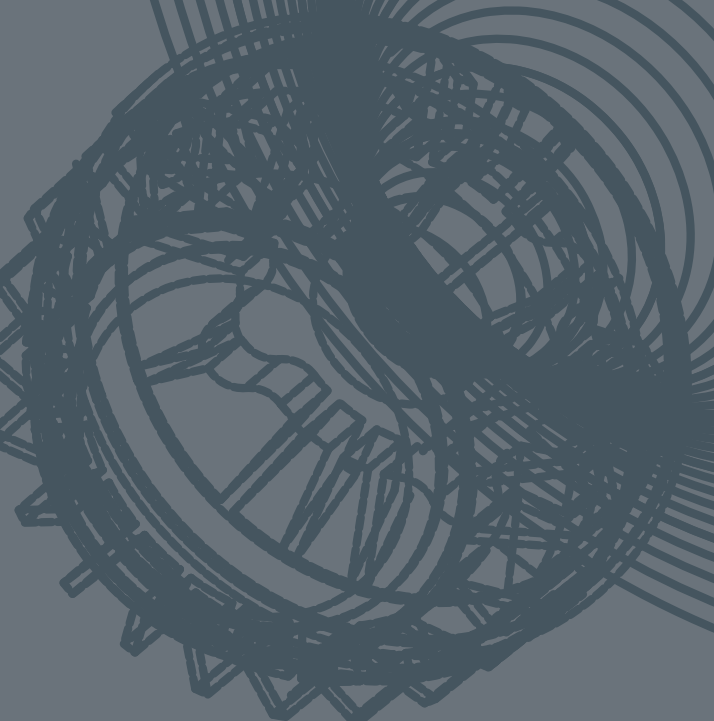


TANNOY®

**HORN DESIGN**  
without compromise



  SERIES

# COMPACT MODULAR VERS

## Introducing...VQ Series

Tannoy's VQ Series is a range of revolutionary loudspeakers designed for any application where precise directional control, outstanding sonic performance, and high SPL's are critical issues; such as large corporate AV systems, stadiums, large dance clubs, live concert halls, theatres, houses of worship and open-air venues. Utilising precision engineering and design, the VQ series can produce enough power and clarity to be used individually, maintaining your building's aesthetics, unlike line array solutions. The range has recently benefited from the addition of several new devices, maximising the potential of the product and making it one of the most capable and modular high SPL sound reinforcement loudspeaker systems available.

## Features

- Patented Point Source Waveguide (PSW™) for perfect time alignment and phase coherence
- Exceptional transient response
- Compact dimensions
- Class leading directivity characteristics
- Extremely high sensitivity, therefore high SPL's can be achieved with a very modest amount of amplifier power
- Highly efficient, low power requirement
- Modular enclosure design
- Available in passive and VNET (powered, DSP, networkable) versions

## Why the 'Q' in VQ?

The Q factor is a mathematical expression indicating directionality of the source. Larger Q factor values denote more directional sources. As our products will range from well defined, very wide to narrow dispersion patterns, we think Q is a great descriptor, as we are not only catering for the Hi Q market.

## Technology

### The Driver

The VQ products utilize a unique driver technology to radiate a coherent single point source for superior dispersion control when coupled to our single horn. This advanced design aligns the acoustical centres of the transducers providing a single coherent wavefront emanating from the throat. The driver uses two concentric annular ring diaphragms. The larger of the two has a 3.5" voice coil and reproduces frequencies from 400Hz to 7 kHz. Another major advantage here is that there is no crossover anywhere near the vocal region ensuring the most natural and phase coherent reproduction at this critical area. The 2" HF diaphragm takes over at 7kHz to 22kHz by way of a passive or an active crossover. The external casting features extensive heat-sinking ensuring good heat transfer for high power handling and very low power compression.

### The Horn

The use of a Dual Concentric compression driver results in a wavefront at the throat of the horn being perfectly coherent across its frequency range. The MF/HF transducer loads into a large & proprietary designed common horn. There is a huge advantage here in comparison to acoustic sources hitherto used with horns which consist of an HF compression driver and a separate midrange compression driver, each with its own horn. Invariably there is interference between the midrange and high frequency at the crossover. This results in uneven off axis performance, even if the HF horn is mounted in front of the MF horn. This artefact is compounded even further if the sources are displaced on the front baffle – No Exceptions. We found that superior sonic performance of the horn was achievable by using MDF instead of fabricating in fibreglass, due to the inert nature of the structure providing rigidity, and the particular nature of the material itself being acoustically absorbent and not susceptible to resonance.

## Weather Proof

- Tannoy offer weather resistant versions of VQ enclosures.
- Transducers are weatherproof as standard. Enclosures are coated with Line-X™ paint finish and are internally treated.
- All hardware and grilles are stainless steel with AirNet grill cloth backing on grilles.
- Rain covers over active electronics and terminal panels

# SATLITE

## VNET™ Software

Supplied with each unit, this intuitive Windows tool controls all of the critical install, commissioning and performance monitoring functions. A standard wireless LAN-to-serial bridge can be used to communicate with the network, allowing the commissioning engineer to sit in the auditorium communicating from a laptop on 802.11b

During normal operation the speakers on the network will appear as minimised panels in the form of a status monitor icon (Monicon) on the computer screen. These are laid out to reflect the physical layout of the speakers within the venue so that the user can monitor system status and component condition at a glance. The minimised panels can be expanded to reveal highly detailed information in real time.

- Input clip indicator
- Two output limiter bar graph meter
- Heat sink temperature bar graph meter
- Amplifier clip indicators (HF & LF on full range units)
- Transducer Failure Indicators (HF & LF on full range units)
- Amplifier protect status indicator

## VNET™ Active, DSP, Networked.

Each VQ NET loudspeaker is fully VNET™ compliant and is fully calibrated at the factory, avoiding the need to input the correct speaker management settings or dynamics at the point of install. This frees the installer to concentrate instead on room measurement and system optimisation. VNET™ supports free network topology so that the loudspeakers can be arranged in a daisy chain, linked in a star configuration or in any combination of both. Implementation of the network between nodes is via high quality rugged Neutrik Ethercon connectors, which are compatible with standard RJ45 plugs, and CAT5 cable. Each speaker has a unique address for auto-location on the network. System commissioning and ongoing network control, incorporating real time diagnostics of electronics and drive unit, are all managed by the exclusive VNET™ software package.





## Modular Design for Arrayed Systems

**Versatility is the key with VQ Series thanks to its modular and compact enclosure format.** VQ Series' class leading pattern control radiating from a coherent single point source ensures predictable array performance allowing very accurate system design, thanks to our patented PSW waveguide. This modular design approach allows the designer to create tightly packed, scaleable arrays utilising combinations of VQ MH, DF, and MB elements.

Our easy to rig Flyware boasts an industry leading 10:1 safety factor for complete confidence and peace of mind.

Here are a few examples of possible array configurations designed to meet specific performance requirements for a given application. These are merely suggestive demonstrations of the flexibility of VQ Series.



Cluster of 3 x VQ 40MH



Paired array of VQ 64MH



VQ 95MH with  
VS 15DR subwoofer



VQ 95MH with  
2 x VS 15DR

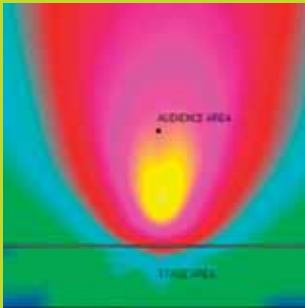
# COMPARATIVE EASE SIMULATION OF VQ SERIES AND LINE ARRAY

The Ease graphs demonstrate the predicted direct sound pressure level coverage of a single Tannoy VQ 60 loudspeaker enclosure compared to a well known small/mid size line array system that consists of four loudspeaker enclosures.

The room used for the simulation is 30m deep (from stage to rear wall) and 40m wide. The stage area has an upstage to down stage distance of 8m.

Both the VQ and the Line Array enclosures were placed 5m above floor level in line with the front of the stage area. The angle used between the enclosures for the line array is from horizontal to the top enclosure 8.5 degrees, between the top and the second enclosure is 2 degrees, between the second and third is 4 degrees and between the third and the fourth is 10 degrees (as recommended by manufacturer)

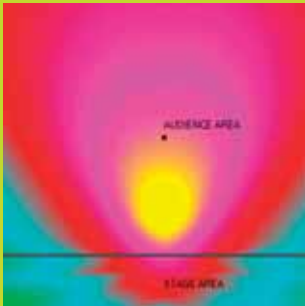
The coverage maps considers the direct SPL at the following spot frequencies, 500 Hz, 1 kHz, 2 kHz, 4kHz, and 8 kHz across the audience listening area and the stage area.



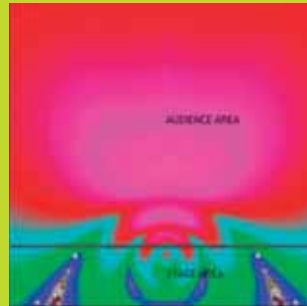
VQ60 @ 500Hz



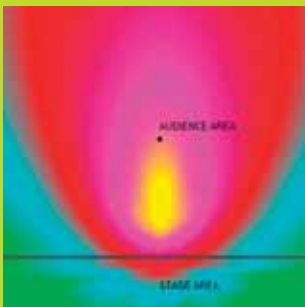
4 box array @ 500Hz



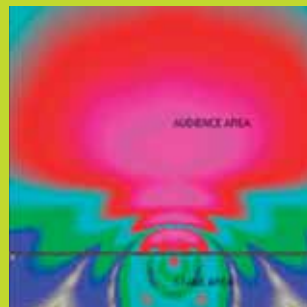
VQ60 @ 1kHz



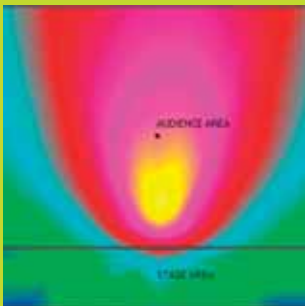
4 box array @ 1kHz



VQ60 @ 2kHz



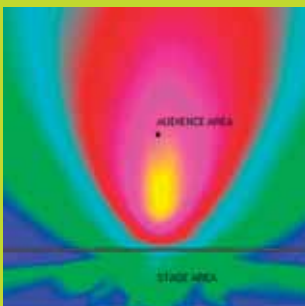
4 box array @ 2kHz



VQ60 @ 4kHz



4 box array @ 4kHz



VQ60 @ 8kHz



4 box array @ 8kHz

Thanks to a range of horn and enclosure configurations, the newly expanded VQ Series is ideal for any application where directional control, high SPL and outstanding sonic performance are critical issues. Available as both active and passive systems, VQ Series has been specified and installed with great success in a wide variety of demanding applications across the world.



- Dance clubs
- Large Houses of Worship
- Sports Stadia & Arenas
- Theatres
- Auditoria & Concert Halls
- Theme Parks
- Large Corporate AV



**VQ SERIES**  
**APPLICATIONS**



# VQ 60

# TANNOY®



## Product Description

The VQ 60 is a full range, three-way loudspeaker system designed for applications which require very high output capability with class leading pattern control. The VQ 60 is perfectly suited for use in arrays or singly in demanding music or speech applications.

Unlike line array solutions, the VQ 60 can produce enough power and clarity to be used individually maintaining your building's aesthetics.

With low frequency extension to 90Hz, the VQ 60 can be combined with various subwoofers for extended bandwidth.

The VQ 60 can be configured for use in Bi-Amp or Tri-Amp mode, in conjunction with a suitable digital signal processor (DSP).

Horn design involves balancing compromise.....until now.

Key performance parameters that can be controlled by the designer include: frequency response (both on and off-axis), horizontal and vertical beamwidth, directivity index, electrical impedance, harmonic distortion, and low frequency cut-off. Our unique approach in keeping what is effectively a Dual Concentric behind a single horn gives us many performance advantages. Performance of the VQ 60 in terms of accuracy & sound quality is second to none.

The VQ 60 incorporates a unique driver technology to radiate a coherent single point source for superior dispersion control when coupled to a PSW™ (Point Source Waveguide). This advanced design aligns the acoustical centres of the transducers providing a single coherent wavefront emanating from the throat. The PSW™ waveguide achieves an optimum balance of extremely well controlled coverage, smooth frequency response, and natural sound character.

The low frequency section, two (12") low frequency transducers, offers high power handling and low power compression for high continuous SPL capability. A newly designed LF loading design provides the highest possible sensitivity for low/mid frequency output. The VQ 60 is part of an expanding line up of VQ products, addressing the requirement for compact dimensions without compromising performance in any way.

## Features

- "PSW™ Waveguide" - Point source design (Patent applied for).
- Excellent Phase Coherence
- Perfect time alignment without the associated problems of multi source interference
- Compact Dimensions
- Class leading directivity characteristics
- Extremely high sensitivity, therefore high SPL's can be achieved with a very modest amount of amplifier power
- Exceptional transient response

## Applications

- Large Houses of Worship
- Large Corporate AV applications
- Stadiums & other Sports facilities
- Dance Clubs
- Live sound – concert halls, theatres, open-air venues

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# VQ 60

# TANNOY®

## TECHNICAL SPECIFICATIONS

### System

**Frequency Response (-3dB) <sup>(1)</sup>** 115Hz - 23kHz

**Frequency Range (-10dB) <sup>(1)</sup>** 90Hz - 27kHz

**System Sensitivity (1W @1m) <sup>(2)</sup>**

#### Bi-Amp

LF (80Hz - 450Hz) 105dB (2.0V @ 4 Ohms)  
Passive MF/HF (450Hz - 23kHz) 115dB (2.83V @ 8 Ohms)

#### Tri-Amp

LF (80Hz - 450Hz) 105dB (2.0V @ 4 Ohms)  
MF (450Hz - 7kHz) 115dB (2.83V @ 8 Ohms)  
HF (7kHz - 23kHz) 115dB (2.83V @ 8 Ohms)

**Dispersion (-6dB)** 60 degrees conical

#### Driver Complement

LF 2 x 300mm (12.00") Low Frequency Transducers, Semi Horn Loaded

MF/HF Dual Concentric™ Compression driver loaded into a single PSW™ Waveguide

**Crossover** Bi-amp 450Hz (active)  
7kHz (passive)  
Tri-amp 450Hz, 7kHz (active)

**Directivity Factor (Q)** 21.2 averaged 1kHz to 10kHz

**Directivity Index (DI)** 13.3 averaged 1kHz to 10kHz

#### Rated Maximum SPL <sup>(2)</sup>

	Average	Peak
Low Frequency	135dB	141dB
Mid Frequency	138dB	144dB
High Frequency	135dB	141dB
Passive MF/HF	138dB	144dB

#### Power Handling <sup>(3)</sup>

	Average	Programme
LF @ 4 Ohms	1000W (63.3V)	2000W
MF @ 8 Ohms	200W (40V)	400W
HF @ 8 Ohms	90W (27V)	180W
Passive MF/HF @ 8 Ohms	200W (40V)	400W

### Recommended Amplifier Power

Low Frequency	2000W into 4 Ohms
Mid Frequency	400W into 8 Ohms
High Frequency	200W into 8 Ohms
Passive MF/HF	400W into 8 Ohms

### Nominal Impedance

Low Frequency	4 Ohms (4.1 Ohms Minimum)
Mid Frequency	8 Ohms (7.0 Ohms Minimum)
High Frequency	8 Ohms (8.7 Ohms Minimum)

### Construction

**Enclosure** 18mm (0.71") birch plywood. Vented and internally braced.

**Grille** Powder coated perforated steel grille

**Finish** Black or white textured paint (custom colours on request)

**Connectors** Barrier Strip

**Fittings** 8 x Recessed carrying handles  
12 x M10 flying inserts

**Dimensions** 925mm x 694mm x 515mm  
(36.42" x 27.32" x 20.28")

**NET Weight** 77kg (170.0 lbs)

#### Notes:

- (1) Average over stated bandwidth. Measured at 3 metres on axis, then referred to 1 metre
- (2) Unweighted pink noise input, measured at 3 metres in an anechoic chamber, then referred to 1 metre
- (3) Accelerated Life Test (EIA RS426-B)

A full range of measurements, performance data, CLF and Ease™ Data can be downloaded from [www.tannoy.com](http://www.tannoy.com)

Full independent verification of published specifications carried out by NWA Labs, California can also be obtained from the downloads section of [www.tannoy.com](http://www.tannoy.com). Tannoy operates a policy of continuous research and development. The introduction of new materials or manufacturing methods will always equal or exceed the published specifications, which Tannoy reserves the right to alter without prior notice. Please verify the latest specifications when dealing with critical applications.

