

2006 PROFESSIONAL AUDIO



ABOUT US

dBTECHNOLOGIES

AEB, the **ACOUSTIC ENGINEERING BUREAU**, headquartered in Bologna, in one of the most industrialized areas in Italy today, has been designing and manufacturing electronics and electro acoustic products for the professional audio world for over 25 years under its trademark **dBTechnologies**. Over the years, **dBTechnologies** products have gained substantial recognition for their technological innovations, as well as their inherent standard of quality. Years of continuous significant investments in design, R&D and manufacturing technologies have set their mark on the industry.

AEB's ability to develop innovative products, in a remarkably short time is the key for an ever increasing market share and success. Since its early beginnings AEB has pioneered and specialized in two specific technologies: Wireless technology as used in professional wireless microphones, InEar monitoring systems and modern audio amplification technology. Professional power amplifiers, active loudspeakers and audio mixers complete the comprehensive line of products developed and produced in our

extensive facilities. For AEB it was natural, that in the continuous quest to improve interrelated performance between the various components in active speaker systems, AEB is now also designing and manufacturing most of the speaker components used in its enclosures. This process allows us to optimize and match the performance of the electronic components to the electro acoustic transducers. With the introduction of the worlds first digital wireless System DWS2400, **dBTechnologies** again leads the market to a new standard in wireless technology.

A further mark of distinction of **dBTechnologies** products is the major emphasis given to details and design. **dBTechnologies** aim is to provide the audio professional, as well as musicians and sound designers, with products that combine high performance with world renowned Italian flair and design. With the cooperation between Italy's finest designers it has been possible to develop truly elegant loudspeakers, which make their own significant contribution to a magnificent stage setting.

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DVA

Digital Vertical Array

The Line Array Technology, the vertical positioning of speakers with a wide horizontal dispersion, has been a revolution in the sound reinforcement in the past years.

dBTechnologies took this innovative idea and combined it with the latest technologies in digital amplifying and offers with the DVA a system for small and mid-size venues, which convinces by easy handling, high flexibility and an outstanding price/performance relation.

The combination of high efficient transducers with lightweight neodymium magnets, the high efficiency and weight reduced Class-T™ digital amplifier with "digital power processing" (DDP™) and the rigid lightweight polypropylene housing with integrated flyware makes the outstanding light weight of 14 kg per unit possible and ensures easy handling and reduced additional cost to fly a DVA-System.

The wide frequency response from 80 - 19.000Hz and the horizontal dispersion of 15° offers flexible handling without additional Subwoofer e.g. for background-music and speech. For other applications like live music the matching Subwoofer SUB S20 can be added to the system.

The integrated digital Class-T™ Amplifier provides a power of 420 Watt/RMS with an efficiency of 90% and drives the system three ways active. The innovative Class-T™ design offers in comparison to other digital amplifiers an outstanding sound quality with superb high-frequency sound, equal to a Class A/B circuit. The integrated 24-Bit DSP operates the active crossover, the active EQ, the Limiter-control and all safety-circuits. In addition to that, the DVA T4 is equipped with an innovative

power-factor-corrected power supply, operating from 85 to 260 V which allows up to eight DVA T4 to be connected to one 16 amp AC-braker.



DRL-45



The future of line arrays is active:

Beside the accurate reproduction of a 3-way system with active DSP controlled amplification and all other advantages of active technology like phase- and line alignment, the active technology gives the advantage to optimize each Array-element due to its position in the system and the total number of combined line array units. The DVA T4 provides 16 different Setups to optimize for example the HF-response according to it's function (nearfield/midfield/farfield) or the low-mid-response due to the number of combined units. No lossfull and expensive speaker cabling is needed anymore.

Accessory:

DRK-10	DVA Rigging-Kit for up to ten T4-modules
DRL-45	DVA Rigging Lift with 4,5m max. height, 300 kg max. weight
DRP	DVA rain covers
DSS-W	DVA Setup-Software for Windows-PC
DPC-05	DVA PowerCon Slave-cable, 0,5m

dBTechnologies makes this combination of latest technology and state of the art components available for everybody: It can be used by professional musicians and rental companies, as well as in fixed installations due to its noiseless convection cooling.

dBTechnologies provides a software for an easy and fast setup of a DVA System. Positioning and curving of the system, necessary number of units or sound setups can be selected easily by a few mouse clicks.

The DVA S20 active subwoofer is equipped with two state-of-the-art neodymium 18" Woofers, ready to handle a peak power of up to 6000 W/Peak each with an impressive performance. The integrated digital amplifier provides an incredible power of 2000W/RMS and makes a SPL of 138 dB/peak possible. The integrated active crossover offers three switchable frequencies and the system is protected by an full-wave limiter.

The configuration of the two woofers in the housing allows building up a horizontal bass-array by combining several DVA S20 Subs.



DVA S20 SUBWOOFER

Active Subwoofer

- 2 x 18" neodymium woofer with 4" Voice-Coil
- Bassreflex housing, baltic birch
- digital Class-D-Amplifier, 2000 Watt/RMS
- integrated delay DSP, 24-Bit/48 KHz (optional)
- active X-Over switchable frequency
- SPL max. 138 dB
- frequency range 25 - 150 Hz
- 8 handles, 4 wheels optional
- weight 69 kg / 152 lb
- Dimensions 1100x580x700mm / 43x22x27 in

DVA T4 TOP

Active 3-Way Line-Array-Module

- 1 x 8" Neodymium Woofer, 64mm Voice-Coil, Bass reflex configuration
- 1 x 6,5" Mid-Driver, horn loaded with Phase-Plug
- 2 x 1" driver with constant directivity horn
- digital Class-T[®] 3-Way Amplifier, 420 Watt/RMS
- integrated DSP, 24-Bit/48 KHz
- State-of-the-Art 24-Bit AD-converter
- digital Powermanagement
- 100°x15° covering angle (single speaker)
- SPL peak 128 dB
- frequency response 80 - 19.000 Hz
- rigid PP housing with integrated Flyware
- Weight 14 kg / 31 lb
- Dimensions 580x240x327mm / 22x9.4x12.5 in, incl. Flyware



FIFTY FIFTY LINE



FL10 Passive

- 10" woofer horn loaded
- 1" B&C compr. driver
- driven by FL15
- 250-19.000 Hz
- SPL 131 dB peak
- Dispersion 60° x 50°
- Speakon4 Connector
- 23.5 kg / 52 lb
- 500x500x650 mm 20x20x25.5 in

FL15 3-Amp Active

- 100+300+500W RMS
- 15" Bandpass-Woofer
- 53-250 Hz
- Max. SPL 132 dB
- crossover out at 250 Hz
- 2 x Neutrik Powercon
- 1 x Neutrik Speakon4-Out for Bi-Amping FL10
- 42 kg / 92.4 lb
- 500x500x650 mm 20x20x25,5 in

FL18 Active

- 800W RMS
- 18" RCF-Speaker, 4" Voice coil
- 40-100 Hz
- Max. SPL 133.5 dB
- crossover out at 100 Hz
- 2 x Neutrik Powercon
- 50 kg / 110 lb
- 500x700x650 mm
20x27.5x25.5 in

With the new electronically controlled active FIFTY LINE system, **dBTechnologies** is able to offer the professional user an extremely flexible and compact PA system.

Available are three main components: The FL10, a passive mid/high unit, is equipped with a 10" horn loaded mid-range driver, and a 1" B&C® compression driver.

The horn for the 10" mid-range driver is made of fiberglass, and therefore extremely lightweight and efficient, allowing a maximum output level. The specially designed high-frequency horn achieves an extremely homogeneous frequency and angle output. By combining lightweight horns with 19 mm Birch-multiplex, **dBTechnologies** has created a very compact, lightweight, and highly efficient enclosure.

Six integrated M10 flying points make easy rigging, along with optional space bars, which are useful for stacking. The FL10 produces 131 dB peak SPL output, with a frequency band of 250 Hz - 19.000 Hz. The 2-channel amplification for the FL10 is integrated into the FL15 unit.

FL15 is the mid-bass range unit of the system. The FL15 has both a 500Watt/RMS power amp, and a 300 + 100 Watt/RMS power amp, used to power the mid and high unit FL10 by using a 4-channel speaker cable. The combination FL10/FL15 is in fact already a complete full range PA system. The 3 channel integrated power amplifier is electronically controlled and offers several professional features such as; Powercon connections with link out, 4 speed fan with an easy access filter system, a -3dB switch to link the FL10, and an independent full-wave limiter for each power amp channel. Additionally, an intelligent status LED is used to indicate failures such as low electrical power, limiter activities, and so on.

In a full range situation, the 15" bass of the FL15 offers a frequency response of 52Hz to 250Hz. In combination with the FL18 Sub bass unit, the FL15 only takes care of the frequencies above 100Hz and gives a 132dB SPL peak output. The unit offers two 35mm speaker pole adaptors, four M10 rigging points and nine align points on the top side for stacking the top unit. The Sub bass unit FL18 is the perfect solution if high power output



is needed in the low frequencies. Depending on the situation one or two FL18 units can be combined with a FL10/FL15 set. The bass reflex unit is driven by an 18" RCF woofer with a 4" voice coil, operating from 40Hz up to 100Hz. Together with the internal 600 Watt/RMS class-H power amp, a peak output of 133.5dB can be reached. The unit also includes all common protective circuits such as over-temperature, short circuit and RFI and also a full-wave limiter at the input side. The cross over output towards the FL15 has a 0°/180° phase switch for phase corrections. Six Handles allow easy lifting of this 50kg/110 lb unit. All FIFTY LINE units have an extremely strong 2-component Polyurethane outside protection and are fitted with a 1.5mm steel grill. Wheel sets are available for the FL18 and FL15 for easy transport.



