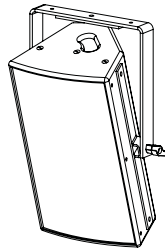
SINGLE POINT RIGGING



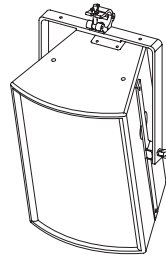
▲ TQ-308 WITH FY-308 FLYING YOKE AND SCAFFOLD CLAMP



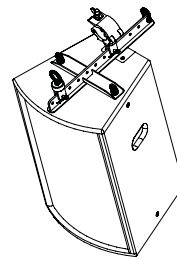
▲ TQ-308DP WITH FY-310 FLYING YOKE AND SCAFFOLD CLAMP



▲ TQ-310 WITH FY-310 FLYING YOKE

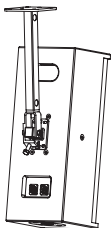


▲ TQ-445 WITH FY-445 FLYING YOKE

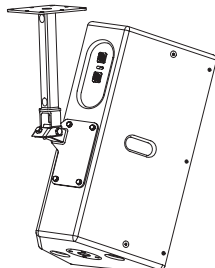


▲ TQ-445 WITH FB-12 T-BAR

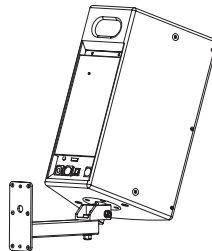
CEILING and POLE BRACKETS



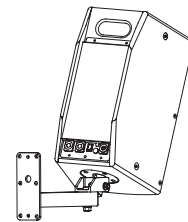
▲ TQ-230 WITH CB-10 CEILING BRACKET



▲ TQ-315 WITH CB-55A CEILING BRACKET



▲ TQ-310DP WITH PB-55 POLE BRACKET



▲ TQ-308DP WITH PB-55 POLE BRACKET

Technical Specifications

	TQ-230	TQ-308	TQ-310	TQ-315	TQ-445	TQ-425	TQ-115
Frequency range (±4dB)	70Hz - 20kHz	68Hz - 20kHz	65Hz - 20kHz	55Hz - 20kHz	55Hz - 20kHz*	45Hz - 125Hz	45Hz - 125Hz
Power handling (rms)	125 watts	250 watts	350 watts	680 watts	400 watts	800 watts	400 watts
Power handling (program)	250 watts	500 watts	700 watts	1360 watts	800 watts	1600 watts	800 watts
Rec. amplifier power/ch	250 watts @ 8Ω	500 watts @ 8Ω	700 watts @ 8Ω	LF: 600 watts @ 8Ω MF/HF: 160 watts @ 8Ω	LF: 600 watts @ 8Ω MF/HF: 300 watts @ 12Ω	1600 watts @ 4Ω	800 watts @ 8Ω
Sensitivity (1w @ 1m)	90dB	96dB	96dB	99dB	LF: 103dB, MF/HF: 104dB	100dB	97dB
Maximum SPL (cont.)	114dB	123dB	124dB	130dB	131dB	132dB	126dB
Maximum SPL (peak)	120dB	129dB	130dB	136dB	137dB	138dB	132dB
Dispersion (av) @-6dB	100°H x 60°V	100°H x 60°V	100°H x 60°V	80°H x 50°V	60°H x 40°V	n/a	n/a
Nominal impedance	8 ohms	8 ohms	8 ohms	8 ohms	LF: 8 ohms, MF/HF: 12 ohms	4 ohms	8 ohms
Crossover frequency	2k8Hz passive	3k5Hz passive	3k5Hz passive	1.58kHz passive/active	1.3kHz active 8kHz passive	125Hz	125Hz
Dimensions (mm) (HxWxD)	528 x 210 x 200	464 x 270 x 241	525 x 319 x 277	691 x 443 x 381	588 x 409 x 363	836 x 511 x 632	559 x 450 x 578
Dimensions (ins) (HxWxD)	20.8 x 8.3 x 7.9	18.3 x 10.6 x 9.5	20.7 x 12.5 x 10.9	27.2 x 17.4 x 15	23.1 x 16.1 x 14.3	32.9 x 20.1 x 24.9	22 x 17.7 x 22.8
Net weight (kg)	9.5	11.5	18	35.5	30	68	34.6
Net weight (lbs)	20.9	25.3	39.6	78.1	66	149.6	76.1
Pole mounts	One	One	One	One	One	One	One
Rigging points	6 x M6, 3 x M8	8 x M10 5 x M8, 4 x M6	9 x M10 5 x M8, 4 x M6	9 x M10, 4 x M8	8 x M10	8 x M8	8 x M8
Connectors	2 x NL4MP	2 x NL4MP	2 x NL4MP	2 x NL4MP	2 x NL4MP	2 x NL4MP	2 x NL4MP
Options	The standard finish is black semi-matt textured paint; also available in TurboBlue™ textured paint						

TQ-308DP	TQ-310DP	TQ-315DP	TQ-445DP	TQ-425DP	TQ-115DP	
68Hz - 20kHz	65Hz - 20kHz	50Hz - 20kHz	55Hz - 20kHz	45Hz - 125Hz	45Hz - 125Hz	Frequency range (±4dB)
n/a	n/a	n/a	n/a	n/a	n/a	Power handling (rms)
n/a	n/a	n/a	n/a	n/a	n/a	Power handling (program)
n/a	n/a	n/a	n/a	n/a	n/a	Rec. amplifier power/ch
n/a	n/a	n/a	n/a	n/a	n/a	Sensitivity (1w @ 1m)
123dB	124dB	130dB	131dB	132dB	126dB	Maximum SPL (cont.)
129dB	130dB	136dB	137dB	138dB	132dB	Maximum SPL (peak)
100°H x 60°V	100°H x 60°V	80°H x 50°V	60°H x 40°V	n/a	n/a	Dispersion (av) @-6dB
n/a	n/a	n/a	n/a	n/a	n/a	Nominal impedance
n/a	n/a	n/a	n/a	n/a	n/a	Crossover frequency
464 x 270 x 301	525 x 315 x 300	691 x 443 x 420	588 x 409 x 363	836 x 511 x 632	559 x 450 x 600	Dimensions (mm) (HxWxD)
18.3 x 10.6 x 11.9	20.7 x 12.4 x 11.8	27.2 x 17.4 x 16.5	23.1 x 16.1 x 14.3	32.9 x 20.1 x 24.9	22 x 17.7 x 23.6	Dimensions (ins) (HxWxD)
15.5	20.5	32	34.5	72	39	Net weight (kg)
34.1	45.1	70.4	75.9	158.4	85.8	Net weight (lbs)
One	One	One	One	One	One	Pole mounts
1 x M8 6 x M10, 1 x M6	8x M10 1 x M8, 1 x M6	9 x M10	8 x M10	8 x M8	8 x M8	Rigging points
1 x Powercon 2 x XLR	1 x Powercon 2 x XLR	1 x Powercon 2 x XLR	1 x Powercon 2 x XLR	1 x Powercon 2 x XLR	1 x Powercon 2 x XLR	Connectors
The standard finish is black semi-matt textured paint; also available in TurboBlue™ textured paint						Options

QLight™ series



QLight™ series Ver 1.2 03/06

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