### Ordering Information

PART NUMBER	MODEL NAME	COLOUR	PACKED QUANTITY
8001 4800	VQ 60	BLACK	1
8001 4801	VQ 60	WHITE	1

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# VQ 100

# TANNOY®



## Product Description

The VQ 100 is a full range, three-way loudspeaker system designed for applications which require high output capability with class leading pattern control. The VQ 100 features a wide and exceptionally well defined dispersion characteristic.

For a variety of uses, a single VQ 100 can produce more power and clarity over its 100 degree beamwidth area than many arrayed solutions using multiple cabinets, a great advantage when considering your building aesthetics.

With low frequency extension to 90Hz, the VQ 100 can be combined with various subwoofers for extended bandwidth.

The VQ 100 can be configured for use in Bi-Amp or Tri-Amp mode, in conjunction with a suitable digital signal processor (DSP).

Horn design involves balancing compromise.....until now.

Key performance parameters that can be controlled by the designer include: frequency response (both on and off-axis), horizontal and vertical beamwidth, directivity index, electrical impedance, harmonic distortion, and low frequency cut-off. Our unique approach in keeping what is effectively a Dual Concentric™ behind a single horn gives us many performance advantages. Performance of the VQ 100 in terms of accuracy & sound quality is second to none.

The VQ 100 incorporates a unique driver technology to radiate a coherent single point source for superior dispersion control when coupled to a PSW™ (Point Source Waveguide). This advanced design aligns the acoustical centres of the transducers providing a single coherent wavefront emanating from the throat. The PSW™ waveguide achieves an optimum balance of extremely well controlled coverage, smooth frequency response, and natural sound character.

The low frequency section, two (12") low frequency transducers, offers high power handling and low power compression for high continuous SPL capability. A newly designed LF loading design provides the highest possible sensitivity for low/mid frequency output. The VQ 100 is part of an expanding line up of VQ products, addressing the requirement for compact dimensions without compromising performance in any way.

## Features

- "PSW™ Waveguide" - Point source design (Patent applied for).
- Excellent Phase Coherence
- Perfect time alignment without the associated problems of multi source interference
- Compact Dimensions
- Class leading directivity characteristics
- Extremely high sensitivity, therefore high SPL's can be achieved with a very modest amount of amplifier power
- Exceptional transient response

## Applications

- Large Houses of Worship
- Large Corporate AV applications
- Stadiums & other Sports facilities
- Dance Clubs
- Live sound – concert halls, theatres, open-air venues

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# VQ 100

# TANNOY®

## TECHNICAL SPECIFICATIONS

### System

<b>System Type</b>	3-Way Full Range - Point Source
<b>Frequency Response (-3dB) <sup>(1)</sup></b>	115Hz - 23kHz
<b>Frequency Range (-10dB) <sup>(1)</sup></b>	90Hz - 27kHz
<b>Operating Modes</b>	Bi-Amp (LF,MF/HF) User Configurable Tri-Amp (LF, MF,HF) User Configurable

### System Sensitivity (1W @1m) <sup>(2)</sup>

<b>Bi-Amp</b>		
LF (80Hz - 450Hz)	105dB (2.0V @ 4 Ohms)	
Passive MF/HF (450Hz - 23kHz)	110dB (2.83V @ 8 Ohms)	

<b>Tri-Amp</b>		
LF (80Hz - 450Hz)	105dB (2.0V @ 4 Ohms)	
MF (450Hz - 7kHz)	111dB (2.83V @ 8 Ohms)	
HF (7kHz - 23kHz)	110dB (2.83V @ 8 Ohms)	

<b>Dispersion (-6dB)</b>	100 degrees conical
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### Driver Complement

LF	2 x 300mm (12.00") Low Frequency Transducers, Semi Horn Loaded
MF/HF	Dual Concentric™ Compression driver loaded into a single PSW™ Waveguide

<b>Crossover</b>	Bi-amp 450Hz (active) 7kHz (passive) Tri-amp 450Hz, 7kHz (active)
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<b>Directivity Factor (Q)</b>	8.5 averaged 1kHz to 10kHz
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<b>Directivity Index (DI)</b>	9.3 averaged 1kHz to 10kHz
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### Rated Maximum SPL <sup>(2)</sup>

	Average	Peak
Low Frequency	135dB	141dB
Mid Frequency	134dB	140dB
High Frequency	133dB	139dB
Passive MF/HF	134dB	140dB

### Power Handling <sup>(3)</sup>

	Average	Programme
LF @ 4 Ohms	1000W (63.3V)	2000W
MF @ 8 Ohms	200W (40V)	400W
HF @ 8 Ohms	90W (27V)	180W
Passive MF/HF @ 8 Ohms	200W (40V)	400W

### Recommended Amplifier Power

Low Frequency	2000W into 4 Ohms
Mid Frequency	400W into 8 Ohms
High Frequency	200W into 8 Ohms
Passive MF/HF	400W into 8 Ohms

### Nominal Impedance

Low Frequency	4ohms (4.1 Ohms Minimum)
Mid Frequency	8ohms (6.0 Ohms Minimum)
High Frequency	8ohms (8.6 Ohms Minimum)

### Construction

<b>Enclosure</b>	18mm (0.71") birch plywood. Vented and internally braced.
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<b>Grille</b>	Powder coated perforated steel grille
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<b>Finish</b>	Black or white textured paint (custom colours on request)
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<b>Connectors</b>	Barrier Strip
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<b>Fittings</b>	8 x Recessed carrying handles 12 x M10 flying inserts
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<b>Dimensions</b>	925mm x 694mm x 515mm (36.42" x 27.32" x 20.28")
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<b>NET Weight</b>	65kg (143.3 lbs)
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### Notes:

- (1) Average over stated bandwidth. Measured at 3 metres on axis, then referred to 1 metre
- (2) Unweighted pink noise input, measured at 3 metres in an anechoic chamber, then referred to 1 metre
- (3) Accelerated Life Test (EIA RS426-B)

A full range of measurements, performance data, CLF and Ease™ Data can be downloaded from [www.tannoy.com](http://www.tannoy.com)

Full independent verification of published specifications carried out by NWA Labs, California can also be obtained from the downloads section of [www.tannoy.com](http://www.tannoy.com)

Tannoy operates a policy of continuous research and development. The introduction of new materials or manufacturing methods will always equal or exceed the published specifications, which Tannoy reserves the right to alter without prior notice. Please verify the latest specifications when dealing with critical applications.

### Ordering Information

PART NUMBER	MODEL NAME	COLOUR	PACKED QUANTITY
8001 4820	VQ 100	BLACK	1
8001 4821	VQ 100	WHITE	1

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## Product Description

The VQ 40MH (40x40), VQ 64MH (60x40) and VQ 95MH (90x50) are very high output Mid/High loudspeaker systems designed for applications requiring high impact sound reinforcement over large distances with class leading pattern control.

The modular design approach allows the sound system designer to create seamless and predictable arrays, or they can be used singly as part of large distributed systems. VQ MH addresses the requirement for compact dimensions without compromising performance in any way.

VQ DF (Down Firing) elements which are available in various patterns will integrate seamlessly with the VQ MH enclosures to facilitate tight pack arrays, no more unsightly spaces between separate cabinets in order to splay.

VQ MB or VS 15DR elements can be added to extend bandwidth and pattern control to lower frequencies.

The VQ MH can be configured for use in Single-Amp or Bi-Amp mode, in conjunction with a suitable digital signal processor (DSP).

Horn design involves balancing compromise.....until now.

Our unique approach in keeping what is effectively a Dual Concentric behind a single horn gives us many performance advantages. Performance of the VQ MH in terms of accuracy & sound quality is second to none. The VQ horn design principles provide definitive and measurable advantages over multiple-horn and co-axial designs.

Each VQ MH incorporates a unique driver technology to radiate a coherent single point source for superior dispersion control when coupled to a PSW™ (Point Source Waveguide). This advanced design aligns the acoustical centres of the transducers providing a single coherent wavefront emanating from the throat. The PSW™ waveguide achieves an optimum balance of extremely well controlled coverage, smooth frequency response, and natural sound character.

For outdoor applications, weather resistant enclosures which incorporate stainless steel hardware are available.

## Features

- "PSW™ Waveguide" - Point source design (Patent applied for).
- Excellent Phase Coherence
- Perfect time alignment without the associated problems of multi source interference
- Compact Dimensions
- Class leading directivity characteristics
- Extremely high sensitivity, therefore high SPL's can be achieved with a very modest amount of amplifier power
- Exceptional transient response

## Applications

- Large Houses of Worship
- Large Corporate AV applications
- Stadiums & other Sports facilities
- Dance Clubs
- Live sound – concert halls, theatres, open-air venues

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## TECHNICAL SPECIFICATIONS

**System** VQ 40MH, VQ 64MH, VQ 95MH

**System Type** 2-Way Mid/High - Point Source

**Frequency Response (-3dB) <sup>(1)</sup>** 400Hz - 23kHz

**Frequency Range (-10dB) <sup>(1)</sup>** 350Hz - 27kHz

**System Sensitivity (1W @1m) <sup>(2)</sup>**

**Single-Amp**

VQ 40MH - Passive MF/HF (450Hz - 23kHz) 117dB (2.83V @ 8 Ohms)

VQ 64MH - Passive MF/HF (450Hz - 23kHz) 115dB (2.83V @ 8 Ohms)

VQ 95MH - Passive MF/HF (450Hz - 23kHz) 111dB (2.83V @ 8 Ohms)

**Bi-Amp**

VQ 40MH - MF (450Hz - 7kHz) 117dB (2.83V @ 8 Ohms)

VQ 40MH - HF (7kHz - 23kHz) 115dB (2.83V @ 8 Ohms)

VQ 64MH - MF (450Hz - 7kHz) 115dB (2.83V @ 8 Ohms)

VQ 64MH - HF (7kHz - 23kHz) 114dB (2.83V @ 8 Ohms)

VQ 95MH - MF (450Hz - 7kHz) 111dB (2.83V @ 8 Ohms)

VQ 95MH - HF (7kHz - 23kHz) 110dB (2.83V @ 8 Ohms)

**Dispersion H x V (-6dB)**

VQ 40MH 40 x 40 degrees

VQ 64MH 60 x 40 degrees

VQ 95MH 90 x 50 degrees

**Driver Complement**

MF/HF Dual Concentric™ Compression driver loaded into a single PSW™ Waveguide

**Crossover**

Single Amp 450Hz (Highpass) 7kHz (passive)

Bi Amp 450Hz (Highpass) 7kHz (active)

**Directivity Factor (Q) averaged 1kHz to 10kHz** 32.1(VQ 40MH), 23.5(VQ 64MH), 12.4(VQ 95MH)

**Directivity Index (DI) averaged 1kHz to 10kHz** 15.1(VQ 40MH), 13.7(VQ 64MH), 10.9(VQ 95MH)

**Rated Maximum SPL <sup>(2)</sup>**

VQ 40MH MF Average 140dB Peak 146dB

VQ 40MH HF 138dB 144dB

VQ 40MH Passive MF/HF 140dB 146dB

VQ 64MH MF 138dB 144dB

VQ 64MH HF 134dB 140dB

VQ 64MH Passive MF/HF 138dB 144dB

VQ 95MH MF 134dB 140dB

VQ 95MH HF 133dB 139dB

VQ 95MH Passive MF/HF 134dB 140dB

**Power Handling <sup>(3)</sup>**

MF @ 8 Ohms Average 200W (40V) Programme 400W

HF @ 8 Ohms 90W (27V) 180W

Passive MF/HF @ 8 Ohms 200W (40V) 400W

**Recommended Amplifier Power**

Mid Frequency 400W into 8 Ohms

High Frequency 200W into 8 Ohms

Passive MF/HF 400W into 8 Ohms

**Nominal Impedance**

Mid Frequency 8 Ohms (7.0 Ohms Minimum)

High Frequency 8 Ohms (8.7 Ohms Minimum)

**Construction**

**Enclosure** 18mm (0.71") birch plywood. Vented and internally braced.

**Grille** Powder coated perforated steel grille. Stainless steel on weatherproof version.

**Finish** Black or white textured paint (custom colours on request)

**Connectors** Barrier Strip and Neutrik NL4

**Fittings** 2 x Recessed carrying handles. 12 x M10 flying inserts

**Dimensions** 510mm x 694mm x 515mm (20.01" x 27.32" x 20.28")

**NET Weight**

VQ 40MH 46.5kg

VQ 64MH 45.5kg

VQ 95MH 35.5kg

**Notes:**

(1) Average over stated bandwidth. Measured at 3 metres on axis, then referred to 1 metre

(2) Unweighted pink noise input, measured at 3 metres in an anechoic chamber, then referred to 1 metre

(3) Accelerated Life Test (EIA RS426-B)

A full range of measurements, performance data, CLF and Ease™ Data can be downloaded from [www.tannoy.com](http://www.tannoy.com)

Full independent verification of published specifications carried out by NWA Labs, California can also be obtained from the downloads section of [www.tannoy.com](http://www.tannoy.com)

Tannoy operates a policy of continuous research and development. The introduction of new materials or manufacturing methods will always equal or exceed the published specifications, which Tannoy reserves the right to alter without prior notice. Please verify the latest specifications when dealing with critical applications.

### Ordering Information

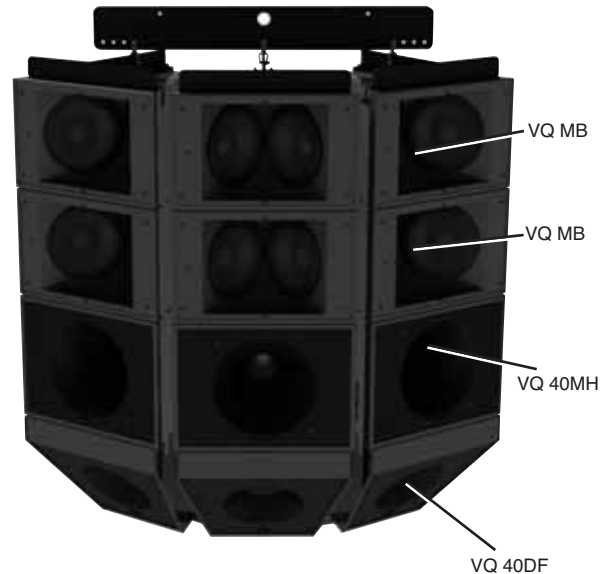
PART NUMBER	MODEL NAME	COLOUR	PACKED QUANTITY
8001 5590	VQ 40MH	BLACK	1
8001 5591	VQ 40MH	WHITE	1
8001 5600	VQ 64MH	BLACK	1
8001 5601	VQ 64MH	WHITE	1
8001 5610	VQ 95MH	BLACK	1
8001 5611	VQ 95MH	WHITE	1

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## Product Description

The VQ 40DF (40x40), VQ 64DF (60x40) and VQ 85DF (80x50) are very high output down firing Mid/High loudspeaker systems designed for applications requiring high impact sound reinforcement with class leading pattern control.