FORTY
LINE

FORTY LINE

**QL 12 Passive High-Mid-Unit**

- 12" Woofer 2.5" Voice coil
- 1" compr. driver
- 90°x60° dispersion
- 200 - 19.000 Hz
- 128 dB SPL peak
- 3 x M10 flying points
- 1 x Speakon NL4 Connector
- 435/140x600x400mm / 17,1/5.5x23.5x15.75 in
- 23.5 kg / 51,8 lb

QL 15 Active Woofer

- 15" Woofer with 3"Voice-Coil
- TriAmp-amplifier with 500+200+100 Watts/RMS
- Integrated Audiocontroller
- Full-Wave-Limiter per channel
- 4-speed fan
- 130 dB SPL peak
- 55 - 200 Hz (90-200 Hz with QL215)
- 1 x XLR/Jack Input
- 1 x XLR Parallel-Out
- 1 x Speakon NL4 Output
- 435x700x500mm / 17.1x27.56x19.7 in
- 31.2 kg / 68,8 lb

QL 152 Active Subwoofer

- 2 x 15" Woofer 2.5" Voice coil
- Class H-amplifier with 800 W/RMS
- Integrated Audio controller
- Full-Wave-Limiter
- 4-speed Fan
- 134 dB SPL peak
- 40 - 90 Hz
- 1 x XLR/Jack Input
- 1 x XLR Parallel-Out
- 435x700x700mm / 17.1x27.56x27.56 in
- 42 kg / 92,6 lb



Based on the amplification concept of the successful FIFTY LINE system, the FORTY LINE system offers high sound pressure levels with professional audio quality. Compact cabinet measurements, and lightweight enclosures, make the FORTY LINE the perfect choice for professional public address systems. Useful for most sophisticated applications, the FORTY LINE is easy to handle, small in size and totally portable. The basic set consists of two QL15 active subwoofers and two passive QL12 tops. The QL15 subwoofer is a solid bass-reflex subwoofer with a highly stressable 15" woofer with a 3" voice coil. The 3-channel amplifier, which is integrated in the QL15, provides 500watt/RMS for the internal 15" and 200+400 watt/RMS for the top unit.

A digital processor, which handles the active frequency crossover, also has an integrated time and phase correction unit, active EQ unit, and extensive protective circuitry, which ensures perfect sound reproduction and the safe operation of the power amplifier stages at all times. The QL12 top uses a 12" mid woofer and a 1" driver with a pure titanium diaphragm.

All speaker components are designed by dBTechnologies and are produced under the highest quality criteria. The specially designed HF-horn offers a wide and clear dispersion (90°x60°). As a result of these selective measurements utilizing high-class components and superior assembly processes, together with active separation and delay adjustment, the QL12 top reaches a sound pressure level of up to 128dB of crystal clear sound. A high frequency boost switch is incorporated to adapt the high frequencies to a particular acoustical environment when required.

If additional Bass SPL is required, for example during open-air performances, the basic FORTY LINE System may be extended by two QL 152 subwoofers. Due to its multi-chamber band-pass construction and the two efficient 15" woofers, the QL152 subwoofer, which is powered by the integrated 800watt/RMS

Class-H amplifier, supplies an incredible 134dB, ranging from 40-90 Hz. All amplifiers of the FORTY LINE system are equipped with powercon mains connectors with loop through. The internal temperature controlled fan and all amplifiers are protected by a dust filter. The enclosures are made of multiplex, coated with a robust lacquer in Cobalt Blue. The subwoofer features mounting points for a trolley, and the top features a flange for a stand and three M10 threaded fly points.

Due to their optimized position, the threaded fly points automatically offer an inclination of 20°. The QL15 subwoofer has a compartment built in to accommodate the mains cable and the 4-core speaker cable to connect to the QL12 top unit. Mains cable and the interconnecting cable for the QL12 are included with the QL15.



QLS 151 System 3-Way Active, 1.600W RMS



OPERA LIVE



OPERA Live 210

OPERA - high quality active speakers, with professional audio performance and a superior price-performance ratio.

LIVE-SERIES, the newest generation of the OPERA family, has been adapted to the requirements of musicians and DJs. As a result of its switchable sound set-up, it offers the best possible characteristics of sound reflection for live music as well as playback or speech. The new, more compact multi-functional cabinet creates an ideal connection between acoustic necessity and practical handling, in a very modern design.



OPERA Live 202/205/402/405

The LIVE SERIES offers maximum flexibility and unique features such as a slanted rear side for monitor applications, integrated flange for stands, and 3 integrated M10 threaded fly points. Together with the bass speakers that have been specially designed for the OPERA LIVE series, the cabinet presents a very full and clear bass sound reflection (high sound pressure) with reduced resonance and little noise. The integrated tweeter offers a clear dispersion of 90°x60°. Three handles, one on the top and two on the side make it very easy to carry.

	OPERA Live 210	OPERA Live 202	OPERA Live 205	OPERA Live 402	OPERA Live 405
Power (RMS)	150 + 50 W	150 + 50 W	150 + 50 W	250 + 50 W	250 + 50 W
Power (Music)	300 + 100 W	300 + 100 W	300 + 100 W	500 + 100 W	500 + 100 W
Speaker	10" dB Bass 1" HF	12" dB Bass/2" Voice coil 1" HF	15" dB Bass/2" Voice coil 1" HF	12" dB Bass/2,5" Voice coil 1" dB Compr.	15" dB Bass/2,5" Voice coil 1" dB Compr.
Frequency response	68-18000 Hz	68 - 18000 Hz	68 - 18000 Hz	60 - 18000 Hz	60 - 18000 Hz
Max. SPL	120dB	120dB	121dB	128dB	128dB
Crossover	2000 Hz	2000 Hz	2000 Hz	2000 Hz	2000 Hz
Sensitivity	-50 bis 0dB	-50 bis 0dB	-50 bis 0dB	-50 bis 0dB	-50 bis 0dB
Input connection	6,3mm Jack unbal. / XLR bal.				
Output connection	XLR bal., parallel				
Impedance	20 K Ohm bal., 10 K Ohm unbal.				
Dimensions	312 x 550 x 280 mm 12,5x21,75x11 inch	406 x 650 x 350 mm 16x 25,6x13,7 inch	406 x 650 x 350 mm 16x 25,6x13,7 inch	406 x 650 x 350 mm 16x 25,6x13,7 inch	406 x 650 x 350 mm 16x 25,6x13,7 inch
Weight	13 kg / 28,7 lb	16,5 kg / 36,4 lb	17,3 kg / 38 lb	18 kg / 39,7 lb	19 kg / 41,9 lb



All models are bi-amped and are monitored by an integrated audio controller.

In addition to the active splitting of the two ways, the audio controller facilitates a particularly clear sound, by phase and delay adjustment. Furthermore, the audio controller guarantees a flat and linear reproduction of all frequencies across the entire audio range. The limiter ensures a maximum of operational reliability, even when driving the speaker beyond its limits, indicated by a control LED.

All models* of the LIVE series offer three switchable sound setups - FLAT (neutral), MUSIC and SPEECH. This makes it possible to adapt it to the respective application without any further external equipment. The models 402 and 405 are equipped with a special compression driver. Because of its 1.5" pure titanium diaphragm, the sound is clear, linear, and feedback resistant.

For accessories, please see page 26.



BASIC LINE



BASIC 100

This Speaker Line from dBTechnologies is made for the budget end of the market, providing a high quality product with great audio features and performance.

BASIC LINE is designed to match the demands of entry-level applications, such as DJ's, schools, and churches alike, where budget orientated solutions are required. There are two different models available, with power amps of 160 or 275 Watts RMS power.



BASIC 200/400

Both Models are equipped with a dBTechnologies 12" -woofer and a 1" driver, powered by 2 separate amplifiers with integrated phase and sound correction circuits.

The speaker is protected against overload and distortion through a built in Limiter, with a Status-LED indicator.

The input sensitivity can be switched from Line to Microphone level, using the XLR or Jack input plug. The output level can be adjusted with a volume control.

For accessories, please see page 26.

	BASIC 100	BASIC 200	BASIC 400
Power RMS	70 + 20W	120 + 40W	225 + 50W
Freq. response	70-20000 Hz	65-18000 Hz	60-18000 Hz
Crossover	2000 Hz	2000 Hz	2000 Hz
SPL max.	117 dB	118 dB	125 dB
Speaker	1 woofer 10" 1 driver 1"	1 woofer 12" 1 driver 1"	1 woofer 12" 1 compression driver 1"
Sensitivity	-40dB/0dB (switchable)	-40dB/0dB ((switchable)	-40dB/0dB ((switchable)
Dimension	312x550x280 mm 12,5x21,75x11 inch	400x600x345 mm 15,75x23,6x13,6 inch	400x600x345 mm 15,75x23,6x13,6 inch
Weight	9 kg / 19,8 lb	14.5 Kg / 32 lb	16.5 Kg / 36,4 lb



BASIC 100

- 2 way bi-amplified active loudspeaker
- 10" Bass / 1" HF 90°x60°
- 70+20 Watts
- Freq. response: 70-20000 Hz
- Max. SPL: 117 dB SPL
- Multifunctional housing
- XLR and jack input
- Mic-/Line input, switchable
- XLR-Parallel-Out
- Dynamic softclip limiter
- Weight: 9 kg

BASIC 200

- 2 way bi-amplified active loudspeaker
- 12" Woofer / 1" HF driver
- 120 + 40 Watts
- Freq. response: 65-18,000 Hz
- Max. SPL: 118 dB
- Multifunctional housing
- XLR and jack input
- Mic-/Line input, switchable
- Dynamic softclip limiter
- Dimensions 400x600x345mm (LxHxD)
- Weight: 14.5 kg / 32 lb

BASIC 400

- 2 way bi-amplified active loudspeaker
- 12" Woofer / 1" HF driver
- 225 + 50 Watts
- Freq. response: 60-18,000 Hz
- Max. SPL: 125 dB
- Multifunctional housing
- XLR and jack input
- Mic-/Line input, switchable
- Dynamic softclip limiter
- Dimensions 400x600x345mm (LxHxD)
- Weight: 16.5 kg / 36,4 lb



SUB 15 ACTIVE SUBWOOFER

Active Class H 15" Subwoofer

The SUB 15 sets a new standard in ultra compact active subwoofers.