The modular design approach allows the sound system designer to create seamless and predictable arrays, or they can be used singly as part of large distributed systems. VQ DF addresses the requirement for compact dimensions without compromising performance in any way.

VQ MH elements which are available in various patterns will integrate seamlessly with the VQ DF enclosures to facilitate tight pack arrays; the compound angles on the enclosure avoid unsightly spaces between separate cabinets when arrayed horizontally VQ MB or VS 15DR elements can be added to extend bandwidth and pattern control to lower frequencies.

The VQ DF can be configured for use in Single-Amp or Bi-Amp mode, in conjunction with a suitable digital signal processor (DSP).

Horn design involves balancing compromise.....until now.

Our unique approach in keeping what is effectively a Dual Concentric behind a single horn gives us many performance advantages. Performance of the VQ DF in terms of accuracy & sound quality is second to none. The VQ horn design principles provide definitive and measurable advantages over multiple-horn and co-axial designs.

Each VQ DF incorporates a unique driver technology to radiate a coherent single point source for superior dispersion control when coupled to a PSW™ (Point Source Waveguide). This advanced design aligns the acoustical centres of the transducers providing a single coherent wavefront emanating from the throat. The PSW™ waveguide achieves an optimum balance of extremely well controlled coverage, smooth frequency response, and natural sound character.

For outdoor applications, weather resistant enclosures which incorporate stainless steel hardware are available.

## Features

- "PSW™ Waveguide" - Point source design (Patent applied for).
- Excellent Phase Coherence
- Perfect time alignment without the associated problems of multi source interference
- Compact Dimensions
- Class leading directivity characteristics
- Extremely high sensitivity, therefore high SPL's can be achieved with a very modest amount of amplifier power
- Exceptional transient response

## Applications

- Large Houses of Worship
- Large Corporate AV applications
- Stadiums & other Sports facilities
- Dance Clubs
- Live sound – concert halls, theatres, open-air venues

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## TECHNICAL SPECIFICATIONS

**System** VQ 40DF, VQ 64DF, VQ 85DF

**System Type** 2-Way Mid/High - Point Source

**Frequency Response (-3dB) <sup>(1)</sup>** 400Hz - 23kHz

**Frequency Range (-10dB) <sup>(1)</sup>** 350Hz - 27kHz

**System Sensitivity (1W @1m) <sup>(2)</sup>**

**Single-Amp**

VQ 40DF - Passive MF/HF (450Hz - 23kHz) 112dB (2.83V @ 8 Ohms)  
VQ 64DF - Passive MF/HF (450Hz - 23kHz) 111dB (2.83V @ 8 Ohms)  
VQ 85DF - Passive MF/HF (450Hz - 23kHz) 110dB (2.83V @ 8 Ohms)

**Bi-Amp**

VQ 40DF - MF (450Hz - 7kHz) 112dB (2.83V @ 8 Ohms)  
VQ 40DF - HF (7kHz - 23kHz) 111dB (2.83V @ 8 Ohms)  
VQ 64DF - MF (450Hz - 7kHz) 111dB (2.83V @ 8 Ohms)  
VQ 64DF - HF (7kHz - 23kHz) 110dB (2.83V @ 8 Ohms)  
VQ 85DF - MF (450Hz - 7kHz) 110dB (2.83V @ 8 Ohms)  
VQ 85DF - HF (7kHz - 23kHz) 109dB (2.83V @ 8 Ohms)

**Dispersion H x V (-6dB)**

VQ 40DF 40 x 40 degrees  
VQ 64DF 60 x 40 degrees  
VQ 85DF 80 x 50 degrees

**Driver Complement**

MF/HF Dual Concentric™ Compression driver loaded into a single PSW™ Waveguide

**Crossover**

Single Amp 450Hz (Highpass) 7kHz (passive)  
Bi Amp 450Hz (Highpass) 7kHz (active)

**Directivity Factor (Q) averaged 1kHz to 10kHz** 32.1(VQ 40DF), 23.5(VQ 64DF), 12.4(VQ 85DF)

**Directivity Index (DI) averaged 1kHz to 10kHz** 15.1(VQ 40DF), 13.7(VQ 64DF), 10.9(VQ 85DF)

Rated Maximum SPL <sup>(2)</sup>	Average	Peak
VQ 40DF MF	135dB	141dB
VQ 40DF HF	131dB	137dB
VQ 40DF Passive MF/HF	135dB	141dB
VQ 64DF MF	134dB	140dB
VQ 64DF HF	130dB	136dB
VQ 64DF Passive MF/HF	134dB	140dB
VQ 85DF MF	133dB	139dB
VQ 85DF HF	129dB	135dB
VQ 85DF Passive MF/HF	133dB	139dB

Power Handling <sup>(3)</sup>	Average	Programme
MF @ 8 Ohms	200W (40V)	400W
HF @ 8 Ohms	90W (27V)	180W
Passive MF/HF @ 8 Ohms	200W (40V)	400W

**Recommended Amplifier Power**

Mid Frequency 400W into 8 Ohms  
High Frequency 200W into 8 Ohms  
Passive MF/HF 400W into 8 Ohms

**Nominal Impedance**

Mid Frequency 8 Ohms (7.0 Ohms Minimum)  
High Frequency 8 Ohms (8.7 Ohms Minimum)

**Construction**

**Enclosure** 18mm (0.71") birch plywood. Vented and internally braced.  
**Grille** Powder coated perforated steel grille. Stainless steel on weatherproof version.

**Finish** Black or white textured paint (custom colours on request)

**Connectors** Barrier Strip and Neutrik NL4

**Fittings** 2 x Recessed carrying handles  
9 x M10 flying inserts

**Dimensions** 460mm x 694mm x 497mm (18.11" x 27.32" x 19.57")

**NET Weight**

VQ 40DF TBC  
VQ 64DF TBC  
VQ 85DF 28kg

**Notes:**

- (1) Average over stated bandwidth. Measured at 3 metres on axis, then referred to 1 metre
- (2) Unweighted pink noise input, measured at 3 metres in an anechoic chamber, then referred to 1 metre
- (3) Accelerated Life Test (EIA RS426-B)

A full range of measurements, performance data, CLF and Ease™ Data can be downloaded from [www.tannoy.com](http://www.tannoy.com)

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### Ordering Information

PART NUMBER	MODEL NAME	COLOUR	PACKED QUANTITY
8001 5780	VQ 40DF	BLACK	1
8001 5781	VQ 40DF	WHITE	1
8001 5790	VQ 64DF	BLACK	1
8001 5791	VQ 64DF	WHITE	1
8001 4830	VQ 85DF	BLACK	1
8001 4831	VQ 85DF	WHITE	1

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# VQ SERIES Southland Church, KY

An example of VQ Series in its natural habitat, large scale mega-churches in North America where musical clarity and even SPL coverage are critical. Southland Church in Kentucky boasts VQ full range loudspeakers throughout the main hall, most mounted within the wall spaces and hidden behind screens, discrete and effective.



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“We are amazed by this new technology, which somehow delivers an unmatched combination of extremely high output, high impact, high resolution, low distortion sound with nearly perfect coherency and unparalleled beamwidth control – in a compact, unobtrusive package that is easy to hang – and at an unexpectedly low price. VQ is the long-awaited alternative to line array technology.”

Michael Garrison - MGA





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## Product Description

Duplicating the low frequency performance of the VQ 60 & VQ 100 full range loudspeakers, the VQ MB is intended for use as a flown or ground stacked, high power low/mid frequency module used in conjunction with full range or mid/high systems in the VQ series.

Two (12") low frequency transducers, offer high power handling and low power compression for high continuous SPL capability. A newly designed LF loading design provides the highest possible sensitivity for low/mid frequency output (105dB/w).

The VQ MB is principally intended for use with the VQ 60 & VQ 100 full range systems to construct arrays with extended low frequency pattern control. By fixing a VQ MB at the opposing end of a VQ full range loudspeaker we can effectively extend pattern control to below the cutoff point of the Mid/High PSW™ waveguide. By offsetting the devices using delay we can also steer the low frequency lobe. The VQ MB can be used to extend the bandwidth of any VQ Mid/High product whether singly or as part of an array.

The VQ MB is part of an expanding line up of VQ products, addressing the requirement for compact dimensions without compromising performance in any way.

## Features

- Designed to extend the pattern control of VQ full range systems
- Identical performance to low/mid section of VQ full range systems
- Compact Dimensions
- Extremely high sensitivity, therefore high SPL's can be achieved with a very modest amount of amplifier power

## Applications

- Large Houses of Worship
- Large Corporate AV applications
- Stadiums & other Sports facilities
- Dance Clubs
- Live sound – concert halls, theatres, open-air venues



## TECHNICAL SPECIFICATIONS

### System

<b>System Type</b>	Mid Bass - Vented
<b>Frequency Response (-3dB) <sup>(1)</sup></b>	115Hz - 500Hz
<b>Frequency Range (-10dB) <sup>(1)</sup></b>	90Hz - 600Hz
<b>System Sensitivity (1W @1m) <sup>(2)</sup></b>	105dB (2.0V @ 4 Ohms)
<b>Driver Complement</b>	2 x 300mm (12.00") Low Frequency Transducers, Semi Horn Loaded
<b>Rated Maximum SPL <sup>(2)</sup></b>	
Average	135dB
Peak	141dB
<b>Power Handling <sup>(3)</sup></b>	
Average	1000W (63.3V)
Programme	2000W
<b>Recommended Amplifier Power</b>	2000W into 4 Ohms
<b>Nominal Impedance</b>	4 Ohms (4.1 Ohms Minimum)

#### Notes:

(1) Average over stated bandwidth. Measured at 3 metres on axis, then referred to 1 metre.

(2) Unweighted pink noise input, measured at 3 metres in an anechoic chamber, then referred to 1 metre

(3) Accelerated Life Test (EIA RS426-B)

A full range of measurements, performance data, CLF and Ease™ Data can be downloaded from [www.tannoy.com](http://www.tannoy.com)

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### Construction

<b>Enclosure</b>	18mm (0.71") birch plywood Vented and internally braced
<b>Grille</b>	Powder coated perforated steel grille
<b>Finish</b>	Black or white textured paint (custom colours on request)
<b>Connectors</b>	Barrier Strip & 1 x NL4
<b>Fittings</b>	2 x Recessed carrying handles 12 x M10 flying inserts
<b>Dimensions</b>	433mm x 694mm x 515mm (17.05" x 27.32" x 20.28")
<b>NET Weight</b>	37.0kg (81.6 lbs)

### Ordering Information

PART NUMBER	MODEL NAME	COLOUR	PACKED QUANTITY
8001 4810	VQ MB	BLACK	1
8001 4811	VQ MB	WHITE	1

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# VS 15DR

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## Product Description

The VS 15DR satisfies a specific requirement for applications where an installed VQ Series system needs to deliver more low-frequency response than is possible with simply the 2 x 12" LF element of a full range VQ Series enclosure on its own, or by using VQ MB devices within a modular system. Examples of such applications would be nightclub dancefloors, corporate AV applications, performance art theatres or auditoria where the clarity and headroom of a VQ system may be desired without needing to be driven to such an extent that large scale subwoofers would be required.

A single direct radiating 15" low frequency transducer offers high power handling capability and extended low frequency response (down to 50Hz) from this given form factor. With high efficiency (100dB 1W@1m) and with a sustained output of 130dB, the VS 15DR shares the same modular enclosure format as the other VQ Series modules including the VQ MH, allowing the systems designer to create tightly packed arrays or clusters including the use of multiple bass devices for improved vertical pattern control at low frequencies.

An appropriately configured external processor, such as the SC1 can extend LF response and safeguard against cone excursion damage while integrating the subwoofer with VQ systems

The VS 15DR is part of an expanding line up of VQ Series products, addressing the requirement for compact dimensions without compromising performance in any way.

## Features

- Designed to extend the low frequency response of VQ full range systems
- Alleviates the need for large format ground-stacked subwoofer enclosures in many instances
- Modular enclosure for integration with other VQ Series devices to form compact full-range systems or larger scale flown arrays
- High sensitivity, therefore high SPL's can be achieved with a modest amount of amplifier power

## Applications

- Theatres
- Auditoria
- School Assembly Halls
- Sports Arenas / Stadia
- Large Corporate AV

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# VS 15DR

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## TECHNICAL SPECIFICATIONS

**System** Bass loudspeaker - Direct radiator

**Frequency Response (-3dB) <sup>(1)</sup>** 50Hz - 3500Hz

**Frequency Range (-10dB) <sup>(1)</sup>** 38Hz - 4500Hz

**System Sensitivity (1W @1m) <sup>(2)</sup>** 100dB (1W = 2.83V for 8 Ohms)

**Power Handling**

Average 1000W  
Programme 2000W  
Peak 4000W

**Rec Amplifier Power** 1200 - 2000 Watt / 8 Ohms

**Rated Maximum SPL <sup>(2)</sup>** 130dB (average) 136dB (peak)

**Nominal Impedance** 8 Ohms

**Driver Complement** 380mm (15") Bass driver

**Recommended Crossover** 90Hz - 500Hz, 24dB/octave)  
Recommended High-pass filter  
35Hz, 24dB/octave

**Nominal Impedance** 8 Ohms

**Distortion**

10% Full Power (28.3V)	2nd Harmonic	3rd Harmonic
40Hz	1.42%	1.83%
100Hz	0.40%	0.33%

1% Full Power (8.94V)	2nd Harmonic	3rd Harmonic
40Hz	0.68%	2.20%
100Hz	0.09%	0.32%

**Notes:**

- (1) Average over stated bandwidth. Measured at 1 metre on axis.
- (2) Unweighted pink noise input, measured at 1 metre in half space

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**Construction**

**Enclosure** 89.9 litres, 18mm (5/8") birch plywood internally braced.

**Finish** Textured black or white paint (custom colours on request).

**Connectors** Speakon NL4MPR IN/OUT and Barrier strip terminals

**Fittings** 2 x Recessed carrying handles  
12 x M10 flying inserts.  
4 x Rubber feet

**Dimensions (HxWxD)** 510mm x 694mm x 515mm  
20.08" x 27.32" x 20.28"

**Weight** 36kg (79.2 lbs) net  
40kg (88.1 lbs) shipping

### Ordering Information

PART NUMBER	MODEL NAME	COLOUR	PACKED QUANTITY
8001 5650	VS 15DR	BLACK	1
8001 5651	VS 15DR	WHITE	1

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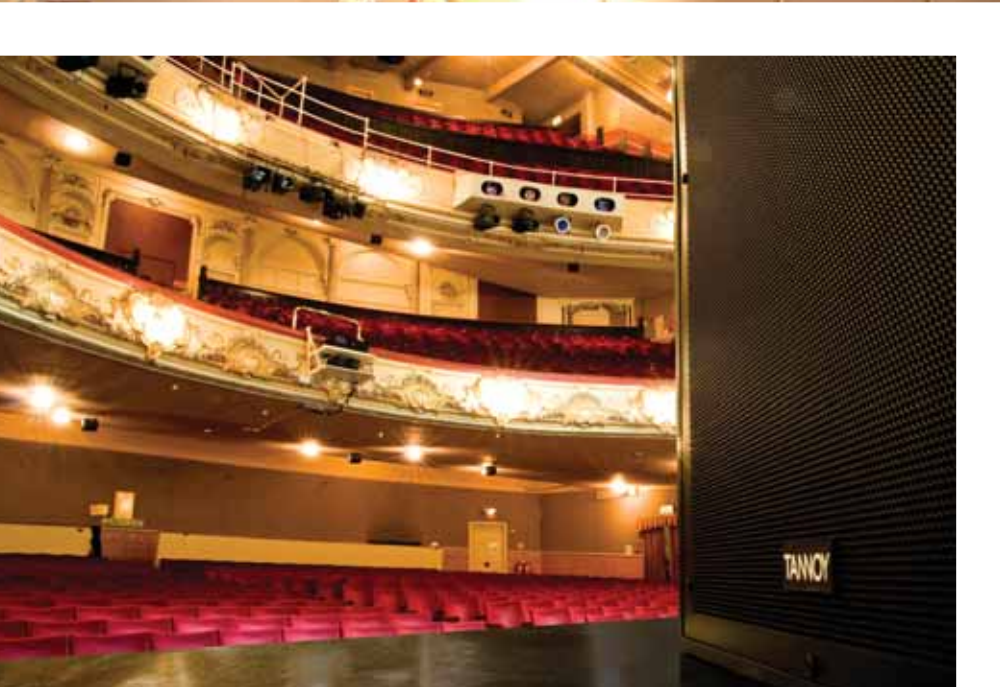
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“Tannoy’s VQ Series sounds better than anything I’ve heard in over 30 years of working in the theatre business. They really give our performers a whole new level of presence in our shows and project truly natural sound across the whole audience.”