The heart of the SUB15 is the new high power 15"-woofer with 3" coil, designed and manufactured by dBTechnologies, made to deliver peak performance to this bandpass enclosure. Massive power reserves are guaranteed with the new processor controlled Class H amplifier, delivering a solid 800 W/RMS. Operational safety is assured with DC, Overheat, RFI protection circuitry, as well as a full wave Peak Limiter. The combination of our custom designed woofer with our MT amplifier, achieves a maximum SPL of 133 dB at a weight of only 32 kg / 70,5 lb. The integrated active crossover, used in mono or stereo mode, gives max. flexibility - the SUB 15 can be used both as a single subwoofer supplying low-cut signals to 2 satellite speakers, or in mono mode with one subwoofer per side. The crossover frequency is switchable from 80/100 to 120 Hz and provides a very narrow rollover of 24dB / octave. The phase can be turned by 180° if the position of the SUB15 is not in line with the satellite speakers. As with all dBTechnologies subwoofers, the amplifier module is placed in a separate compartment inside the enclosure, to avoid "air noises" from the woofer through the cooling slots. The 4-speed temperature controlled fan assures safe operation even under hardest driving conditions. The fan is covered with a removable dust filter. Four control LED's mirror the operating status of the system, to ease set-up, and safe operation. The SUB15 can be used in combination with all OPERA Live speakers, or as a high performance low extension for existing systems.



SUB 15



SUB 15

- 15" Active-subwoofer
- MT-Amp 800 W/RMS
- 40 - 120 Hz (± 3 dB)
- Max. SPL 133dB
- 2 x Neutrik Combo Input
- 2 x XLR Parallel-Out
- 2 x XLR X-Over-Out
- Phase reverse switch
- Dynamic softclip limiter
- Weight: only 32 kg / 70,5 lb

SUB 05



SUB 05

- 15" dBTechnologies Woofer
- 400 W/RMS
- 30 - 150Hz (+/- 3 dB)
- Max. SPL 129 dB
- 2 x XLR/Jack Input
- 2 x XLR Parallel-Out
- 2 x XLR X-Over-Out
- Active stereo Xover24 dB/oct.
- Dynamic soft-clip limiter
- Weight 27 kg/ 60lb

SUB 12



SUB 12

- 12" Active-subwoofer
- MT-Amp 400 W/RMS
- 40 - 150 Hz (± 3 dB)
- Max. SPL 127dB
- Active stereo frequency softening 24 dB/oct. @ 100 Hz
- 2 x Neutrik Combo Input
- 2 x XLR Parallel-Out
- 2 x XLR X-Over-Out
- Phase reverse switch
- Dynamic soft-clip limiter
- Weight: only 18,9 kg/ 42lb

SUB 05 ACTIVE SUBWOOFER

Active 15" Subwoofer

The compact active subwoofer SUB05 is equipped with a high efficiency 15" Woofer and is driven by an integrated 400W/RMS Class-H Amplifier with dB Technologies' innovative MT-Amp-Design.

The Bandpass construction provides a powerful bass-reproduction with an impressive 129 dB SPL peak and a frequency response from 30-150 Hz. The integrated active crossover @ 100Hz can be used in stereo- or mono-mode which matches perfectly with the compact active speakers of the Basic- and Opera-Series.

The wooden housing is made of 19mm Multilayer wood and is finished with a rugged black finish and is equipped with two handles and a pole holder. The light weight of 27kg offers easy handling.

recommended combinations:

- 1 x SUB05 + 2 x Basic 100
- 2 x SUB05 + 2 x Basic 200
- 2 x SUB05 + 2 x LIVE 210
- 2 x SUB05 + 2 x LIVE 202



SUB 12 ACTIVE SUBWOOFER

Active 12" Subwoofer

The ideal companion to OPERA 110 and TWIN 128 is our compact 12" active subwoofer with exiting technical specifications and powerfull thrust. The 12" long stroke woofer with 3" voice coil moves up to top form in the band- pass housing. The 400W/RMS output stage designed like the new innovative MT Amplifier Series provides the necessary propulsion at an extremely low weight. The MT amp design, produced in SMD technology, combines high- grade class H technology with high-power components, to produce a lighter and more efficient unit. The integrated active crossover allows easy setup of the systems. Filters are set at 24 dB/octave at 100 Hz and can run both in Mono and Stereo mode. The temperature-controlled fan ensures adequate cooling, as the amplifier module is housed in an enclosed casing to reduce interference. The integrated dynamic soft clip limiter protects the system from overload. The 35 mm flange permits the use of a spacer bar.



STAGE OPERA

STAGE OPERA M12-4

- 2 way bi-amplified active monitor
- 12" dB Technologies Woofer
- 1" B&C Compr. 90°x60°, adjustable
- 225 + 50 Watt/RMS, 550 Watt/PRG
- 70 - 18000 Hz
- Max. SPL: 126 dB
- Housing made of 20mm black lacquered multiplex
- Two set-up angels, 45° & 60°
- Standmount
- Weight: only 19kg/ 42 lb



STAGE OPERA M15-4

- 2 way bi-amplified active monitor
- 15" dB Technologies Woofer
- 1" B&C Compr. 80°x60°
- 225 + 50 Watt/RMS, 550 Watt/PRG
- 60 - 18000 Hz
- Max. SPL: 128 dB
- Housing made of 20mm black lacquered multiplex
- Weight: only 21 kg/ 51 lb

A monitor is not just a simple loudspeaker. Much higher demands are made on a monitor... It should reproduce the performance of a musician as a reliable control, often in a very loud environment, with a high feedback limit. With this guideline, chief development engineer Claudio Ottani has made the M 12-4 into a high level event, developed more on the stage than at the work bench, he has designed an unusual top-class active monitor in collaboration with many musicians and sound engineers. The acoustic requirements can only be achieved by perfect sound control and the highest quality of components, so only a Bi-Amp operated active concept was worth considering. The active separation enables a clean linear frequency response and thus a very high feedback limit. The two integral output stages in class H technology provide 225 W/RMS to the 12" dB Woofer and 50 W/RMS to the B&C 1" pressure compression driver, which has a 90° x 60° pivoting horn. In this way, a maximum sound pressure of 128 dB SPL is achieved. To optimize the highest backward attenuation on microphones with cardioid or hypercardioid characteristics, the two loudspeakers are arranged one over the other, making perfect positioning possible. The stand mount plus 3 M10 flying points, integrated in the extremely compact housing expands the range of use and makes the M 12-4 into a versatile public address system with many possibilities for use. The input sensitivity is switchable between microphone and line level. A balanced XLR parallel out is available for looping through the input signal. The integral dynamic soft clip limiter protects the system from overload and enables reliable operation right up to the power limit. For any application where more LF performance is needed, the M15-4 active Monitor with 15" woofer is the right choice... The custom made 15" dB Technologies

woofer, designed for monitor applications, with a 64mm coil, is driven by a 225 W Class H amplifier and the B&C 1" compression driver has its own 50W/RMS amplifier. The M15-4 reaches a peak pressure of 128 dB, in a frequency range down to 60 Hz. Similar to the M12-4, both drivers are placed in phase, to eliminate feedback phenomena. A soft-clip limiter, indicated by a duo colored LED on its control panel protects the M15-4. Input gain can be adjusted and switched from MIC to Line, thus giving maximum flexibility for all types of applications. Making the monitor even more flexible, are 3 integrated M10 flying points for suspended installation.

STAGE OPERA M12-4P

The passive Stage Opera Monitor M12-4P is a compact and lightweight monitor, with high sound pressure performance. The M12-4P is equipped with a dB Technologies 12" woofer and a B&C 1" driver, which has a pivoting 90° x 60° horn that achieves a maximum sound pressure of 126 dB SPL. The M12-4P can handle up to 350W of RMS power and can be wired through by two parallel Neutrik Speakon connectors. The driver is protected against overload by a PTC circuit.



TWIN 128/228



TWIN 128 TWIN 128 White

- 2 way bi-amplified
- 2 x 8" Bass / 1" HF 90°x60°
- 70+20 W/RMS, 180 W/PRG
- Freq. response: 80-18,000 Hz
- Max. SPL: 118 dB
- Multi-function housing
- Combined XLR/ jack input
- Mic-/Line input, switchable
- XLR parallel output
- Dynamic limiter
- Weight: 10 kg/22 lb

TWIN 228 TWIN 228 White

- 2 way bi-amplified
- 2 x 8" Bass / 1" HF 90°x60°
- 150+50 W/RMS, 300 W/PRG
- Freq. response: 68-18,000 Hz
- Max. SPL: 121 dB
- Multi-function housing
- Combined XLR/ jack input
- Mic-/Line input, switchable
- XLR parallel output
- Dynamic limiter
- Weight: 12 kg/26 lb



Wallmount Bracket WB 04



Bracket WB 06



Gig-Bag TT02

TWIN 128/228

The TWIN series consists of two models with identical measurements. The TWIN 128/228 is equipped with 2 x 8" woofers in combination with a 1" tweeter. The overall mechanical design, with its full front metal grille, make this enclosure particularly suitable for fixed installations and touring applications. The two 8" long-throw woofers and the 1" tweeter with 90°x60° horn, create a very homogeneous and linear sound characteristics with extensive reach. This multifunctional cabinet offers many placement options, for instance as a floor monitor (60° or 45°) by turning the horn. In addition horizontal and vertical mounting hardware is available. For permanent installation, the optional loudspeaker mount WB04 or the clamp WB06 is available, and the integrated flange permits installation on a standard speaker stand. The integrated bi-amp amplifier offers separated amplification for tweeter and bass, and in addition, the input stage is also equipped with a soft clip limiter. Both models can be used with various active dbTechnologies Subwoofers.



Accessory on page 26



SYSTEMS

Entertainer M500

2 x BASIC 100 + 1 x SUB 12
3-Way Active, 580 W/RMS

**Entertainer L600**

2 x BASIC 100
+ 1 x SUB 05
3-Way Active, 580 W/RMS

**Entertainer X1100**

2 x OPERA Live 202 + 1 x SUB15
3-Way Active, 1200 W/RMS

**Compact 1200**

2 x OPERA 210 + 2 x SUB12
3-Way Active, 1200 W/RMS

**CLUB System**

2 x OPERA LIVE 202
+ 2 x SUB 05
3-Way Active 1200 W/RMS

**CLUB EX System**

2 x OPERA LIVE 402 + 2 x SUB15
3-Way Active, 2200 W/RMS



FORTY LINE QLS 151
2 x QL12 + 2 x QL15
3-Way Active, 1600 W/RMS



FORTY LINE QLS 152
2 x QL12 + 2 x QL15 + 2 x QL152
4-Way Active, 3200 W/RMS



FIFTY LINE System 115
2 x FL10 + 2 x FL15
3-Way Active, 1600 W/RMS



FIFTY LINE System 118
2 x FL10 + 2 x FL15 + 2 x FL18
3-Way Active, 3200 W/RMS



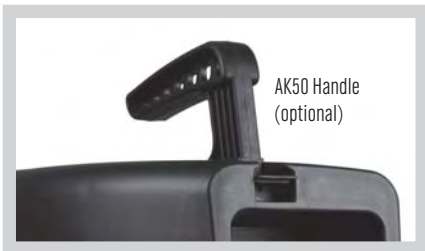
FIFTY LINE System 218
2 x FL10 + 2 x FL15 + 4 x FL18
3-Way Active, 4800 W/RMS



K SERIES

The K-Series is range of compact active speakers for versatile applications like mobile use or fixed installations. The models K82 and K162 have a multifunctional housing with a special shaped backside for monitor use. The detailed input-section provides XLR- and Jack inputs with switchable Mic-/Line-sensitivity and an additional RCA Stereo-Input which is independent from the volume-control, to allow small setups, e.g. one Microphone + CD-Player without an additional mixer.

As options, stand adaptors for speaker stands (SN120) and microphone stands (SN130), a wall mount bracket (WB03) and a useful carrier handle are available.



AK50 Handle
(optional)



K70

The K70 is equipped with a 5" Woofer and a tweeter. The integrated amplifier provides 50W/RMS and is equipped with an integrated Limiter for maximum reliability.



K70

- Compact 2-Way Active speaker
- 5" Woofer + Tweeter
- 50 W/RMS
- 100 - 16.000 Hz
- Mic-/Line, XLR-Jack Input
- 2 x RCA Chinch Input
- SPL max. 101 dB
- Dimensions 170x270x185mm / 6.6x59.4x7.2in
- Weight 3,5 kg/ 7.7lb

K82

Thanks to its intelligent arrangement of the transducers, the K82 provides an impressive reproduction at a very compact size. Two 6,5" Woofers + Tweeter offering a wide Frequency response from 90 - 18.000 Hz



K82

- Compact 2-Way Active speaker
- 2 x 6.5" Woofer + Tweeter
- 40 W/RMS
- 90 - 18.000 Hz
- Mic-/Line, XLR-Jack Input
- 2 x RCA Chinch Input
- SPL max. 103 dB
- Dimensions 210x350x270mm / 8.2x13.6x10.5in
- Weight 5,5 kg/ 12.1 lb

K162

The top model K162 offers a perfect sound and a high SPL at a very compact size and light weight. Driven by the integrated 65W/RMS amplifier, the two 6,5" Woofer and the tweeter convince by a high SPL of 110 dB and a wide range of response from 85 - 19.000 Hz.



K162

- Compact 2-Way Active speaker
- 2 x 6.5" Woofer + Tweeter
- 65 W/RMS
- 85 - 18.000 Hz
- Mic-/Line, XLR-Jack Input
- 2 x RCA Chinch Input
- SPL max. 110 dB
- Dimensions 210x350x270mm / 8.2x13.6x10.5in
- Weight 5,5 kg/ 12.1 lb

L/M SERIES

The LIVE Series loudspeakers were designed for portable or installed applications. Two models are available: the L 80 35 W/RMS and the L 160 65 W/RMS – both versions come in the same compact enclosure which can be wall mounted, used free-standing or mounted on a microphone stand. These cabinets feature two full range, 5" double cone loudspeakers with mechanical phase correction. Their tailored frequency response makes them ideal for speech and music reproduction. Featuring soft-clip limiters for total protection against overloading, these compact loudspeakers have both microphone and line-level signal inputs via a combo XLR/1/4" jack connector. For applications such as recording studios and monitoring we have developed the MONITOR Series. These two-way loudspeaker systems offer the widest frequency response in a compact design with accurate sound reproduction. Two models are available: the M 160 is a bi-amped system (60 + 20 W/RMS) with a 1"

soft-dome tweeter and a 6" bass loudspeaker with a max. SPL of 99 dB. The M 80 handles 40 W/RMS with a 1" soft-dome tweeter and a 6" bass loudspeaker with a max. SPL of 96 dB.

Also available is the ProSound 60 system – this active stereo system has been specifically developed for use with computer systems.

It offers audio performance not previously available for this particular type of application. The two-way loudspeaker system and 60 W/RMS output per channel provide studio reproduction from computers, MP3 players or CDs.

All the MONITOR Series' cabinets feature magnetic shielding.



L80/L160

M80/M160

Prosound 60 System - Stereo



	M 80	M 160	Prosound 60
Power (RMS)	40 W	60 + 20 W	2 x 40 W
Power (Music)	80 W	120 + 40 W	2 x 80 W
Freq. response	60 - 19000 Hz	50 - 20000 Hz	60 - 19000 Hz
Spl. max	96 dB SPL	99 dB SPL	100 dB SPL
Speaker	1 x 6" + Tweeter	1x6" + 1" Soft-Dome	6" Bass + 1" Soft-Dome
Inputs	Neutrik Combo®	6,3 mm Jack/XLR bal.	2 x RCA Cinch
Outputs		LINK-OUT XLR bal. LINK-OUT RCA Cinch	
Sensitivity	-50 to +10 dBm	-50 to +10 dBm	fixed -10 dBm
Impedance	200 Ohms	-47 kOhms	47 kOhm
Dimension		195 x 195 x 317 mm	
Weight	4.2 kg	5.5 kg	4.2/3 kg



wallmount bracket WB 03 W wallmount bracket WB 03



Mic stand adapter SN120

	L 80	L 160
Power (RMS)	35 W	65 W
Power (Music)	80 W	160 W
Freq. response		65 Hz - 18 kHz
Spl. max	100	110
Speaker	2 x 5"	2 x 5"
Inputs		Neutrik Combo® 6,3mm Jack/XLR bal. RCA Cinch
Outputs		LINK-OUT XLR bal. LINK-OUT RCA Cinch
Sensitivity		-50 - +10 dBm, adjustable
Impedance		200 Ohms - 47 kOhm
Dimension		195 x 195 x 317mm
Weight	3.1 kg	4.6 kg



OPERA 110 MOBILE MK II

No Plug - just Play.

The compact active OPERA 110 mobile loudspeaker with integrated mixer, optional wireless UHF receiver, and switchable powering through the integrated A/C, 12V or normal 230V power supply. Maximum flexibility, easy to use with endless application possibilities. The specially designed power amplifier with auto-sleep mode allows powering, regardless of the volume level for up to 12 hours. There are inputs for mics, CD player, or laptop, which can be separately adjusted. For the voltage supply of a portable CD player or a slave unit, a power socket with adjustable voltage is available on the control panel. The 10"/1" components of the OPERA 110 convince through high speech clarity with a pleasant vocal sound and impressive sound reproduction. For use with a loudspeaker stand, a 35mm standard flange is built in the housing. The optional integrated wireless receivers can be combined with either handheld or pocketpack with lavalier or headsets. The optional time delay can be adjusted by two rotary switches and can be bypassed.

Multi-Purpose.

If you need several loudspeakers, you can drive as many OPERA 110 MOBILES as you like from only one transmitter, within the possible range of the transmitter (Example1). The range of the transmitter is between 70 and 100 m, heavily dependent on the environment. For longer distances the optional directional antenna set RDA 900 should be used for better operating reliability. With this, distances well above 100 m can be achieved. If the audio signal, as well as a microphone signal, applied to the first unit (e.g. CD) is to be sent to other OPERA 110 MOBILES, this can be achieved with the MS 110 set (Example2). The optional RMS 110 master - slave set contains a directional antenna with integrated transmitter for transmitting the complete audio signal from the first unit to other OPERA 110 MOBILES using a second carrier frequency. For simple connection there is both a low volt output with adjustable voltage between 3 - 12 volts and a mix output for 6.3 mm jack available.