Iain Gordon, Theatre General Manager



The image shows the interior of the Pavilion Theatre in Glasgow. The auditorium is filled with rows of red seats, arranged in a semi-circle. The walls are ornate, with decorative moldings and several large, glowing light fixtures. A balcony with more red seats is visible above the main floor. The stage area is partially visible in the background, with a white door and a red curtain. The overall atmosphere is classic and elegant.

# VQ SERIES Pavilion Theatre, Glasgow

The Pavilion, one of Glasgow's oldest and loved variety theatre venues, is a classic example of VQ Series being used effectively in an auditorium with a number of VQ 100 full-range loudspeakers installed throughout. The new VQ 100s add a new level of clarity, definition and presence to the performances within the historic 1449-seat auditorium and have gone down well with both cast and audiences.



## VNET SC1 Controller



## VNET SC1 Controller (network enabled)



### Product Description

In its basic configuration the Tannoy VNET SC1 is a powerful '2 in 6 out' digital system controller which provides multiple X-Over, EQ, Delay and Limiting options. Using DSP-based digital crossovers with 96kHz sampling rates, this versatile controller will enable simple configuration and optimisation of loudspeakers in terms of speaker management and room EQ functionality.

Two versions of the VNET SC1 are available – one with a VNET™ network card and one without. The 'network enabled' version facilitates VNET™ networking capability with two network ports provided for connection to any Tannoy VNET™ system.

Equalisation is provided on each input and output section with two shelving filters and six fully variable parametric sections. Butterworth, Bessel, Linkwitz Riley and Hardman filters are available.

A high performance, low distortion limiter is incorporated on each output; threshold is user adjustable with two LED's provided for each output channel to indicate the signal level relative to the limiter threshold.

Attack and release constants are automatically calculated by the VNET SC1 dependant on frequency. Input and output gain is adjustable in 0.2dB steps from -40dB to +15dB. Input delay is adjustable in variable steps from 0 to 400ms and output delay is adjustable to 80ms.

Set up of the unit is exceptionally simple thanks to the intuitive signal flow based interface, or it can be controlled from a PC with Tannoy's standard VNET™ software. Any of the inputs (A, B, or sum) can be routed to any output with the unique routing engine of the VNET SC1.

The VNET SC1 can also be linked, via its RS232 connector, to a laptop computer or other PC and controlled using VNET™ software. This will provide improved access to the configuration functionality via simple on-screen graphics.

The universal switch mode power supply automatically adapts to mains voltages from 85 to 240 volts.

### Features

#### Features common to both models:

- Two balanced XLR analogue inputs and six balanced XLR analogue outputs
- Simple configuration and optimisation of loudspeakers in terms of speaker management and room EQ functionality
- Intuitive signal flow based interface and 2 x 24 character backlit LCD
- Unique routing engine allows any input to be sent to any output.
- Butterworth, Bessel, Linkwitz Riley and Hardman type filters are available on all outputs
- Input and output gain is adjustable in 0.2dB steps from -40dB to +15dB
- Input delay adjustable in variable steps from 0 to 400ms, while output delay is adjustable to 80ms
- Automatically calculated attack and release constants dependant on frequency
- RS232 connector enables connection to a laptop computer or other PC for enhanced control functions using VNET™ software
- Automatically adapting universal switch mode power supply - 85 to 240 volts

#### Additional Feature - Network Enabled version only:

- Two XLR network link ports allow the network-enabled version SC1 to combine any VNET™ system with any other loudspeaker system

### Applications

- Fixed Installations
- Touring Applications

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# VNET SC1

# TANNOY®

## TECHNICAL SPECIFICATIONS

System	VNET SC1
<b>GENERAL</b>	
Inputs	2
Input Impedance	> 10k Ohm electronically balanced
Maximum Input level	+20dBu
Outputs	6
Output Impedance	<100 Ohm, ground balanced
Maximum Output Level	+20dBu into 600 Ohm load
Sample Rate	96kHz
Bit Depth	24 bit
Frequency Response	10Hz to 40kHz, +/- 3dB (filters disabled) 20Hz to 20kHz, +/- 0.5dB (filters disabled)
THD	<0.01%, (+10dBu, 20Hz to 20kHz, 30kHz bandwidth)
Dynamic Range	>112dB (A weighted, 22kHz bandwidth) >109dB (un-weighted, 22kHz bandwidth)
Serial Comms Data	38.4kbaud, format: 8 data, 1 stop, no parity
<b>PROCESSING</b>	
Gain	+15dB to -40dB and mute, 0.2dB steps
Output Ch. Source	Input A, Input B and SUM
HP filter frequency	Off, 10Hz to 25.4kHz, 1/36 octave steps
LP filter frequency	10Hz to 25.4kHz and off, 1/36 octave steps
LP / HP filter type	12, 18 & 24dB/octave Bessel and Butterworth 12, 24 and 48dB/octave Linkwitz Riley 4th or 8th order Hardman

Delay	Input 400ms, output 80ms
Limiter	High performance limiter, adjustable threshold in 0.2dB steps, automatic time constants
EQ frequency	10Hz to 25kHz, 1/36 octave steps
EQ gain	+15dB to -15dB, 0.2dB steps
EQ width	5.0 to 0.1 octaves bandwidth, 1/36 octave steps

### CONNECTORS

Audio inputs	3 pin female XLR
Audio outputs	3 pin male XLR
Serial comms	Available via RS232 port
Network comms	Only available on network enabled SC1
Mains	3 pin IEC
Mains Power	Universal switch-mode PSU, 85v to 250v AC, 50 / 60Hz
Consumption	< 25watts
Dimensions	45mm (H), 482mm (W), 254mm (D) 1.80" (H), 19.00" (W), 10.00" (D)
Weight	2.7 Kgs net 5.94 lbs net

The introduction of new materials or manufacturing methods will always equal or exceed the published specifications, which Tannoy reserves the right to alter without prior notice. Please verify the latest specifications when dealing with critical applications.

### Ordering Information

PART NUMBER	MODEL NAME	BAFFLE / GRILLE COLOUR	PACKED QUANTITY	PACKED WEIGHT
8001 4420	VNET SC1 UK / EURO	Black	1	3.2 (7 lbs)
8001 4421	VNET SC1 110V	Black	1	3.2 (7 lbs)
8001 4423	VNET SC1 (network enabled) UK / EURO	Black	1	3.2 (7 lbs)
8001 4424	VNET SC1 (network enabled) 110V	Black	1	3.2 (7 lbs)

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# VQ NET 60

# TANNOY®



## Product Description

The VQ NET 60 is a full range, three-way loudspeaker system designed for applications which require very high output capability with class leading pattern control. Integrated with cutting edge digital signal processing, network control and dual channel Class D amplification, the VQ NET 60 is perfectly suited for use in arrays or singly in demanding applications. Unlike line array solutions, the VQ NET 60 can produce enough power and clarity to be used individually maintaining your building's aesthetics.

With low frequency extension to 90Hz, the VQ NET 60 can be combined with various subwoofers for extended bandwidth.

Horn design involves balancing compromise.....until now.

Our unique approach in keeping what is effectively a Dual Concentric behind a single horn gives us many performance advantages. Performance of the VQ NET 60 in terms of accuracy & sound quality is second to none.

The VQ NET 60 incorporates a unique driver technology to radiate a coherent single point source for superior dispersion control when coupled to a PSW™ (Point Source Waveguide). This advanced design aligns the acoustical centres of the transducers providing a single coherent wavefront emanating from the throat. The PSW™ waveguide achieves an optimum balance of extremely well controlled coverage, smooth frequency response, and natural sound character.

The low frequency section, two (12") low frequency transducers, offers high power handling and low power compression for exceptionally high continuous SPL capability. A newly designed LF loading design provides the highest possible sensitivity for low/mid frequency output.

The modular approach of amplifiers, processing, monitoring and drivers designed into each loudspeaker enables acoustic optimization for the speaker to perform as a unified whole. The intuitive setup software, integrated processing, tuning control, performance diagnostics and protection produces an easy to install and exceptionally high performance networkable loudspeaker. VNET™ supports free network topology so that the loudspeakers can be arranged in a daisy chain, linked in a star configuration or in any combination of both. Implementation of the network between nodes is via high quality rugged Neutrik Ethercon connectors, which are compatible with standard RJ45 plugs, and CAT5 cable. Each speaker has a unique address for auto-location on the network.

System commissioning and ongoing venue network control, incorporating real time diagnostics of electronics and drive unit, are all managed by the exclusive VNET™ software package. Supplied with each unit, this intuitive Windows tool controls all of the critical install, commissioning and performance monitoring functions. A standard wireless LAN-to-serial bridge can also be used to communicate with the network.

The VQ NET 60 is part of an expanding line up of VQ products, addressing the requirement for compact dimensions without compromising performance in any way.

## VNET™ Network

An RS485 interface is used for the serial data, with a twisted pair to send and receive information to a high number of nodes over very long distances. Operating a shared bus system, so that a single computer can control any node on that bus, also means that status information can be gathered from any of the devices. The RS-485 differential signal is very robust, while its noise immunity and long-distance capability ensure it is one of the most popular communications methods used in industry.

Only data to control setup functions and ongoing system diagnostics is carried over the network. As each VNET™ loudspeaker controls its own DSP functions any unforeseen problem would be isolated to only that particular node and audio will still be delivered.

Speakers are automatically identified on the network software set up screen with factory default names. The name can be edited to reflect their actual location on the network, with physical location confirmation by selecting the 'Flash' function to activate an LED mounted on the front of the loudspeaker.

The loudspeakers are fully calibrated at the factory, avoiding the need to input the correct speaker management settings or any dynamics at the point of install.

## Features

- "PSW™ Waveguide" - Point source design (Patent applied for).
- Excellent Phase Coherence
- Perfect time alignment without the associated problems of multi source interference
- Compact Dimensions
- Class leading directivity characteristics
- Extremely high sensitivity, therefore high SPL's can be achieved with a very modest amount of amplifier power
- Exceptional transient response

## Applications

- Large Houses of Worship
- Large Corporate AV applications
- Stadiums & other Sports facilities
- Dance Clubs
- Live sound – concert halls, theatres, open-air venues

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# VQ NET 60

# TANNOY®

## TECHNICAL SPECIFICATIONS

### System

<b>System Type</b>	3-Way Full Range - Point Source	
<b>Frequency Response (-3dB) <sup>(1)</sup></b>	115Hz - 23kHz	
<b>Frequency Range (-10dB) <sup>(1)</sup></b>	90Hz - 27kHz	
<b>Dispersion (-6dB)</b>	60 degrees conical	
<b>Driver Complement</b>		
LF	2 x 300mm (12.00") Low Frequency Transducers, Semi Horn Loaded	
MF/HF	Dual Concentric™ Compression driver loaded into a single PSW™ Waveguide	
<b>Crossover</b>	450Hz (DSP Generated) 7kHz (passive)	
<b>Directivity Factor (Q)</b>	21.2 averaged 1kHz to 10kHz	
<b>Directivity Index (DI)</b>	13.3 averaged 1kHz to 10kHz	
<b>Rated Maximum SPL <sup>(2)</sup></b>		
LF	Average 134dB	Peak 140dB
MF/HF	138dB	144dB

### Construction

<b>Enclosure</b>	18mm (0.71") birch plywood. Vented and internally braced.
<b>Grille</b>	Powder coated perforated steel grille
<b>Finish</b>	Black or white textured paint (custom colours on request)
<b>Connectors</b>	1 x female XLR (input) 1 x male XLR (link) 1 x RJ45 (network in) 1 x RJ45 (network link) 1 x Neutrik Powercon
<b>Controls &amp; Indicators</b>	LED on front of cabinet behind grille. (wink indicator for locating & assigning) Power LED (blue), Signal LED (green), Limit LED (red), User DSP - defeat switch, Power switch
<b>Fittings</b>	8 x Recessed carrying handles 12 x M10 flying inserts
<b>Dimensions</b>	925mm x 694mm x 515mm (36.42" x 27.32" x 20.28")
<b>NET Weight</b>	80kg

### Electronics

<b>Efficiency</b>	>85% typically.
<b>Damping Factor</b>	120 ref 8 Ohms
<b>Distortion</b>	<0.05% @ 1kHz -3dB output (22kHz bandwidth)
<b>Input Impedance</b>	5.6 kOhms unbalanced, 11.2 kOhms balanced
<b>Output Power (Programme)</b>	LF - 800W MF/HF - 800W (limited to 400W)
<b>Input Sensitivity</b>	1.4V (+5.5dBu)
<b>Input Sensitivity</b>	Dual channel Class D

### DSP System

<b>Comms Facilities</b>	Firmware updatable and selected parameters editable
<b>Communications</b>	Serial - RS485 Proprietary message format
<b>Dynamic Range</b>	112dB(A) typical
<b>DSP</b>	3rd generation SHARC
<b>Sampling Frequency</b>	96kHz 24 bit A/D-D/A word length
<b>Format</b>	1 IN - 2 OUT

### PSU Specifications

<b>Input Connector</b>	Locking Neutrik Powercon
<b>Voltage Selection</b>	Automatic (115 / 230V, 45 - 65Hz)
<b>Type</b>	High current, high frequency switch mode
<b>Efficiency</b>	>90% typical
<b>Input voltage</b>	100V / 115V / 230V nominal +/-10%
<b>Mains fuse</b>	External
<b>Fuse type</b>	T10AT
<b>Other features</b>	Automatic soft start
<b>Current Draw</b>	115V 230V
<b>Startup (inrush)</b>	3.5A 1.9A
<b>idle</b>	1.1A 0.56A
<b>Max</b>	3.5A 1.7A

#### Notes:

- (1) Average over stated bandwidth. Measured at 3 metres on axis, then referred to 1 metre
- (2) Unweighted pink noise input, measured at 3 metres in an anechoic chamber, then referred to 1 metre

A full range of measurements, performance data, and Ease™ Data can be downloaded from [www.tannoy.com](http://www.tannoy.com)

Tannoy operates a policy of continuous research and development. The introduction of new materials or manufacturing methods will always equal or exceed the published specifications, which Tannoy reserves the right to alter without prior notification

### Ordering Information

PART NUMBER	MODEL NAME	COLOUR	PACKED QUANTITY
8001 4840	VQ NET 60	BLACK	1
8001 4841	VQ NET 60	WHITE	1

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# VQ NET 100

# TANNOY®



## Product Description

The VQ NET 100 is a full range, three-way loudspeaker system designed for applications which require high output capability with class leading pattern control. Integrated with cutting edge digital signal processing, network control and dual channel Class D amplification, the VQ 100 features a wide and exceptionally well defined dispersion characteristic.