- 2 way bi-amplified active loudspeaker
- 12V battery or electric
- 10" Bass / 1" HF 90°x60°
- 70+20 Watt/RMS, 180 Watt/PRG
- Frequency response:70-18,000 Hz
- Max. SPL: 117 dB
- Adjustable XLR/ jack input
- Combined XLR/ jack input
- Mic-/Line input, switchable
- Microphone presence control
- Low voltage output with choice of 3-12V
- Cinch input, separately adjustable
- Mixed line out, 6.3mm jack
- Dynamic soft-clip limiter
- Weight: 12 kg/ 26 lb
- optionally Integrated 16 channel UHF Diversity receiver with DCS
- optionally Integrated Delay



UH 900 M
UHF handheld, 16 freq. switchable
UH 900 L
UHF pocket, 16 freq. switchable

850M
UHF handheld, fixed frequency
850P
UHF pocket, fixed frequency



There are 4 different versions available:

Opera 110 Mobile (standard)

- integrated 16 channel UHF receiver

Opera 110 Mobile TD

- integrated 16 channel UHF receiver
- integrated delay

Opera 110 Mobile C

- without wireless receiver

Opera 110 Mobile CTD

- without wireless receiver
- integrated delay



VH504 Lavalier Microphone

- Condenser capsule
- Cardioid characteristic
- 30 - 20.000 Hz
- inc. clamp and windshield



VH531 Neckworn Microphone

- Condenser capsule
- Cardioid characteristic
- 40 - 17.000 Hz
- inc. clamp and windshield
- High gain before feedback



VH512 Neckworn Microphone

- Condenser capsule
- Cardioid characteristic
- 50 - 17.000 Hz
- inc. clamp and windshield



OPERA Mobile with Antenna MS110



Gig-Bag TT02

MOBILE 50

Active portable Speakers

The Mobile 50 can be used for versatile applications, independent from the mains-network. The integrated 50W/RMS digital amplifier offers high efficiency at lowest power consumption. The rechargeable battery of the Mobile 50 provides up to 5 hours of performance being small and lightweight at the same time. Professional sound is being reproduced by a 2-way system with two 6,5" Woofers and a Tweeter. Beside of the Mic-/Line-Input with XLR-/Jack Combo-Connector the Mobile 50 is equipped with an integrated Wireless receiver ready for instant operation with a wireless transmitter. The power consumption can be optimised for different applications due to the optional "sleep-Mode", detachable wireless-receiver, as well as the audio performance due to the switchable "Vox-Mode" with optimised frequency response for speech. The external power supply recharges the battery and allows also the permanent use of the speaker connected to the mains. Included is a convenient handle to carry the product. Further stand adaptors for speaker- or microphone stands and a convenient bag are available as options.

MOBILE 50-U Compact active speaker with rechargeable battery and integrated UHF wireless receiver

MOBILE 50-V Compact active speaker with rechargeable battery and integrated VHF wireless receiver



Accessory:

UH850 M	UHF handheld transmitter
VH210 M	VHF handheld transmitter
UH850 L	UHF pocket transmitter
VH210 L	VHF pocket transmitter
VH504	Lavalier microphone
VH512	Headset microphone
TT06	Gigbag / rain cover
SN120	speaker stand adaptor
SN130	mic stand adaptor

- 2 x 6,5" Woofer + Tweeter
- 30 W/RMS Digital Amp
- integrated Battery for up to 5 hours operation
- integrated wireless receiver
- 95 - 16.000 Hz
- 98 dB SPL max.
- Mic-Line-Input with XLR-/Jack-Dual Input
- 2 x RCA-Input
- Dimensions
210x350x270mm/8.2x13.6x10.5in
- Weight 5,5 kg/ 12.1lb

850M

UHF handheld, fixed frequency

850P

UHF pocket, fixed frequency

850 M



850 P



OPERA

Passive Speaker

OPERA 302/305

The new standard passive OPERA 302 model with 12"/1" components and OPERA 305 15"/1" with B&C components as well as the follow up versions of the successful OPERA 110 & TWIN 128 – the new compact models OPERA 201 & TWIN 208 are passive versions which make them ideal where external amplification is preferred, such as in fixed installations.

All models feature PTC high protection circuitry, which operates in a similar fashion to a compressor/limiter. In contrast to conventional protection switching in passive loudspeakers, the PTC protection limits power when overload is reached without switching off. This protection is barely audible. All versions feature 2 Speakon® connectors.

The integrated 90°x60° high frequency horn with 1" components achieves a clean wide signal dispersion of the high frequencies due to the speakers' optimized shape.

The extremely resonance proof and stable housing made of Polypropylene features a standard mount (35mm Ø) with a fixing bolt.

The speakers' angled rear allows it to be used as a floor monitor – the OPERA 201 and TWIN 208 have two set-up positions, 60° or 45°. Finally, using the WB02 wall mount bracket, the system can be safely secured to a wall or flown.

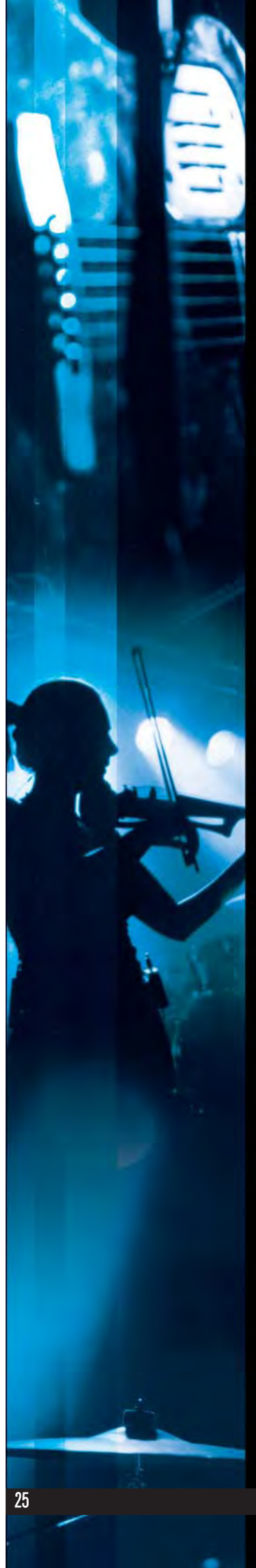


OPERA 201

TWIN 208



	OPERA 201	TWIN 208	OPERA 302	OPERA 305
Power (RMS)	200 W	200 W	250 W	350 W
Power (PRG)	400 W	400 W	500 W	700 W
Speaker	10" dB Bass 1" HF	2 x 8" dB Bass 1" HF	12" dB Bass 1" HF	15" dB Bass 1" B&C Compression
Freq. response	68 - 18000 Hz	63 - 18000 Hz	65 - 18000 Hz	50 - 20000 Hz
Spl max.	121 dB	122 dB	125 dB	127,5 dB
Sensitivity	95 dB 1W/1m	96 dB 1W/1m	97 dB 1W/1m	99 dB 1W/1m
Crossover	2,3 KHz 12 dB/Oct.	2,3 KHz 12 dB/Oct.	2,3 KHz 12 dB/Oct.	2 KHz 12 dB/Oct.
Protection	PTC	PTC	PTC	PTC
Connectors	2 x Neutrik Speakon®	2 x Neutrik Speakon®	2 x Neutrik Speakon®	2 x Neutrik Speakon®
Impedance	8 Ohms	8 Ohms	8 Ohms	8 Ohms
Dimension	312 x 550 x 290 mm	312 x 550 x 290 mm	700 x 440 x 320 mm	700 x 440 x 320 mm
Weight	8.6 kg	9.1 kg	14 kg	16 kg



ACCESSORIES

OPERA Live 202/205/402/405



Gig-Bag
TT 04



Wallmount bracket
WB 08

BASIC 200/400



Gig-Bag
TT 03



Wallmount bracket
WB 07

OPERA Modular
212/215/412/415



Gig-Bag TT 01



Bracket WB 05



Wallmount bracket WB 02



remote control RC1

OPERA Live 210 - TWIN 128 - TWIN 228 - OPERA 110 MOBILE
BASIC 100



Gig-Bag
TT 02



Bracket
WB 06



wallmount bracket
WB 04/WB 04 White



Speaker Stand
KTSP 120

tilting adaptor
AFL 02

MT/MPA SERIES



MT-Series Power Amplifiers

Multiple technology is the slogan for the new class H amplifiers from dBTechnologies.

The combination of classic class H technology and the latest generation of Darlington transistors gives maximum efficiency with low heat generation and very high pulse accuracy (slew rate 50 V/μs).

The 2U amplifiers at 2 x 265 W or 2 x 530 W respectively into 4 ohms are equipped complete with temperature-controlled fan cooling, , and all common protective circuits such as over-temperature, short circuit, RFI, a Soft-Start and Speakon®

connectors. At 12.5 kg/ 28 lb and 15 kg/ 33 lb their low weight is the convincing factor. The integrated soft clip limiter protects against damage.

MPA204 Power Amplifier

The MPA 204 with convection cooling is particularly well suited for studio applications. Classic MOSFET design and features such as hand wound toroidal transformers, limiter, 6.3 mm jack/XLR input connectors; temperature control and complete power protection cover all the key specifications required from an amplifier.



MPA 204

Power, Stereo	2 x 100 / 4
Watt/RMS@Ohm	2 x 75 / 8
Output (W) bridged	1 x 200 / 8
Frequency response ±1dB	20 - 20.000 Hz
THD + N	0,05 % @ 1 KHz
Dampening factor	> 200:1 (8 Ohm)
Input sensitivity	0 dBm (0,775 V RMS)
Input impedance	20 KOhm
Protection	Thermal, short circuit, RFI
Input connection	2 x XLR / 6,3mm jack
Output connection	2 x Neutrik Speakon4
Cooling	convectioal cooling
Dimensions	19", 1HE
Weight	7 kg

	MT 530	MT 1060
Power, Stereo	2 x 275 / 4	2 x 530 / 4
Watt/RMS@Ohm	2 x 180 / 8	2 x 265 / 8
Output (W) bridged @ 8 Ohm	1 x 550 / 8	1 x 1110 / 8
Mono, one channel	1 x 310 / 4 1 x 195 / 8	1 x 570 / 4 1 x 325 / 8
Frequency response ±1dB	20 - 20.000 Hz	20 - 20.000 Hz
Frequency response ±3dB	20 - 57.000 Hz	20 - 57.000 Hz
THD + N	0,05 % @ 1 KHz	
SMPTE IMD	< 0,03% max. Power@4 Ohm	
Dampening factor	> 200:1 (8 Ohm)	
Slew Rate	50V/μS	50V/μS
Self noise	> 105 dB, A-weighted	
Signal to noise ratio	> 70dB@ 1 KHz	
Input sensitivity	0 dBm (0,775 V RMS)	
Input impedance	20 KOhm balanced, 10 KOhm unbalanced	
Protection	Thermal, direct current, RFI, short circuit, thermal protection of transformer	
Input connection	2 x XLR balanced, 6,3mm jack unbalanced	
Output connection	2 x Neutrik Speakon4	
Cooling	1 x temperature controlled ventilator	
Current consumption	max. 6A	max. 10A
Dimensions	88 x 482 x 350 mm + Handles 40mm	
Built-in dimensions	2 HE	2 HE
Weight	12,5 kg/ 28 lb	15 kg/ 33 lb

DWS 2400

Digital Wireless System

The future in wireless technology

The DWS2400 is the worlds first digital wireless system operating in the 2.4GHz range, leading the way to the future of wireless transmission. Digital Wireless brings a new dimension to the sound, dynamics and the noise ratio of wireless systems, avoiding the limitations of analog systems.

Dynamics unlimited

Analog Wireless Systems always require a compander system to reduce the signal to noise ratio to an useable level, meaning the signal is being compressed in the transmitter and on the other side decompressed in the receiver. This method is required in every analog wireless system. Unfortunately this limits the range of dynamic, in particular for guitarists and bass players. However, with the digital wireless transmission the analog technology will become outdated. The signal is converted through a high profile Delta Sigma 20bit AD-Converter in the transmitter into digital data. Those data packages are sent to the receiver to be converted back into an analog signal. This technology allows a natural, full dynamic range. The data transmission also avoids also the frequency modulation of an analog system. The result is a crystal clear sound without hissing.

Transmission from 20-22KHz

The frequency range of a DWS2400 System means CD-Quality. The sampling rate of 44.1KHz gives an unbelievable range of 20Hz to 22KHz. Analog systems only manage a range of 50Hz up to 15KHz due to the method of construction.

Gigahertz

The DWS 2400 works on a 2.4GHz basis in the upper UHF range, allowing an enormous amount of broadband data transmission. This method requires a special antenna technique, which was implemented in the 2400 R receiver, the so-called PATCH - Antenna, that is mounted on top of the receiver so that it can be flipped up easily.

The DWS2400 System works on the principle of true diversity technology, meaning two separate receiver channels work independently, and are controlled by intelligent electronics to always process the best incoming signal allowing for an absolutely reliable system!

Digitally yours

The known latency (delay) of digital signal processing is an outstanding 2 ms and therefore not noticeable for the user.



2400 MD/MC



2400 P/G

2400 P/G Pocket Transmitter

- 16-channel Dual-Band transmitter
- 2.4 GHz data carrier
- 770-870 MHz Servicelayer
- Delta-Sigma 20 Bit AD-converter
- Sampling Frequency 44.1 KHz
- Input gain control
- Peak signal LED
- average 6 hours operation (9V alkaline)
- 2400 G incl. guitar cable

Digital Receiver 2400R

- 16-channel Dual-Band receiver
- intelligent frequency-scan software
- UHF True-Diversity
- Digital Code Squelch
- 2,4Ghz Patch-Antenna
- LCD display for frequency signal strength and audio status
- Battery status LED (from transmitter)
- Balanced XLR & unbal. Jack output
- output level adjustable
- connectors for external Antennas or Splitter
- Robust metal 9,5" housing

DWS 2400 M/MC

For Vocal Artists with high expectations to sound performance, the ergonomically shaped handheld microphone, made out of rugged metal with an integrated display is available either with a dynamic hypercardoid beyerdynamic TG-X 58 capsule or with a high quality beyerdynamic condenser capsule.



2400 R



Safety of operation

In addition to the transmission of digital data packages on the 2.4 GHz basis in true diversity technology, the DWS 2400 offers a second, independent analog signal path for maximum safety. This "service channel" works parallel to the digital transmission, so that in the unlikely event dropouts do occur off the digital signal, they are then auto-correlated in real-time via the service channel. The service channel also transfers data such as the mute control for noiseless on/off switching of the transmitter, identity codes, and battery status to the receiver.

Intelligent Receiver

The latest Version of the DWS2400 incorporates intelligent software to allow management of frequency scans for multi channel setups. In addition to the 16 pre-programmed frequency Combinations, there are also a further 24 different combinations (patterns) available.

DWS 2400 G

The DWS2400 G addresses professional guitarists and bass players who want wireless technology without any compromise. The DWS2400G comes in a carbon fiber housing with an adaptor cable (6.3mm Jack) for instrumental amplifiers.

AS4X

Suitable for professional multichannel setups, up to 4 DWS 2400 Systems can be daisy chained via SMB connectors. The active antenna splitter AS4X provides the best possible reliability for multichannel operation and allows flexible antenna positioning. The AS4X provides phantom power if active antennas need to be used.

RDA 2400/900

The dual band directional antenna RDA2400/900 can be connected directly to the receiver and provides +6dB more RF-signal, or in conjunction with the AS4X, as an active Antenna with a gain of up to +19dB - for best performance in long distance applications.

PU 910



Digital Controlled 16 Channel System

The PU 910 sets new standards in the area of wireless transmission technology. The latest 4 layer PCB structure in SMD technology with components only 0.07 x 0.15 mm in size, this technology, also used in mobile phones of the latest generation, makes an excellent audio performance possible with the highest operating reliability and long battery life, due to low current consumption. The newly developed digital squelch control offers extremely high operating reliability. The simultaneous transmission of the battery status of the transmitter to the receiver provides convenience and security at the same time. If the battery capacity is only sufficient for 30 - 45 minutes, the "Battery Low" warning is passed on to the receiver, which can be seen by the sound technician by the use of a red LED. The professional audio design, achieved through high-grade, low noise pre-amplifiers, in conjunction with the polished PLL UHF technology with 16 bit microprocessors, make the PU 910 the first choice for professional users. The newly developed compander circuitry uses the latest components for high linearity and minimal interference noise. Dynamics, audio quality, and operation set new standards at this price/performance ratio.

Multi-channel-Applications

The receiver in a 9.5" metal casing provides information on all the essential operating parameters, such as operating frequency, HF and audio level and also the battery status of the transmitter, through its large illuminated display. The antenna are mounted on the front and can be removed allowing them to be repositioned or permitting the use of the optional active antenna splitter AS6 in multi-channel applications. The active antenna splitter AS6 is recommended for the maximum in operating reliability and high range where more than two PU 910s are operated in parallel. Up to six PU 910 receivers can be connected to the AS6. For more than six systems, several AS 6s can be cascaded. For the use of the active AA 900 antenna amplifier, the AS 06 provides a switched phantom feed. The AA 900 antenna amplifier is recommended to compensate for RF signal loss on long antenna cables. There is a choice of +8dB or +16dB amplification available. If for example high ranges are required, for open-air environments or in large halls, the RDA-900 directional antenna set will increase the possible range considerably and optimize operating reliability. The directional antenna can be installed on microphone and loudspeaker stands or, for instance, in a truss system. In addition to the connection cables, the delivery specification for the RDA 900 set also includes a rain cover for outdoor applications.



UH 900 L/G



Antenna amplifier

- +8/+16 dB with long antenna cables

**Handheld Transmitter
UH 910 M**

- Robust metal housing
- Digital Pilot Tone control
- Integrated antenna
- Single switch operation
- Battery status LED
- Ergonomic design
- An average of 50% reduction of battery costs (AAA batteries) and average 12-hour operation

**Pocket Transmitter
UH 900 L/G**

- Very compact design
- 3.5 mm, lockable mini-jack connector
- Phantom power 5V (L Version)
- Audio-Mute switch
- Input gain control
- Peak signal LED
- Battery status LED

PU 910 R Receiver

- Diversity PLL UHF
- 16 switchable frequencies
- Robust metal 9,5" housing
- Digital squelch control LED
- Battery status LED
- LCD display for frequency signal strength and audio status
- Detachable antennae with BNC connectors
- Balanced XLR output



Touring Rack 910X



Directivity-Antenna-Set
RDA 900/2400

AS 6 Antennasplitter

Active 19" Antenna splitter for up to six PU910 Diversity-Receiver.



VH506 Guitar Cable



VH 512 Headset

- Condenser capsule
- Cardioid



VH 531 Headset

- Condenser capsule
- Cardioid
- Black or flesh



VH 504 Lavalier

- Condenser capsule
- cardioid
- incl. windshield & clamp



PU901

Digital Controlled Wireless System

Based on the modern technology of the PU910 series the PU901 provides a high-quality wireless connection with ease of use and high reliability. In its price class unique features such as the digital pilot tone, which controls squelch as well as supporting the battery management system are integrated to help make the PU 901 series the first choice for multi-channel systems, for example in combination with the active antenna splitter AS6.

Two sets are available:

The **PU 901 M** set consists of the hand held transmitter UH 901MC. The specially suspended cardioid condenser capsule assures a most natural voice transmission and significantly reduces any possible handling noise to a bare minimum. The ergonomic, well-balanced design also offers easy access to all essential controls. The UH 901R receiver completes the system.

The **PU901 P** set consists of the pocket transmitter UH900P which can be combined with a selection of lavalier, headset or instrumental microphones or with the adapter cable VH506L to 6.3mm jack for instruments. 5V phantom power is supplied to accommodate condenser microphone capsules, and input signal levels can be precisely controlled by the adjustable Input-Level Control with LED indicator. The UH 901R receiver completes the system.