For a variety of uses, a single VQ NET 100 can produce more power and clarity over its 100 degree beamwidth area than many arrayed solutions using multiple cabinets, a great advantage when considering your building aesthetics.

With low frequency extension to 90 Hz, the VQ NET 100 can be combined with various subwoofers for extended bandwidth.

Horn design involves balancing compromise.....until now.

Our unique approach in keeping what is effectively a Dual Concentric™ behind a single horn gives us many performance advantages. Performance of the VQ NET 100 in terms of accuracy & sound quality is second to none.

The VQ NET 100 incorporates a unique driver technology to radiate a coherent single point source for superior dispersion control when coupled to a PSW™ (Point Source Waveguide). This advanced design aligns the acoustical centres of the transducers providing a single coherent wavefront emanating from the throat. The PSW™ waveguide achieves an optimum balance of extremely well controlled coverage, smooth frequency response, and natural sound character. The low frequency section, two (12") low frequency transducers, offers high power handling and low power compression for high continuous SPL capability. A newly designed LF loading design provides the highest possible sensitivity for low/mid frequency output.

The modular approach of amplifiers, processing, monitoring and drivers designed into each loudspeaker enables acoustic optimization for the speaker to perform as a unified whole. The intuitive setup software, integrated processing, tuning control, performance diagnostics and protection produces an easy to install and exceptionally high performance networkable loudspeaker. VNET™ supports free network topology so that the loudspeakers can be arranged in a daisy chain, linked in a star configuration or in any combination of both. Implementation of the network between nodes is via high quality rugged Neutrik Ethercon connectors, which are compatible with standard RJ45 plugs, and CAT5 cable. Each speaker has a unique address for auto-location on the network.

System commissioning and ongoing venue network control, incorporating real time diagnostics of electronics and drive unit, are all managed by the exclusive VNET™ software package. Supplied with each unit, this intuitive Windows tool controls all of the critical install, commissioning and performance monitoring functions. A standard wireless LAN-to-serial bridge can also be used to communicate with the network.

The VQ NET 100 is part of an expanding line up of VQ products, addressing the requirement for compact dimensions without compromising performance in any way.

## Features

An RS485 interface is used for the serial data, with a twisted pair to send and receive information to a high number of nodes over very long distances. Operating a shared bus system, so that a single computer can control any node on that bus, also means that status information can be gathered from any of the devices. The RS-485 differential signal is very robust, while its noise immunity and long-distance capability ensure it is one of the most popular communications methods used in industry.

Only data to control setup functions and ongoing system diagnostics is carried over the network. As each VNET™ loudspeaker controls its own DSP functions any unforeseen problem would be isolated to only that particular node and audio will still be delivered.

Speakers are automatically identified on the network software set up screen with factory default names. The name can be edited to reflect their actual location on the network, with physical location confirmation by selecting the 'Flash' function to activate an LED mounted on the front of the loudspeaker.

The loudspeakers are fully calibrated at the factory, avoiding the need to input the correct speaker management settings or any dynamics at the point of install.

## Features

- "PSW™ Waveguide" - Point source design (Patent applied for).
- Excellent Phase Coherence
- Perfect time alignment without the associated problems of multi source interference
- Compact Dimensions
- Class leading directivity characteristics
- High SPL capability
- Exceptional transient response

## Applications

- Large Houses of Worship
- Large Corporate AV applications
- Stadiums & other Sports facilities
- Dance Clubs
- Live sound – concert halls, theatres, open-air venues

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# VQ NET 100

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## TECHNICAL SPECIFICATIONS

### System

<b>System Type</b>	3-Way Full Range - Point Source	
<b>Frequency Response (-3dB) <sup>(1)</sup></b>	115Hz - 23kHz	
<b>Frequency Range (-10dB) <sup>(1)</sup></b>	90Hz - 27kHz	
<b>Dispersion (-6dB)</b>	100 degrees conical	
<b>Driver Complement</b>	2 x 300mm (12.00") Low Frequency Transducers, Semi Horn Loaded	
LF	Dual Concentric™ Compression driver loaded into a single PSW™ Waveguide	
MF/HF		
<b>Crossover</b>	450Hz (DSP Generated) 7kHz (passive)	
<b>Directivity Factor (Q)</b>	8.5 averaged 1kHz to 10kHz	
<b>Directivity Index (DI)</b>	9.3 averaged 1kHz to 10kHz	
<b>Rated Maximum SPL <sup>(2)</sup></b>	Average	Peak
Low Frequency	134dB	140dB
Passive MF/HF	134dB	140dB
<b>Construction</b>		
<b>Enclosure</b>	18mm (0.71") birch plywood. Vented and internally braced.	
<b>Grille</b>	Powder coated perforated steel grille	
<b>Finish</b>	Black or white textured paint (custom colours on request)	
<b>Connectors</b>	1 x female XLR (input) 1 x male XLR (link) 1 x RJ45 (network in) 1x RJ45 (network link) 1 x Neutrik Powercon	
<b>Controls &amp; Indicators</b>	LED on front of cabinet behind grille. (wink indicator for locating & assigning) Power LED (blue) Signal LED (green) Limit LED (red) User DSP - defeat switch Power switch	
<b>Fittings</b>	8 x Recessed carrying handles 12 x M10 flying inserts	
<b>Dimensions</b>	925mm x 694mm x 515mm (36.42" x 27.32" x 20.28")	
<b>NET Weight</b>	68kg	

### Electronics

<b>Efficiency</b>	>85% typically
<b>Damping Factor</b>	120 ref 8 Ohms
<b>Distortion</b>	<0.05% @ 1kHz -3dB output (22kHz bandwidth)
<b>Input Impedance</b>	5.6 kOhms unbalanced, 11.2 kOhms balanced
<b>Output Power (Programme)</b>	LF - 800W MF/HF - 800W (limited to 400W)
<b>Input Sensitivity</b>	1.4V (+5.5dBu)
<b>System Type</b>	Dual channel Class D

### DSP system

<b>Comms Facilities</b>	Firmware updatable and selected parameters editable
<b>Communications</b>	Serial - RS485 Proprietary message format
<b>Dynamic Range</b>	112dB(A) typical
<b>DSP</b>	3rd generation SHARC
<b>Sampling Frequency</b>	96kHz 24 bit A/D-D/A word length
<b>Format</b>	1 IN - 2 OUT

### PSU Specifications

<b>Input Connector</b>	Locking Neutrik Powercon
<b>Voltage Selection</b>	Automatic (115 / 230V, 45 - 65Hz)
<b>Type</b>	High current, high frequency switch mode
<b>Efficiency</b>	>90% typical
<b>Input voltage</b>	100V / 115V / 230V nominal +/-10%
<b>Mains fuse</b>	External
<b>Fuse type</b>	T10AT
<b>Other features</b>	Automatic soft start
<b>Current Draw</b>	115V 230V
<b>Startup (inrush)</b>	3.5A 1.9A
<b>idle</b>	1.1A 0.56A
<b>Max</b>	3.5A 1.7A

#### Notes:

- (1) Average over stated bandwidth. Measured at 3 metres on axis, then referred to 1 metre  
(2) Unweighted pink noise input, measured at 3 metres in an anechoic chamber, then referred to 1 metre

A full range of measurements, performance data, CLF and Ease™ Data can be downloaded from [www.tannoy.com](http://www.tannoy.com)

Tannoy operates a policy of continuous research and development. The introduction of new materials or manufacturing methods will always equal or exceed the published specifications, which Tannoy reserves the right to alter without prior notice. Please verify the latest specifications when dealing with critical applications.

### Ordering Information

PART NUMBER	MODEL NAME	COLOUR	PACKED QUANTITY
8001 4850	VQ NET 100	BLACK	1
8001 4851	VQ NET 100	WHITE	1

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## Product Description

Integrated with cutting edge digital signal processing, network control and dual channel Class D amplification, the VQ NET 40MH (40x40), VQ NET 64MH (60x40) and VQ NET 95MH (90x50) are very high output Mid/High loudspeaker systems designed for applications requiring high impact sound reinforcement over large distances with class leading pattern control. The modular design approach allows the sound system designer to create seamless and predictable arrays, or they can be used singly as part of large distributed systems. VQ MH addresses the requirement for compact dimensions without compromising performance in any way.

VQ NET DF (Down Firing) elements which are available in various patterns will integrate seamlessly with the VQ MH enclosures to facilitate tight pack arrays, no more unsightly spaces between separate cabinets in order to splay. VQ NET MB or VNET 15DR elements can be added to extend bandwidth and pattern control to lower frequencies.

Horn design involves balancing compromise.....until now.

Our unique approach in keeping what is effectively a Dual Concentric behind a single horn gives us many performance advantages. Performance of the VQ NET MH in terms of accuracy & sound quality is second to none. The VQ horn design principles provide definitive and measurable advantages over multiple-horn and co-axial designs.

The VQ NET MH incorporates a unique driver technology to radiate a coherent single point source for superior dispersion control when coupled to a PSW™ (Point Source Waveguide). This advanced design aligns the acoustical centres of the transducers providing a single coherent wavefront emanating from the throat. The PSW™ waveguide achieves an optimum balance of extremely well controlled coverage, smooth frequency response, and natural sound character.

The modular approach of amplifiers, processing, monitoring and drivers designed into each loudspeaker enables acoustic optimization for the speaker to perform as a unified whole. The intuitive setup software, integrated processing, tuning control, performance diagnostics and protection produces an easy to install and exceptionally high performance networkable loudspeaker.

For outdoor applications, weather resistant enclosures which incorporate stainless steel hardware are available.

## VNET™ Network

Each VQ NET MH enclosure is fully VNET™ compliant. VNET™ supports free network topology so that the loudspeakers can be arranged in a daisy chain, linked in a star configuration or in any combination of both. Implementation of the network between nodes is via high quality rugged Neutrik Ethercon connectors, which are compatible with standard RJ45 plugs, and CAT5 cable. Each speaker has a unique address for auto-location on the network. System commissioning and ongoing network control, incorporating real time diagnostics of electronics and drive unit, are all managed by the exclusive VNET™ software package. Supplied with each unit, this intuitive Windows tool controls all critical install, commissioning and performance monitoring functions.

## Features

- "PSW™ Waveguide" - Point source design (Patent applied for).
- Excellent Phase Coherence
- Perfect time alignment without the associated problems of multi source interference
- Compact Dimensions
- Class leading directivity characteristics
- Extremely high sensitivity, therefore high SPL's can be achieved with a very modest amount of amplifier power
- Exceptional transient response

## Applications

- Large Houses of Worship
- Large Corporate AV applications
- Stadiums & other Sports facilities
- Dance Clubs
- Live sound – concert halls, theatres, open-air venues

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# VQ NET MH

# TANNOY®

## TECHNICAL SPECIFICATIONS

### System VQ NET 40MH, VQ NET 64MH, VQ NET95MH

<b>System Type</b>	2-Way Mid/High - Point Source
<b>Frequency Response (-3dB) <sup>(1)</sup></b>	400Hz - 23kHz
<b>Frequency Range (-10dB) <sup>(1)</sup></b>	350Hz - 27kHz
<b>Dispersion H x V (-6dB)</b>	
VQ NET 40MH	40 x 40 degrees
VQ NET 64MH	60 x 40 degrees
VQ NET 95MH	90 x 50 degrees

<b>Driver Complement MF/HF</b>	Dual Concentric™ Compression driver loaded into a single PSW™ Waveguide
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<b>Crossover</b>	HighPass Filter @ 450Hz DSP Generated and 7kHz
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<b>Directivity Factor (Q) averaged 1kHz to 10kHz</b>	32.1(VQ NET 40MH) 23.5(VQ NET 64MH) 12.4(VQ NET 95MH)
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<b>Directivity Index (DI) averaged 1kHz to 10kHz</b>	15.1(VQ NET 40MH) 13.7(VQ NET 64MH) 10.9(VQ NET 95MH)
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<b>Rated Maximum SPL <sup>(2)</sup></b>	Average	Peak
VQ NET 40MH	140dB	146dB
VQ NET 64MH	138dB	144dB
VQ NET 95MH	134dB	140dB

### Construction

<b>Enclosure</b>	18mm (0.71") birch plywood. Vented and internally braced
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<b>Grille</b>	Powder coated perforated steel grille. Stainless steel on weatherproof version.
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<b>Finish</b>	Black or white textured paint (custom colours on request)
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<b>Connectors</b>	1 x female XLR (input) 1 x male XLR (link) 1 x RJ45 (network in) 1 x RJ45 (network link) 1 x Neutrik NL4 (Amp ch2 Output) 1 x Neutrik Powercon 1 x Neutrik Powercon (outlet)
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<b>Controls &amp; Indicators</b>	LED on front of cabinet behind grille. (wink indicator for locating & assigning) Power LED (blue) Signal LED (green) Limit LED (red) User DSP - defeat switch Power switch
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<b>Fittings</b>	2 x Recessed carrying handles 12 x M10 flying inserts
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<b>Dimensions</b>	510mm x 694mm x 515mm (20.01" x 27.32" x 20.28")
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<b>NET Weight</b>	TBC
VQ NET 40MH	48.5kg
VQ NET 64MH	39.0kg

### Ordering Information

PART NUMBER	MODEL NAME	COLOUR	PACKED QUANTITY
8001 5620	VQ NET 40MH	BLACK	1
8001 5621	VQ NET 40MH	WHITE	1
8001 5630	VQ NET 64MH	BLACK	1
8001 5631	VQ NET 64MH	WHITE	1
8001 5640	VQ NET 95MH	BLACK	1
8001 5641	VQ NET 95MH	WHITE	1

### Electronics

<b>Efficiency</b>	>85% typically
<b>Damping Factor</b>	120 ref 8 Ohms
<b>Distortion</b>	<0.05% @ 1kHz -3dB output (22kHz bandwidth)

<b>Input Impedance</b>	5.6 kOhms unbalanced, 11.2 kOhms balanced
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<b>Output Power (Programme)</b>	400W MF, 200W HF
<b>Input Sensitivity</b>	1.4V (+5.5dBu)
<b>System Type</b>	Dual channel Class D

### DSP System

<b>Comms Facilities</b>	Firmware updatable and selected parameters editable
<b>Communications</b>	Serial - RS485 Proprietary message format
<b>Dynamic Range</b>	112dB(A) typical
<b>DSP</b>	3rd generation SHARC
<b>Sampling Frequency</b>	96kHz 24 bit A/D-D/A word length
<b>Format</b>	1 IN - 2 OUT

### PSU Specifications

<b>Input Connector</b>	Locking Neutrik Powercon
<b>Voltage Selection</b>	Automatic (115 / 230V, 45 - 65Hz)
<b>Type</b>	High current, high frequency switch mode
<b>Efficiency</b>	>90% typical
<b>Input voltage</b>	100V / 115V / 230V nominal +/-10%
<b>Mains fuse</b>	External
<b>Fuse type</b>	T10AT
<b>Other features</b>	Automatic soft start
<b>Current Draw</b>	115V 230V
<b>Startup (inrush)</b>	3.5A 1.9A
<b>idle</b>	1.0A 0.56A
<b>Max</b>	3.5A 1.7A

#### Notes:

(1) Average over stated bandwidth. Measured at 3 metres on axis, then referred to 1 metre

(2) Unweighted pink noise input, measured at 3 metres in an anechoic chamber, then referred to 1 metre

A full range of measurements, performance data, CLF and Ease™ Data can be downloaded from [www.tannoy.com](http://www.tannoy.com)

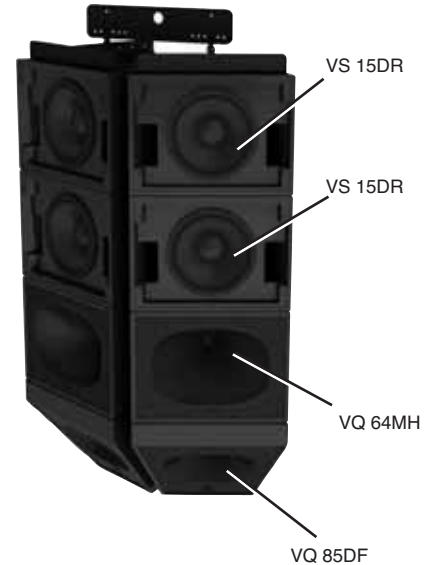
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## Product Description

Integrated with cutting edge digital signal processing, network control and dual channel Class D amplification, the VQ NET 40DF (40x40), VQ NET 64DF (60x40) and VQ NET 85DF (80x50) are very high output down firing Mid/High loudspeaker systems designed for applications requiring high impact sound reinforcement with class leading pattern control. The modular design approach allows the sound system designer to create seamless and predictable arrays, or they can be used singly as part of large distributed systems. VQ DF addresses the requirement for compact dimensions without compromising performance in any way.

VQ MH elements which are available in various patterns will integrate seamlessly with the VQ DF enclosures to facilitate tight pack arrays; the compound angles on the enclosure avoid unsightly spaces between separate cabinets when arrayed horizontally VQ MB or VS 15DR elements can be added to extend bandwidth and pattern control to lower frequencies.

Horn design involves balancing compromise.....until now.

Our unique approach in keeping what is effectively a Dual Concentric behind a single horn gives us many performance advantages. Performance of the VQ DF in terms of accuracy & sound quality is second to none. The VQ horn design principles provide definitive and measurable advantages over multiple-horn and co-axial designs.

Each VQ NET DF incorporates a unique driver technology to radiate a coherent single point source for superior dispersion control when coupled to a PSW™ (Point Source Waveguide). This advanced design aligns the acoustical centres of the transducers providing a single coherent wavefront emanating from the throat. The PSW™ waveguide achieves an optimum balance of extremely well controlled coverage, smooth frequency response, and natural sound character.

The modular approach of amplifiers, processing, monitoring and drivers designed into each loudspeaker enables acoustic optimization for the speaker to perform as a unified whole. The intuitive setup software, integrated processing, tuning control, performance diagnostics and protection produces an easy to install and exceptionally high performance networkable loudspeaker.

For outdoor applications, weather resistant enclosures which incorporate stainless steel hardware are available.

## VNET™ Network

Each VQ NET DF enclosure is fully VNET™ compliant. VNET™ supports free network topology so that the loudspeakers can be arranged in a daisy chain, linked in a star configuration or in any combination of both. Implementation of the network between nodes is via high quality rugged Neutrik Ethercon connectors, which are compatible with standard RJ45 plugs, and CAT5 cable. Each speaker has a unique address for auto-location on the network. System commissioning and ongoing network control, incorporating real time diagnostics of electronics and drive unit, are all managed by the exclusive VNET™ software package. Supplied with each unit, this intuitive Windows tool controls all critical install, commissioning and performance monitoring functions.

## Features

- "PSW™ Waveguide" - Point source design (Patent applied for).
- Excellent Phase Coherence
- Perfect time alignment without the associated problems of multi source interference
- Compact Dimensions
- Class leading directivity characteristics
- Extremely high sensitivity, therefore high SPL's can be achieved with a very modest amount of amplifier power
- Exceptional transient response

## Applications

- Large Houses of Worship
- Large Corporate AV applications
- Stadiums & other Sports facilities
- Dance Clubs
- Live sound – concert halls, theatres, open-air venues

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# VQ NET DF

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## TECHNICAL SPECIFICATIONS

### System VQ NET 40DF, VQ NET 64DF, VQ NET 85DF

<b>System Type</b>	2-Way Mid/High - Point Source	
<b>Frequency Response (-3dB) <sup>(1)</sup></b>	400Hz - 23kHz	
<b>Frequency Range (-10dB) <sup>(1)</sup></b>	350Hz - 27kHz	
<b>Dispersion H x V (-6dB)</b>		
VQ NET 40DF	40 x 40 degrees	
VQ NET 64DF	60 x 40 degrees	
VQ NET 85DF	80 x 50 degrees	
<b>Driver Complement</b>	Dual Concentric™ Compression driver loaded into a single PSW™ Waveguide	
<b>Crossover</b>	HighPass Filter @ 450Hz DSP Generated and 7kHz	
<b>Directivity Factor (Q) averaged 1kHz to 10kHz</b>	32.1(VQ NET 40DF) 23.5(VQ NET 64DF) 12.4(VQ NET 85DF)	
<b>Directivity Index (DI) averaged 1kHz to 10kHz</b>	15.1(VQ NET 40DF) 13.7(VQ NET 64DF) 10.9(VQ NET 85DF)	
<b>Rated Maximum SPL <sup>(2)</sup></b>	Average	Peak
VQ NET 40DF	135dB	141dB
VQ NET 64DF	134dB	140dB
VQ NET 85DF	133dB	139dB
<b>Construction</b>		
<b>Enclosure</b>	18mm (0.71") birch plywood. Vented and internally braced	
<b>Grille</b>	Powder coated perforated steel grille. Stainless steel on weatherproof version.	
<b>Finish</b>	Black or white textured paint (custom colours on request)	
<b>Connectors</b>	1 x female XLR (input) 1 x male XLR (link) 1 x RJ45 (network in) 1 x RJ45 (network link) 1 x Neutrik Powercon 1 x Neutrik Powercon (outlet)	
<b>Controls &amp; Indicators</b>	LED on front of cabinet behind grille. (wink indicator for locating & assigning) Power LED (blue) Signal LED (green) Limit LED (red) User DSP - defeat switch Power switch	
<b>Fittings</b>	2 x Recessed carrying handles 9 x M10 flying inserts	
<b>Dimensions</b>	460mm x 694mm x 497mm (18.11" x 27.32" x 19.57")	
<b>NET Weight</b>		
VQ NET 40DF	32kg	
VQ NET 64DF	32.5kg	
VQ NET 85DF	31kg	

### Electronics

<b>Efficiency</b>	>85% typically
<b>Damping Factor</b>	120 ref 8 Ohms
<b>Distortion</b>	<0.05% @ 1kHz -3dB output (22kHz bandwidth)
<b>Input Impedance</b>	5.6 kOhms unbalanced, 11.2 kOhms balanced
<b>Output Power (Programme)</b>	400W MF, 200W HF (limited to)
<b>Input Sensitivity</b>	1.4V (+5.5dBu)
<b>System Type</b>	Dual channel Class D

### DSP System

<b>Comms Facilities</b>	Firmware updatable and selected parameters editable
<b>Communications</b>	Serial - RS485 Proprietary message format
<b>Dynamic Range</b>	112dB(A) typical
<b>DSP</b>	3rd generation SHARC
<b>Sampling Frequency</b>	96kHz 24 bit A/D-D/A word length
<b>Format</b>	1 IN - 2 OUT

### PSU Specifications

<b>Input Connector</b>	Locking Neutrik Powercon	
<b>Voltage Selection</b>	Automatic (115 / 230V, 45 - 65Hz)	
<b>Type</b>	High current, high frequency switch mode	
<b>Efficiency</b>	>90% typical	
<b>Input voltage</b>	100V / 115V / 230V nominal +/-10%	
<b>Mains fuse</b>	External	
<b>Fuse type</b>	T10AT	
<b>Other features</b>	Automatic soft start	
<b>Current Draw</b>	115V	230V
<b>Startup (inrush)</b>	3.5A	1.9A
<b>idle</b>	1.0A	0.56A
<b>Max</b>	3.5A	1.7A

#### Notes:

- (1) Average over stated bandwidth. Measured at 3 metres on axis, then referred to 1 metre
- (2) Unweighted pink noise input, measured at 3 metres in an anechoic chamber; then referred to 1 metre

A full range of measurements, performance data, CLF and Ease™ Data can be downloaded from [www.tannoy.com](http://www.tannoy.com)

Tannoy operates a policy of continuous research and development. The introduction of new materials or manufacturing methods will always equal or exceed the published specifications, which Tannoy reserves the right to alter without prior notice. Please verify the latest specifications when dealing with critical applications.

### Ordering Information

PART NUMBER	MODEL NAME	COLOUR	PACKED QUANTITY
8001 5800	VQ NET 40DF	BLACK	1
8001 5801	VQ NET 40DF	WHITE	1
8001 5810	VQ NET 64DF	BLACK	1
8001 5811	VQ NET 64DF	WHITE	1
8001 4861	VQ NET 85DF	BLACK	1
8001 4861	VQ NET 85DF	WHITE	1

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## Product Description

Integrated with cutting edge digital signal processing, network control and dual channel Class D amplification, the VQ NET MB is intended for use as a flown or ground stacked, high power low/mid frequency module used in conjunction with full range or mid/high systems in the VQ series.

Two (12") low frequency transducers, offer high power handling and low power compression for high continuous SPL capability. A newly designed LF loading design provides the highest possible sensitivity for low/mid frequency output.

The VQ NET MB is principally intended for use with VQ systems to construct arrays with extended low frequency pattern control. By fixing a VQ NET MB at the opposing end of a VQ full range loudspeaker we can effectively extend pattern control to below the cutoff point of the Mid/High PSW™ waveguide. By offsetting the devices using delay we can also steer the low frequency lobe. The VQ NET MB can be used to extend the bandwidth of any VQ Mid/High product whether singly or as part of an array.

The modular approach of amplifiers, processing, monitoring and drivers designed into each loudspeaker enables acoustic optimization for the speaker to perform as a unified whole. The intuitive setup software, integrated processing, tuning control, performance diagnostics and protection produces an easy to install and exceptionally high performance networkable loudspeaker.

For outdoor applications, weather resistant enclosures which incorporate stainless steel hardware are available.

## VNET™ Network

Each VQ NET MB is fully VNET™ compliant. VNET™ supports free network topology so that the loudspeakers can be arranged in a daisy chain, linked in a star configuration or in any combination of both. Implementation of the network between nodes is via high quality rugged Neutrik Ethercon connectors, which are compatible with standard RJ45 plugs, and CAT5 cable. Each speaker has a unique address for auto-location on the network. System commissioning and ongoing network control, incorporating real time diagnostics of electronics and drive unit, are all managed by the exclusive VNET™ software package. Supplied with each unit, this intuitive Windows tool controls all critical install, commissioning and performance monitoring functions.

An RS485 interface is used for the serial data, with a twisted pair to send and receive information to a high number of nodes over very long distances. Operating a shared bus system, so that a single computer can control any node on that bus, also means that status information can be gathered from any of the devices. The RS-485 differential signal is very robust, while its noise immunity and long-distance capability ensure it is one of the most popular communications methods used in industry. Only data to control setup functions and ongoing system diagnostics is carried over the network.

## Features

- Identical performance to low/mid section of VQ full range systems
- Modular design for a wide variety of applications
- Compact Dimensions
- Extremely high maximum SPL

## Applications

- Stadiums & other Sports facilities
- Large Houses of Worship
- Large Corporate AV applications
- Dance Clubs
- Live sound – concert halls, theatres, open-air venues

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# VQ NET MB

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## TECHNICAL SPECIFICATIONS

### System

<b>System Type</b>	Mid Bass - Vented
<b>Frequency Response (-3dB) <sup>(1)</sup></b>	115Hz - 500Hz
<b>Frequency Range (-10dB) <sup>(1)</sup></b>	90Hz - 600Hz
<b>Rated Maximum SPL <sup>(2)</sup></b>	135dB (average) 141dB (peak)
<b>Driver Complement</b>	2 x 300mm (12.00") Low Frequency Transducers, Semi Horn Loaded
<b>Crossover (DSP Generated)</b>	Variable Lowpass filter

### Construction

<b>Enclosure</b>	18mm (0.71") birch plywood. Vented and internally braced.
<b>Grill</b>	Powder coated perforated steel. Stainless steel on weatherproof version.
<b>Finish</b>	Textured black or white paint (custom colours on request).
<b>Connectors</b>	1 x female XLR (input) 1 x male XLR (link) 1 x RJ45 (network in) 1x RJ45 (network link) 1 x Neutrik NL4 (Amp ch2 Output) 1 x Neutrik Powercon (outlet)
<b>Controls &amp; Indicators</b>	LED on front of cabinet behind grille. (wink indicator for locating & assigning) Power LED (blue) Signal LED (Green) Limit LED (Red) User DSP - defeat switch Power switch

<b>Fittings</b>	2 x Recessed carrying handles 12 x M10 flying inserts
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<b>Dimensions (HxWxD)</b>	433mm x 694mm x 515mm (17.05" x 27.32" x 20.28")
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<b>NET Weight</b>	41kg
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### Electronics

<b>Efficiency</b>	>85% typically
<b>Damping Factor</b>	120 ref 8 Ohms
<b>Distortion</b>	<0.05% @ 1kHz -3dB output 22kHz bandwidth)
<b>Input Impedance</b>	5.6kOhms unbalanced, 11.2kOhms balanced
<b>Output Power (Programme)</b>	2000W
<b>Input Sensitivity</b>	1.4V (+5.5dBu)
<b>System Type</b>	Dual channel Class D

### DSP System

<b>Comms Facilities</b>	Firmware updatable and selected parameters editable
<b>Communications</b>	Serial - RS485 Proprietary message format
<b>Dynamic Range</b>	112dB(A) typical
<b>DSP</b>	3rd generation SHARC
<b>Sampling Frequency</b>	96kHz 24 bit A/D-D/A word length
<b>Format</b>	1 IN - 2 OUT

### PSU Specifications

### PSU Specifications

<b>Input Connector</b>	Locking Neutrik Powercon
<b>Voltage Selection</b>	Automatic (115 / 230V, 45 - 65Hz)
<b>Type</b>	High current, high frequency switch mode
<b>Efficiency</b>	>90% typical
<b>Input voltage</b>	100v / 115v / 230v nominal +/-10%
<b>Mains fuse</b>	External
<b>Fuse type</b>	T10AT
<b>Other features</b>	Automatic soft start
<b>Current Draw</b>	115V 230V
<b>Startup (inrush)</b>	3.5A 1.9A
<b>idle</b>	1.0A 0.56A
<b>Max</b>	3.5A 1.7A

#### Notes:

- (1) Average over stated bandwidth. Measured at 3 metres on axis, then referred to 1 metre
- (2) Unweighted pink noise input, measured at 3 metres in an anechoic chamber, then referred to 1 metre

A full range of measurements, performance data, and Ease™ Data can be downloaded from [www.tannoy.com](http://www.tannoy.com)

Tannoy operates a policy of continuous research and development. The introduction of new materials or manufacturing methods will always equal or exceed the published specifications, which Tannoy reserves the right to alter without prior notification

### Ordering Information

PART NUMBER	MODEL NAME	COLOUR	PACKED QUANTITY
8001 5390	VQ NET MB	BLACK	1
8001 5391	VQ NET MB	WHITE	1

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# VQ SERIES Selland Arena, Fresno

A combination of 11 x VQ NET 60, VQ NET MB and VQ NET 85DF enclosures were installed with impressive results at the renovated Selland Arena sports stadium in Fresno, California. The new VQ system delivers seamless coverage with impressive intelligibility throughout the entire arena making it a perfect example of what this loudspeaker range can do.