Receiver 901 R

- 16 switchable frequencies
- Digital squelch control LED
- Battery status LED
- Detachable antennas with BNC connectors
- Balanced XLR output

Handheld Transmitter 901 MC/MD

- 16 switchable frequencies
- Version MD with beyerdynamic TG-X 58[®]-capsule
- Digital Pilot Tone control
- ON/OFF and MUTE-Switch
- An average of 50% reduction of battery costs (9V battery) and average 12-hour operation

Pocket Transmitter 901 P

- 16 switchable frequencies
- Digital Pilot Tone control
- 3.5 mm, lockable mini-jack connector
- 5V Phantom power
- Input gain control
- 9V-battery (10-13 hr)

Accessory:

AS 6	Antenna Splitter for up to 6 PU901 R
RDA900	Directivity-Antenna-Set
AA900	Antenna-Amplifier
VH507	19" Rackmount-Kit for 2 x PU901 R
VH504	Condenser Lavalier Microphone
VH512	Condenser Headset Microphone
VH531	Condenser Headset Microphone
VH506L	Adapter cable 6.3mm Jack for Instruments



UH 900 P



UH901 M



UH 900 PR

PU 850

The PU850 offers latest UHF Technology and high fidelity audio performance with a modern design and easy handling. The compact half rackspace receiver is equipped with two antennas and a diversity circuitry for highest reliability. At the backside of the receiver volume and squelch can be controlled by two pots.

The transmitter of the PU850-Series offers a very comfortable and easy handling with one momentary switch for On-/Off and MUTE. A blue LED indicates the status. Due to the innovative circuitry, the transmitter offers a long battery-life (> 20h) with cost-effective AA-Batteries. The PU850 is available in 12 different frequencies. Up to 4 systems can run simultaneously.

PU850 M

The PU850 M Vocal-Set is equipped with a high quality condenser capsule offering a superb audio quality with high feedback resistance and reduced handling noise thanks to a free suspension, comparable to a studio microphone. To optimize the performance of the microphone for different applications, the sensitivity is switchable in two steps.

Handheld Transmitter 850 M

- Cardioid condenser capsule
- Anti-Shock-Suspension
- Mic-Sensitivity switchable
- On-/Off-/Mute button
- more than 20 hours of operation (2 x AA Alkaline battery)

PU850 P

The pocket-set PU850 P is equipped with a compact pocket-transmitter, ready to be combined with condenser-lavalier microphone, headset or cable for instruments. The pocket transmitter provides phantom power of 5V plus an adjustable input sensitivity control incl. Peak-LED. Like the handheld transmitter the 850P offers easy handling with just one On/Off switch and an additional MUTE-Switch.

Compact Pocket Transmitter 850 P

- 5V-Phantompower
- Input gain control
- On-/Off-/Mute button
- more than 20 hours of operation (2 x AA Alkaline battery)



850 M



850 P



850 R



WM210PRO

VHF Single Antenna System

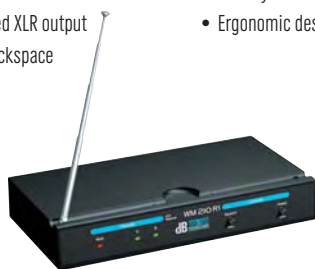
The WM 210 Series is the entry-level wireless product from dBTechnologies. This system offers a great price/ performance ratio with simple Plug&Play operation.

Despite its competitive price point, the system offers many professional features such as balanced XLR connectors, variable squelch control, and output level control.

This fixed frequency system is ideal for AV, educational and installation markets. Due to its selectivity, up to 5 systems can be operated simultaneously.

WM 210 R Receiver

- 1 telescopic antenna
- Robust construction
- On/Mute- and RF-Signal-LED
- Squelch and volume control on front panel
- Balanced XLR output
- 9.5" Rackspace



Handheld Transmitter VH 210 M

- Cardioid dynamic capsule
- Integrated antenna
- Audio-Mute switch
- Battery status LED
- Ergonomic design



WM220PRO

VHF Diversity System

The WM 220 system operates in the VHF range employing diversity technology. The diversity technique uses two antenna to ensure trouble-free reception. The system automatically detects the best signal and switches to it without any noise.



WM 220 Receiver

- VHF Diversity
- 2 telescopic antennae
- On/Mute and RF Signal LED
- Squelch and volume control on front panel
- Balanced XLR output
- 9.5" Rackspace

WM 210 M* / WM 220 M Vocal-Set

The Vocal-Set consists of the VH 210 M handheld transmitter and the WM210R/WM220R receiver. Due to its cardioid capsule the transmitter offers good feedback rejection with superior vocal performance.



WM 210 L* / WM 220 L Presenter-Set

The WM 210 L Presenter-Set includes a condenser tie-clip microphone and is ideal for Lecturer's / Presenter's, video and theatre applications.



Pocket Transmitter VH 210 L/G

- 3,5 mm, lockable mini-jack connector
- Phantom power 5V (L Version)
- Audio-Mute switch
- Input gain control
- Peak signal LED
- Battery status LED



WM 210 G* / WM 220 G Guitar-Set

The Guitar-Set comes complete with an inter-connect cable with a 6.3mm jack plug. The low input sensitivity makes this system ideal for all instruments including bass guitar.



WM 210 DHM* / WM 220 DHM Head-Set

Ideal for presenter's, drummers, keyboard players or anywhere where hands-free operation is necessary. The system comes complete with a VH512 headworn microphone.



Headset VH 512

Hands-Free!
Operation is possible with the headworn VH 512 condenser microphone. Used in conjunction with any of our pocketpack transmitters, this microphone offers superb vocal performance with comfort and stability.

* not available in all countries

KS

VHF Multichannel Systems

KS Multi-Receiver

To meet the demands of specialist markets, dBTechnologies has developed the KS 22 series and KS 44 series wireless system. The KS 22 series offers the space and cost saving benefits of two separate receivers built into one housing. The KS 2R diversity receiver housed in a half 19" 1U case has mute LED's, diversity operation and individual squelch and output controls. The system can be supplied with either handheld or bodypack transmitters. This system is ideal for karaoke or when two presenters perform simultaneously. The KS 44 series is supplied with a four frequency, triversity KS 4R receiver. This metal cased, 1U 19" rackmount receiver features on/mute LED, diversity A/B LED, squelch and volume controls for four separate channels. The system offers tremendous flexibility with cost and space saving advantages.

KS 22 Set

Complete with two VH 210 M dynamic, cardioid handheld transmitters.

KS 2 R Receiver

This two frequency VHF diversity receiver can be combined with any combination of transmitters from the WM and PV series.

KS 44 Set

Complete with four VH 210 M dynamic, cardioid handheld transmitters.

KS 4 R Receiver

This 19" four frequency VHF diversity receiver can be combined with any combination of transmitters from the WM and PV series.

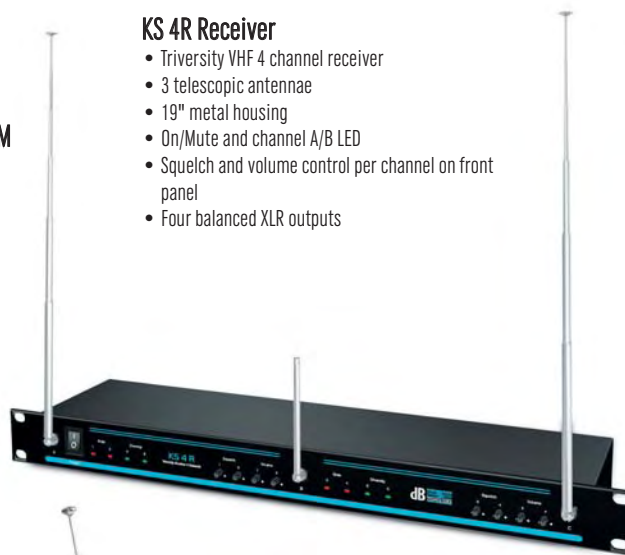


Handheld Transmitter VH 210 M

- Cardioid dynamic capsule
- Integrated antenna
- Audio-Mute switch
- Battery status LED
- Ergonomic design

KS 4R Receiver

- Triversity VHF 4 channel receiver
- 3 telescopic antennae
- 19" metal housing
- On/Mute and channel A/B LED
- Squelch and volume control per channel on front panel
- Four balanced XLR outputs



KS 2R Receiver

- VHF diversity, two channel receiver
- 2 telescopic antennae
- Robust construction
- On/Mute and RF Signal LED
- Squelch and volume control on front panel
- Balanced XLR output
- 95" Rackspace



IN-EAR MONITORING



InEar-Monitoring has established new dimensions of monitoring on the big stages around the globe. Compared to conventional monitoring, InEar-Monitoring offers many advantages:

Reduced set up and soundcheck times, less transport volume and weight, plus perfect control over sound and volume to avoid damage to the ears, are just a few examples. Apart from that the excellent control over performance, reliefment for the ears due to the reduced level of loudness, and the improvement of the FOH sound with a minimum of acoustic disturbance from stage to the audience are major benefits.

dBTechnologies offers 3 different wireless InEarSystems. The whole range is based on the "True-Sound-InEar"-Philosophy which features high quality HF-technology within UHF frequencies. With "True-Sound" we emphasise the

natural dynamic performance and a broad frequency range as two main issues in designing the IEM-Range. Every analog wireless system offers only limited dynamics compared to a standard instrument/mic cable. But dynamics are an essential performance tool. That's why dBTechnologies builds InEar-Systems with laborious compander switching, great dynamics and an improved frequency range. High quality SONY™ earphones incl. earpieces in 3 different sizes for maximum comfort and good isolation of environmental noises are included in the package for perfect audio and monitoring results. For your safety all InEar-Systems of dBTechnologies are equipped with a limiter and a soft squelch function to avoid any disturbance just in case of problems with the HF-Signal. The receivers have a build in LPC®-Powermanagement for a extended battery life of up to 10 hours!