“The VQ system was the right choice for Sella Arena. Exceptional directivity. Easy to deploy. Great sound!”

Ted Leamy, Pro Media / Ultrasound



## Product Description

The VNET 15DR is a powered, network enabled version of the VS 15DR, designed to satisfy a specific requirement for applications where an installed VQNet system needs to deliver more low-frequency response than is possible with simply the 2 x 12" LF element of a full range VQ Series enclosure on its own, or by using VQ MB devices within a modular system. Examples of such applications would be nightclub dancefloors, corporate AV applications, performance art theatres or auditoria where the clarity and headroom of a VQ system may be desired without needing to be driven to such an extent that large scale subwoofers would be required.

A single direct radiating 15" low frequency transducer offers high power handling capability and extended low frequency response (down to 50Hz) from this given form factor. With high efficiency (100dB 1W@1m) and with a sustained output of 130dB, the VNET 15DR shares the same modular enclosure format as the other VQ Series modules including the VQ MH, allowing the systems designer to create tightly packed arrays or clusters including the use of multiple bass devices for improved vertical pattern control at low frequencies.

The modular approach of amplifiers, processing, monitoring and drivers designed into each VNET 15DR enables acoustic optimization for the subwoofer to perform as a unified whole. The intuitive VNET™ software, integrated processing, tuning control, performance diagnostics and protection produces an easy to deploy, exceptionally high performance networkable subwoofer.

The VNET 15DR is part of an expanding line up of VQ Series products, addressing the requirement for compact dimensions without compromising performance in any way.

## VNET™ Network

Each VNET 15DR sub is fully VNET™ compliant. VNET™ supports free network topology so that the loudspeakers can be arranged in a daisy chain, linked in a star configuration or in any combination of both. Implementation of the network between nodes is via high quality rugged Neutrik Ethercon connectors, which are compatible with standard RJ45 plugs, and CAT5 cable. Each speaker has a unique address for auto-location on the network. System commissioning and ongoing network control, incorporating real time diagnostics of electronics and drive unit, are all managed by the exclusive VNET™ software package. Supplied with each unit, this intuitive Windows tool controls all critical install, commissioning and performance monitoring functions.

An RS485 interface is used for the serial data, with a twisted pair to send and receive information to a high number of nodes over very long distances. Only data to control setup functions and ongoing system diagnostics is carried over the network.

## Features

- Designed to extend the low frequency response of VQ full range systems
- Alleviates the need for large format ground-stacked subwoofer enclosures in many instances
- Integral high power amplification (1200W output)
- Onboard DSP
- VNET™ implementation – real-time diagnostic control
- Modular enclosure for integration with other VQ Series devices to form compact full-range systems or larger scale flown arrays
- High sensitivity, therefore high SPL's can be achieved with modest power consumption

## Applications

- Theatres
- Auditoria
- School Assembly Halls
- Sports Arenas / Stadia
- Large Corporate AV

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# VNET 15DR

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## TECHNICAL SPECIFICATIONS

**System** Bass loudspeaker - Direct radiator

**Frequency Response (-3dB) <sup>(1)</sup>** 50Hz - 3500Hz

**Frequency Range (-10dB) <sup>(1)</sup>** 38Hz - 4500Hz

**Rated Maximum SPL <sup>(2)</sup>** 130dB (average) 136dB (peak)

**Driver Complement** 380mm (15") Bass driver

**Crossover (DSP Generated)** Variable low pass filter

Distortion		
10% Full Power (28.3V)	2nd Harmonic	3rd Harmonic
40Hz	1.42%	1.83%
100Hz	0.40%	0.33%
1% Full Power (8.94V)	2nd Harmonic	3rd Harmonic
40Hz	0.68%	2.20%
100Hz	0.09%	0.32%

### Construction

**Enclosure** 89.9 litres, 18mm (5/8") birch plywood internally braced.

**Grill** Powder coated steel grille

**Finish** Textured black or white paint (custom colours on request).

**Connectors** 1 x female XLR (input)  
1 x male XLR (link)  
1 x RJ45 (network in)  
1x RJ45 (network link)  
1 x Neutrik Powercon

**Controls & Indicators** LED on front of cabinet behind grill. (wink indicator for locating & assigning)  
Power LED (Blue)  
Signal LED (Green)  
Limit LED (Red)  
User DSP - defeat switch  
Power Switch

**Fittings** 2 x Recessed carrying handles  
12 x M10 flying inserts  
4 x Rubber feet

**Dimensions (HxWxD)** 510mm x 694mm x 515mm  
(20.08" x 27.32" x 20.28")

**Weight** 36kg (79.2 lbs) net  
40kg (88.1 lbs) shipping

### Electronics

**Efficiency** >85% typically  
**Damping Factor** 120 ref 8 Ohms  
**Distortion** <0.05% @ 1kHz -3dB output  
22kHz bandwidth)  
**Input Impedance** 5.6kOhms unbalanced,  
11.2kOhms balanced  
**Output Power (Programme)** 1200W  
**Input Sensitivity** 1.4V (+5.5dBu)  
**System Type** Dual channel Class D (Bridged)

### DSP System

**Comms Facilities** Firmware updatable and selected parameters editable  
**Communications** Serial - RS485 Proprietary message format  
**Dynamic Range** 112dB(A) typical  
**DSP** 3rd generation SHARC  
**Sampling Frequency** 96kHz 24 bit A/D-D/A word length  
**Format** 1 IN - 1 OUT

### PSU Specifications

**Input Connector** Locking Neutrik Powercon  
**Voltage Selection** Automatic (115 / 230V, 45 - 65Hz)  
**Type** High current, high freq. switch-mode  
**Efficiency** >90% typical  
**Input voltage** 100v / 115v / 230v nominal +/-10%  
**Mains fuse** External  
**Fuse type** T10AT  
**Other features** Automatic soft-start

#### Notes:

- (1) Average over stated bandwidth. Measured at 1 metre on axis.
- (2) Unweighted pink noise input, measured at 1 metre in half space

A full range of measurements, performance data, and Ease™ Data can be downloaded from [www.tannoy.com](http://www.tannoy.com)

Tannoy operates a policy of continuous research and development. The introduction of new materials or manufacturing methods will always equal or exceed the published specifications, which Tannoy reserves the right to alter without prior

### Ordering Information

PART NUMBER	MODEL NAME	COLOUR	PACKED QUANTITY
8001 5660	VNET 15DR	BLACK	1
8001 5661	VNET 15DR	WHITE	1

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Tannoy manufactures a wide range of highly efficient and high power handling subwoofers, including passive, powered and VNET. This section contains information on the most recent additions to Tannoy's V-Series and VNET subwoofer ranges. These larger format, high power enclosures were designed with VQ Series in mind, and offer the perfect low frequency reinforcement solution for any VQ system. They can of course also be used in conjunction with Tannoy's existing V-Series, POWERV or VNET loudspeaker ranges.

# Sub





woofers



## Product Description

The VS 215HL has been engineered to complement the VQ range of loudspeakers and will also supplement any audio system requiring extremely high output levels.

This unique hybrid design blends the performance of a bent horn, providing high levels of tight and punchy bass, with the added benefit of utilizing the volume behind the horn in conjunction with slotted reflex ports to add significant depth, scale and presence not normally associated with horn loaded designs.

This no compromise subwoofer is appropriate for the most demanding of professional applications; ideal for large scale high energy clubs, large corporate AV systems, stadiums, live concert halls, theatres, movie theatres and cinemas, large houses of worship, and open-air venues.

The extremely efficient horn design allows it to be used on its own or in multiple configurations. The horns of multiple enclosures will couple acoustically, and when mirror imaged create a single, larger horn that increases output and provides additional directivity to very low frequencies.

With easy rigging and portability in mind the VS 215HL is equipped with 14 x unobtrusive recessed carrying handles whilst 16 x 10mm flying inserts provide a secure flying system. The cabinet is also fitted with 4 x pullback points; and 4 x rubber feet are provided to facilitate ground stacking.

The VS 215HL consists of twin 380mm (15.00"), high efficiency drive units producing 109dB/W, with a 100mm (4.00") voice coil and triple aluminium demodulating rings for ultra low distortion. The twin drivers are mounted in an immensely robust cabinet, available in either black or white, which is constructed from 18mm (5/8") multi-ply birch hardwood. This heavy-duty construction ensures it is able to survive the punishment that speaker systems are subjected to on the road and in club installations.

## Features

- 2 x 380mm (15.00") bass units with 4" sandwich voice coil
- Triple aluminium demodulating rings for Ultra low distortion
- Double treated cone for water protection
- Deep, powerful bass performance
- High power handling
- High efficiency
- Rugged birch plywood construction
- 14 x integral carrying handles
- Integral flying points

## Applications

- Live sound reinforcement
- Large houses of worship
- Large Corporate AV systems
- High Impact Nightclub sub-bass
- Stadiums and other sports facilities
- Live concert halls
- Theatre front of house and effects
- Movie theatres and cinemas
- Open Air Venues



# VS 215HL

# TANNOY®

## TECHNICAL SPECIFICATIONS

### System

<b>System Type</b>	Subwoofer - Horn loaded
<b>Frequency Response (-3dB) <sup>(1)</sup></b>	48Hz - 350Hz
<b>Frequency Range (-10dB) <sup>(1)</sup></b>	40Hz - 450Hz
<b>System Sensitivity (1W @1m) <sup>(2)</sup></b>	109dB (1W = 2V for 4 Ohms)
<b>Power Handling</b>	
Average	2000W
Programme	4000W
Peak	8000W
<b>Recommended Amplifier Power</b>	2 x 1200 - 2000 Watt / 8 Ohms, or 2400 - 4000 Watt / 4 Ohms
<b>Rated Maximum SPL <sup>(2)</sup></b>	
Average	142dB
Peak	148dB
<b>Nominal Impedance</b>	2 x 8 Ohms
<b>Driver Complement</b>	2 x 380mm (15") Bass drivers
<b>Recommended Crossover</b>	90Hz - 250Hz, 24dB/octave Recommended High-pass filter 35Hz, 24dB/octave

### Distortion

<b>10% Full Power (28.3V)</b>	2nd Harmonic	3rd Harmonic
50Hz	1.15%	2.72%
100Hz	2.03%	3.30%
<b>1% Full Power (8.94)</b>	2nd Harmonic	3rd Harmonic
50Hz	0.30%	3.12%
100Hz	0.88%	1.92%

### Notes:

- (1) Average over stated bandwidth. Measured at 1 metre on axis.  
(2) Unweighted pink noise input, measured at 1 metre in half space

A full range of measurements, performance data, and Ease™ Data can be downloaded from [www.tannoy.com](http://www.tannoy.com)

Tannoy operates a policy of continuous research and development. The introduction of new materials or manufacturing methods will always equal or exceed the published specifications, which Tannoy reserves the right to alter without prior notification

### Construction

<b>Enclosure</b>	18mm (5/8") birch plywood internally braced.
<b>Finish</b>	Textured black or white paint (custom colours on request).
<b>Connectors</b>	2 x Speakon NL4MPR IN/OUT and Barrier strip terminals
<b>Fittings</b>	14 x Recessed carrying handles 16 x M10 flying inserts. 4 x Pullback points 4 x Rubber feet
<b>Dimensions (H x W x D)</b>	700mm x 1050mm x 850mm (27.56" x 41.34" x 33.46")
<b>NET Weight</b>	107kg (235.7 lbs)

### Ordering Information

PART NUMBER	MODEL NAME	COLOUR	PACKED QUANTITY
8001 5320	VS 215HL	BLACK	1
8001 5321	VS 215HL	WHITE	1

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## Product Description

This versatile, no compromise, all-purpose subwoofer is designed for the most demanding professional applications. The VS 218DR offers exceptional output, high reliability and outstanding sonic performance providing low and VLF reproduction to complement any high SPL full range loudspeakers.

Extending the frequency response of the system to below 30Hz makes the VS 218DR ideal for low frequency effects in high energy clubs, large corporate AV systems, stadiums, live concert halls, theatres, movie theatres and cinemas, large houses of worship and open-air venues. This loudspeaker is capable of delivering deep and powerful bass at high sound pressure levels with extremely low distortion and power compression, while all the time maintaining a uniform frequency response throughout its dynamic range. The large port areas ensure minimal turbulence even at high output levels.

With easy rigging and portability in mind the VS 218DR is equipped with 16 unobtrusive recessed carrying handles whilst 16 x 10mm flying inserts provide a secure flying system. The cabinet is also fitted with 4 pullback points; and 4 rubber feet are provided to facilitate stacking.

The VS 218DR consists of twin 458mm (18.00"), high efficiency drive units producing 106dB/W, with a 100mm (4.00") voice coil. The twin drivers are mounted in an immensely robust 500 litre cabinet constructed from 18mm (5/8") multi-ply birch hardwood and is available in a textured black or white finish as standard. The heavy-duty construction ensures it is able to survive the punishment that speaker systems are subjected to on the road and in club installations.

## Features

- 2 x 458mm (18.00") bass units with 4" sandwich voice coil
- Triple aluminium demodulating rings for Ultra low distortion
- Double treated cone for water protection
- Deep, powerful bass performance
- High power handling
- High efficiency
- Rugged birch plywood construction
- 16 x integral carrying handles
- Integral flying points

## Applications

- Live sound reinforcement
- Large houses of worship
- Large Corporate AV systems
- Nightclub sub-bass
- Stadiums and other sports facilities
- Live concert halls
- Theatre front of house and effects
- Movie theatres and cinemas
- Side fill in large-scale music reinforcement
- Theme parks and leisure venues
- Open air venues



# VS 218DR

# TANNOY®

## TECHNICAL SPECIFICATIONS

### System

**Frequency Response (-3dB) <sup>(1)</sup>** 31Hz - 600Hz

**Frequency Response (-10dB) <sup>(1)</sup>** 24Hz - 1.5kHz

**System Sensitivity (1W @1m) <sup>(2)</sup>** 106dB (1W = 2V for 4 Ohms)

#### Power Handling

Average 2000W  
Programme 4000W  
Peak 8000W

**Recommended Amplifier Power** 2 x 1200W - 2000W / 8 Ohms,  
or 2400W - 4000W / 4 Ohms

#### Rated Maximum SPL <sup>(2)</sup>

Average 139dB  
Peak 145dB

**Nominal Impedance** 2 x 8 Ohms

**Driver Complement** 2 x 458mm (18") Bass drivers

**Recommended Crossover** 70Hz - 300Hz, 24dB/octave  
Recommended High-pass filter  
25Hz, 24dB/octave

#### Distortion

10% Full Power (21.9V)	2nd Harmonic	3rd Harmonic
40Hz	1.22%	1.34%
100Hz	3.48%	1.98%

1% Full Power (7.0V)	2nd Harmonic	3rd Harmonic
40Hz	0.41%	0.41%
100Hz	0.88%	1.03%

#### Notes:

- (1) Average over stated bandwidth. Measured at 1 metre on axis.
- (2) Unweighted pink noise input, measured at 1 metre in half space
- (3) Accelerated Life Test (EIA RS426-B)

A full range of measurements, performance data, and Ease™ Data can be downloaded from [www.tannoy.com](http://www.tannoy.com)

Tannoy operates a policy of continuous research and development. The introduction of new materials or manufacturing methods will always equal or exceed the published specifications, which Tannoy reserves the right to alter without prior notification.

### Construction

**Enclosure** 500 litres, 18mm (5/8") birch plywood internally braced.

**Finish** Black or white textured paint (custom colours on request)

**Connectors** 2 x Speakon NL4MPR IN/OUT and Barrier strip terminals

**Fittings** 16 x Recessed carrying handles  
16 x M10 flying inserts.  
4 x Pullback points  
4 x Rubber feet.

**Dimensions** 700mm x 1050mm x 850mm  
27.56" x 41.34" x 33.46"

**NET Weight** 105kg (231.3 lbs)

### Ordering Information

PART NUMBER	MODEL NAME	COLOUR	PACKED QUANTITY
8001 5210	VS 218DR	BLACK	1
8001 5211	VS 218DR	WHITE	1

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# VNET 215HL

# TANNOY®



## Product Description

The VNET 215HL has been engineered to complement the VQ and V-Series range of sound reinforcement loudspeakers and will also supplement any audio system requiring extremely high output levels.

This unique hybrid design blends the performance of a bent horn, providing high levels of tight and punchy bass, with the added benefit of utilizing the volume behind the horn in conjunction with slotted reflex ports to add significant depth, scale and presence not normally associated with horn loaded designs. This no compromise horn-loaded subwoofer is appropriate for the most demanding of professional applications; ideal for large scale high energy clubs, large corporate AV systems, stadiums, live concert halls, theatres, movie theatres and cinemas, large houses of worship, and open-air venues.

The extremely efficient horn design allows it to be used on its own or in multiple configurations. The horns of multiple enclosures will couple acoustically, and when mirror imaged create a single, larger horn that increases output and provides additional directivity to very low frequencies. With easy rigging and portability in mind the VNET 215HL is equipped with 14 x unobtrusive recessed carrying handles whilst 16 x 10mm flying inserts provide a secure flying system. The cabinet is also fitted with 4 x pullback points; and 4 x rubber feet are provided to facilitate ground stacking.

The modular approach of amplifiers, processing, monitoring and drivers designed into each VNET 215HL enables acoustic optimization for the subwoofer to perform as a unified whole. The intuitive VNET™ software, integrated processing, tuning control, performance diagnostics and protection produces an easy to deploy, exceptionally high performance networkable subwoofer.

The VNET 215HL consists of twin 380mm (15.00"), high efficiency drive units producing 109dB/W, with a 100mm (4.00") voice coil and triple aluminium demodulating rings for ultra low distortion. The twin drivers are mounted in an immensely robust cabinet, available in either black or white, which is constructed from 18mm (5/8") multi-ply birch hardwood.

## VNET™ Network

Each VNET 215HL sub is fully VNET™ compliant. VNET™ supports free network topology so that the loudspeakers can be arranged in a daisy chain, linked in a star configuration or in any combination of both. Implementation of the network between nodes is via high quality rugged Neutrik Ethercon connectors, which are compatible with standard RJ45 plugs, and CAT5 cable. Each speaker has a unique address for auto-location on the network. System commissioning and ongoing network control, incorporating real time diagnostics of electronics and drive unit, are all managed by the exclusive VNET™ software package. Supplied with each unit, this intuitive Windows tool controls all critical install, commissioning and performance monitoring functions.

An RS485 interface is used for the serial data, with a twisted pair to send and receive information to a high number of nodes over very long distances. Operating a shared bus system, so that a single computer can control any node on that bus, also means that status information can be gathered from any of the devices. The RS-485 differential signal is very robust, while its noise immunity and long-distance capability ensure it is one of the most popular communications methods used in industry. Only data to control setup functions and ongoing system diagnostics is carried over the network.

## Features

- 2 x 380mm (15.00") bass units with 4" sandwich voice coil
- Triple aluminium demodulating rings for Ultra low distortion
- Deep, powerful bass performance
- Integral high power amplification (2500W output)
- Onboard DSP
- VNET™ implementation – real-time diagnostic control
- High efficiency (>85%)
- Rugged birch plywood construction
- 14 x integral carrying handles
- Integral flying points

## Applications

- Live Music Venues
- Concert Halls
- Theatres
- Nightclubs / Dance Music Venues

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# VNET 215HL

# TANNOY®

## TECHNICAL SPECIFICATIONS

<b>System Type</b>	Subwoofer - Horn loaded	
<b>Frequency Response (-3dB) <sup>(1)</sup></b>	48Hz - 350Hz	
<b>Frequency Range (-10dB) <sup>(1)</sup></b>	40Hz - 450Hz	
<b>Rated Maximum SPL <sup>(2)</sup></b>	140dB (average)	146dB (peak)
<b>Driver Complement</b>	2 x 380mm (15") Bass drivers	
<b>Crossover (DSP Generated)</b>	Variable low pass filter	
<b>Distortion</b>		
<b>10% Full Power (28.3V)</b>	<b>2nd Harmonic</b>	<b>3rd Harmonic</b>
40Hz	1.15%	2.72%
100Hz	2.03%	3.30%
<b>1% Full Power (8.94V)</b>	<b>2nd Harmonic</b>	<b>3rd Harmonic</b>
40Hz	0.30%	3.12%
100Hz	0.88%	1.92%

### Construction

<b>Enclosure</b>	500 litres, 18mm (5/8") birch plywood internally braced.
<b>Finish</b>	Textured black or white paint (custom colours on request).
<b>Connectors</b>	1 x female XLR (input) 1 x male XLR (link) 1 x RJ45 (network in) 1 x RJ45 (network link) 2 x Neutrik Powercon (1 AC input, 1 AC loop)
<b>Controls &amp; Indicators</b>	LED on front of cabinet behind grill. (wink indicator for locating & assigning) Power LED (Blue) Signal LED (Green) Limit LED (Red) User DSP - defeat switch Power Switch
<b>Fittings</b>	14 x Recessed carrying handles 16 x M10 flying inserts. 4 x Pullback points 4 x Rubber feet
<b>Dimensions (HxWxD)</b>	700mm x1050mm x 850mm 27.56" x 41.34" x 33.46"
<b>NET Weight</b>	112kg (246.7 lbs)

### Electronics

<b>Efficiency</b>	>85% typically
<b>Damping Factor</b>	120 ref 8 Ohms
<b>Distortion</b>	<0.05% @ 1kHz -3dB output (22kHz bandwidth)
<b>Input Impedance</b>	5.6 kOhms unbalanced, 11.2 kOhms balanced
<b>Output Power (Programme)</b>	2500W
<b>Input Sensitivity</b>	1.4V (+5.5dBu)
<b>Input Sensitivity</b>	Dual channel Class D (Bridged)

### DSP System

<b>Comms Facilities</b>	Firmware updatable and selected parameters editable
<b>Communications</b>	Serial - RS485 Proprietary message format
<b>Dynamic Range</b>	112dB(A) typical
<b>DSP</b>	3rd generation SHARC
<b>Sampling Frequency</b>	96kHz 24 bit A/D-D/A word length
<b>Format</b>	1 IN - 1 OUT

### PSU Specifications

<b>Input Connector</b>	Locking Neutrik Powercon
<b>Voltage Selection</b>	Automatic (115 / 230V, 45 - 65Hz)
<b>Type</b>	High current, high freq. switch-mode
<b>Efficiency</b>	>90% typical
<b>Input voltage</b>	100v / 115v / 230v nominal +/-10%
<b>Mains fuse</b>	External
<b>Fuse type</b>	T10AT
<b>Other features</b>	Automatic soft-start

#### Notes:

- (1) Average over stated bandwidth. Measured at 1 metre on axis.
- (2) Unweighted pink noise input, measured at 1 metre in half space

A full range of measurements, performance data, and Ease™ Data can be downloaded from [www.tannoy.com](http://www.tannoy.com)

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### Ordering Information

PART NUMBER	MODEL NAME	COLOUR	PACKED QUANTITY
8001 5350	VNET 215HL	BLACK	1
8001 5351	VNET 215HL	WHITE	1

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“...it's a real pleasure to mix in the venue.  
We were completely unaware of Tannoy's  
club sound, until now, but VQ changes all  
that though.”

John Digweed, DJ & Producer





# VQ SERIES Es Paradis, Ibiza

4 x VQ 60 full-range loudspeakers are installed in Ibiza's premier dance club along with VS 218DR and VS 15HL subwoofers, providing a high-impact sound system for the club's renovated main dancefloor to rival anything else on the world-famous party island.



## Product Description

This direct radiating dual 18" subwoofer cabinet is designed to partner Tannoy's VQ Series full range installation loudspeakers, the VNET 218DR is perfect for applications where increased headroom is required for high definition sound reinforcement at low and ultra low frequencies.

Extending the frequency response of the system down to 31Hz makes the VNET 218DR ideal for effects in live music performances in a multitude of environments including open-air, arena and theatres as well as large dance club and concert sound applications. This subwoofer is capable of delivering deep and powerful bass at high sound pressure levels with extremely low distortion and power compression, while all the time maintaining a uniform frequency response throughout its dynamic range. The large port areas ensure minimal turbulence even at high output levels.

This versatile, no compromise, all-purpose subwoofer is designed for the most demanding installed audio applications. The VNET 218DR provides exceptional output, high reliability and outstanding sonic performance providing low and VLF reproduction.

The VNET 218DR is equipped with 16 x unobtrusive recessed carrying handles and 16 x 10mm flying inserts. The cabinet is also fitted with 4 x rubber feet and recessed points are provided on top for secure and safe stacking of multiple subwoofer enclosures.

The modular approach of amplifiers, processing, monitoring and drivers designed into each loudspeaker enables acoustic optimization for the speaker to perform as a unified whole. The intuitive VNET™ software, integrated processing, tuning control, performance diagnostics and protection produces an easy to deploy, exceptionally high performance networkable loudspeaker. System commissioning and ongoing network control, incorporating real time diagnostics of electronics and drive unit, are all managed by the exclusive VNET™ software package. Supplied with each unit, this intuitive Windows tool controls all critical install, commissioning and performance monitoring functions.

The VNET 218DR consists of twin 458mm (18.00"), high efficiency drive units producing 106dB/W, with a 100mm (4.00") voice coil. The twin drivers are mounted in an immensely robust and heavily braced 500-litre cabinet, available in either black or white, which is constructed from 18mm (5/8") multi-ply birch hardwood. Custom colour finishes are also available upon request.

## VNET™ Network

Each VNET 218DR sub is fully VNET™ compliant. VNET™ supports free network topology so that the loudspeakers can be arranged in a daisy chain, linked in a star configuration or in any combination of both. Implementation of the network between nodes is via high quality rugged Neutrik Ethercon connectors, which are compatible with standard RJ45 plugs, and CAT5 cable. Each speaker has a unique address for auto-location on the network.

An RS485 interface is used for the serial data, with a twisted pair to send and receive information to a high number of nodes over very long distances. Operating a shared bus system, so that a single computer can control any node on that bus, also means that status information can be gathered from any of the devices. The RS-485 differential signal is very robust, while its noise immunity and long-distance capability ensure it is one of the most popular communications methods used in industry. Only data to control setup functions and ongoing system diagnostics is carried over the network.

## Features

- 2 x 458mm (18.00") bass units with 4" sandwich voice coil
- Triple aluminium demodulating rings for Ultra low distortion
- Deep, powerful bass performance
- VNET™ implementation – real-time diagnostic control
- High efficiency (>85%)
- Recessed foot locator points for stable stacking
- Rugged birch plywood construction
- 16 x integral carrying handles for easy positioning
- Integral flying points

## Applications

- Live Music Venues
- Concert Halls
- Theatres
- Nightclubs / Dance Music Venues

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# VNET 218DR

# TANNOY®

## TECHNICAL SPECIFICATIONS

### System

<b>System Type</b>	Subwoofer - Direct Radiator
<b>Frequency Response (-3dB) <sup>(1)</sup></b>	31Hz - 600Hz
<b>Frequency Range (-10dB) <sup>(1)</sup></b>	24Hz - 1.5kHz
<b>Rated Maximum SPL <sup>(2)</sup></b>	137dB (average) 143dB (peak)
<b>Driver Complement</b>	2 x 458mm (18") Bass driver
<b>Crossover (DSP Generated)</b>	Variable low pass filter

### Distortion

10% Full Power (28.3V)	2nd Harmonic	3rd Harmonic
40Hz	0.26%	0.92%
100Hz	0.29%	0.27%
1% Full Power (8.94V)	2nd Harmonic	3rd Harmonic
40Hz	0.13%	0.23%
100Hz	0.16%	0.19%

### Construction

<b>Enclosure</b>	500 litres, 18mm (5/8") birch plywood internally braced.
<b>Finish</b>	Textured black (custom colours on request). Powder coated steel grille
<b>Connectors</b>	1 x female XLR (input) 1 x male XLR (link) 1 x RJ45 (network in) 1x RJ45 (network link) 2 x Neutrik Powercon (1 AC Input, 1 AC Loop)

### Controls & Indicators

LED on front of cabinet behind grill. (wink indicator for locating & assigning)  
Power LED (Blue)  
Signal LED (Green)  
Limit LED (Red)  
User DSP - defeat switch  
Power Switch

### Fittings

16 x Recessed carrying handles  
16 x M10 flying inserts.  
4 x Pullback points  
4 x Rubber feet

### Dimensions (HxWxD)

700mm x1050mm x 850mm  
27.56" x 41.34 " x 33.46"

### NET Weight

110kg (232 lbs)

### Electronics

<b>Efficiency</b>	>85% typically
<b>Damping Factor</b>	120 ref 8 Ohms
<b>Distortion</b>	<0.05% @ 1kHz -3dB output (22kHz bandwidth)
<b>Input Impedance</b>	5.6 kOhms unbalanced, 11.2 kOhms balanced
<b>Output Power (Programme)</b>	2500W
<b>Input Sensitivity</b>	1.4V (+5.5dBu)
<b>Input Sensitivity</b>	Dual channel Class D (Bridged)

### DSP System

<b>Comms Facilities</b>	Firmware updatable and selected parameters editable
<b>Communications</b>	Serial - RS485 Proprietary message format
<b>Dynamic Range</b>	112dB(A) typical
<b>DSP</b>	3rd generation SHARC
<b>Sampling Frequency</b>	96kHz 24 bit A/D-D/A word length
<b>Format</b>	1 IN - 1 OUT

### PSU Specifications

<b>Input Connector</b>	Locking Neutrik Powercon
<b>Voltage Selection</b>	Automatic (115 / 230V, 45 - 65Hz)
<b>Type</b>	High current, high freq. switch-mode
<b>Efficiency</b>	>90% typical
<b>Input voltage</b>	100v / 115v / 230v nominal +/-10%
<b>Mains fuse</b>	External
<b>Fuse type</b>	T10AT
<b>Other features</b>	Automatic soft-start

### Notes:

- (1) Average over stated bandwidth. Measured at 3 metres on axis, then referred to 1 metre
- (2) Unweighted pink noise input, measured at 3 metres in an anechoic chamber, then referred to 1 metre

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### Ordering Information

PART NUMBER	MODEL NAME	COLOUR	PACKED QUANTITY
8001 5340	VNET 218DR	BLACK	1
8001 5341	VNET 218DR	WHITE	1

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