The advantages of In-Ear Monitoring

- Wireless operation enables total freedom of movement
- Individual monitoring mix with controlled levels offers hearing safety
- Greater immunity to feedback combined with cleaner mixes
- Less equipment to carry and more space on stage
- Faster sound checks and the capability for more individual mixes
- Lower sound levels on stage offering improved audience clarity
- Easier set-up of monitor mixes, as stage acoustics no longer apply

IEM 500

UHF In-Ear System



IEM 500 R In-Ear Receiver

- volume control
- Battery Status indicator
- Soft-Squelch function
- Limiter and Kompander
- ON/OFF button
- 2 x AA Batteries

The IEM 500 offers professional InEar Technology for users with a limited budget without compromising in professional sound and safety. This system is recommended when using two units and not many other wireless systems. The IEM 500 is easy to handle since all parameters are pre-adjusted.

The wireless section works in UHF Band and is based on the modern circuitry of the PU850-Series, which convinces not only through high functionality but also through superb audio performance and low power consumption.

The half rack space unit transmitter is fitted with a balanced jack input and volume control on the backside. The fixed antenna is assembled on the front side of the transmitter. The pocket receiver includes a stereo headphone socket, a volume control and an on-/mute-/off switch. The MPH-100 headphones incl. earpieces are recommended to use with the IEM 500.



MPH100 (Optional)

High quality SONY™ earphones incl. earpieces in 3 different sizes for maximum comfort and good isolation of environmental noises. Impedance 32 ohms, Frequency Range 20-20.000 Hz

IEM 500 T In-Ear Transmitter

- UHF fixed frequency
- 9,5" housing
- Balanced Input
- Limiter und Kompander circuits
- Input/Peak monitoring



IEM 1100-N

UHF In-Ear System



IEM 1100 R In-Ear Receiver

- Shatterproof carbon fiber casing
- Output level control
- Battery low indicator
- Soft squelch function
- Limiter and compander circuits

The mono based UHF InEar System IEM1100 offers a well thought through dual input section with a XLR input and a XLR link/thru, which makes a personal mix of e.g. voice and background music possible and allows the signal to be linked to another IEM unit. The rigid transmitter made out of metal, designed as a half rack space unit, offers two volume controls with LED Level meters for each channel and a detachable antenna with BNC connector. The unbreakable pocket receiver made out of very light weight carbon fibre includes a mini jack socket and a combined volume/on/off switch. The receiver's new Diversity circuit offers a maximum in performance and distortion free operation.

Available as options are the AST4 Antenna Combiner to cascade up to four IEM Systems and the RDA950 Directivity Antenna Set to increase possible range. The new Diversity circuits offer a maximum

AST4

Antenna Combiner. Combines up to four IEM1100T or IEM2200T on to one antenna.

RDA950

Passive directional antenna for use with IEM1100T, IEM2200T or AST4 Antenna Combiner. HF-Boost +8dBi, radius 180°.



All Included:

Supplied with each system are SONY™ headphones, their frequency response of 20 - 20000 Hz ensures the highest possible audio performance.

- | | |
|------------|------------------------------------|
| IEM 1100 | Complete set with earpiece set |
| IEM 1100 R | Receiver without earpiece set |
| MPH 100 | SONY™ High Resolution earpiece set |



IEM 1100 T In-Ear Transmitter

- UHF quartz controlled
- 9.5" metal housing
- Detachable antennae
- Balanced two-channel mix in/out
- Limiter and compander circuits
- Input level and LED monitoring of both input channels



IEM 2200

UHF Stereo In-Ear System



The IEM 2200 system has every conceivable feature and operates in stereo or the dual-mono function. This system is the ultimate in professional In-Ear monitoring!

Operating in the UHF band with 16 switchable frequencies, it can perform under the most rigorous conditions in multi-channel installations.

The system can operate in stereo or via the dualmono function, and the receiver can be fed with two individual audio signals. It is possible to mix two separate channels on either the transmitter or receiver, thus offering the ultimate in personalized mixes.

The 19" metal-housed rackmount transmitter features a large LCD display for frequency, RF, and AF levels. There is a front-mounted pan control for stereo balance, which can be configured as a L+R mix control to combine audio sources. The output can be monitored with a gain control from either a 35 mm or 65 mm stereo jack socket. Balanced XLR inputs and outputs allow units to be cascaded.

The IEM 2200 system offers user safety by using limiter circuits in both the transmitter and receiver.



All Included:

Supplied with each system are SONY™ headphones, their frequency response of 20 - 20000 Hz ensures the highest possible audio performance.

IEM 2200	Complete set with earpiece set
IEM 2200 R	Receiver without earpiece set
MPH 100	SONY™ High Resolution earpiece set

IEM 2200 R InEar-Receiver

- Stereo, mono, dual mono mode
- UHF 16 switchable frequencies
- LCD display for frequency and AF level
- Battery level status LED
- Output level control
- Shatterproof carbon fiber casing
- Soft squelch function
- Limiter and compander circuitry
- 6 - 9 hrs. operation 9V alkaline battery (with originally supplied headphone)

IEM 2200 T Stereo Transmitter

- Stereo, mono, dual mono mode
- UHF 16 switchable frequencies
- 19" rackmount housing
- LCD display for frequency and AF level
- Input level control
- Output level control
- Dual headphone monitoring output 6.3mm and 3.5mm
- Limiter and compander circuitry



TECHNICAL SPECIFICATIONS

Wireless System

Transmitter VH 210 M/L/G

Frequency range	VHF, (174 - 223 MHz)
Modulation	FM
Frequency response	70 Hz - 15 KHz
Frequency stability	-10°/+50° / 10 KHz
Deviation	35 KHz min. @ 1 KHz
Output power	+ 3 dBm ERP
Distortion	< 1%
Compander	RMS
Signal-to-noise ratio	> 100 dB (A)
Audio Input (L/G)	3,5 mm jack, locking
Input Sensitivity	adjustable L: 50 mV - 5 V RMS G: 1,5 V - 15 V RMS
Current consumption	M: < 42 mA L/G: < 38 mA
Power source	9 V battery Alkaline 6LR61
Operating time	6 - 8 hours
Weight	200 g - 240 g (model specific)

Receivers WM 210 R, 220 R

Frequency Range	VHF, (174 - 223 MHz)
Modulation	FM
Frequency response	70 Hz - 15 KHz
Frequency stability	-10°/+50° 10 KHz
Deviation	35 Hz min. @ 1 KHz
Distortion	< 1%
Compander	RMS
Signal-to-noise ratio	> 100 dB (A)
Audio output unbalanced	6,3 mm jack (model specific)
Audio input unbalanced	XLR (model specific)
Current consumption	< 61 mA (WM 205 R < 50 mA)
Power source	12 V AC, external mains
Dimensions/ weight	210/220/230: 35 x 110 x 220 mm / < 400 g 205: 30 x 12 x 70 mm / 150 g 550: 45 x 150 x 485 mm / 900 g

Transmitter 850 M/P

Frequency range	UHF 798 - 830 MHz
Modulation	FM
Frequency response	50 Hz - 15 KHz
Deviation	35 KHz
Output power	50 mW
Distortion	< 1%
Compander	LN-compander
Signal-to-noise ratio	> 100 dB (A)
Audio input (L/G)	3,5 mm jack, stereo
Input sensitivity	adjustable 50 mV - 5 V RMS
Current consumption	M: 2 x AA Alkaline battery

Receiver 850 R

Frequency range	UHF 798 - 830 MHz
Modulation	FM
Frequency response	70 Hz - 15 KHz
Frequency stability	-10°/+50°/10 KHz
Deviation	35 KHz min. @ 1 KHz
Distortion	< 1%
Expander	LN-compander
Signal-to-noise ratio	> 100 dB (A)
Audio output balanced	6,3mm Jack
Current consumption	< 61 mA
Power source	12 V AC, external mains
Dimensions/Weight	35 x 110 x 220 mm / < 200 g

Transmitter DWS2400 G/M

Frequency range	2.4GHz Band 860 MHz range, Servicechannel
Output power	<10 mW ERP
A/D conversion	20bit, Bitstream
Sampling frequency	28,3 KHz
Telemetry Data	Battery status, identifier code, realtime error correction
Input	asymmetric, 47KOhm
Input sensitivity	adjustable 80 mV - 8 V RMS
THD	<0,5%
Current consumption	60 mA (typ) @ 9V
Dimensions	110 x 65 x 25 mm

Receiver DWS2400 R

Operating mode	true diversity with 2 separate receivers
A/D conversion	20bit, Bitstream
Sampling frequency	28,3 KHz
Audio output	0 dBm / 600 ohm, balanced XLR +6dbm/600 ohm, Jack
Power source	external, 12 V - AC
Dimensions	130 x 223 x 140 mm

Transmitter UH 901 / UH 910

Frequency range	UHF 770 - 870 MHz, 16 switchable frequencies
Modulation	FM
Deviation	35 KHz
Output power	<10 mW ERP
Frequency response	35 Hz - 16 KHz ±3 dB
Distortion	< 1%
Frequency stability	-10°/+50° 3 KHz
Power source	3V (2xAAA alkaline)
Operating time	>10 hours

Receiver 901 R / 910 R

Frequency range	UHF 770 - 870 MHz, 16 switchable frequencies
Modulation	FM
Deviation	55 KHz
Frequency response	35 Hz - 16 KHz ±3 dB
Distortion	< 1%
Signal-to-noise ratio	115 dB Typ.
Audio output	0 dBm / 600 ohm, balanced
Power source	12 V - AC

When operating wireless systems, there are several key issues that have to be taken into consideration: It is necessary to select the frequencies very carefully. Interference can be caused by what is called “intermodulation” – in simple terms, this means the effect created when two frequencies interact. You must ensure that in any multi-channel system, no two frequencies are the same and care should be exercised because the possibility exists for some frequencies to interfere with each other.

Please consult your dBTechnologies dealer for assistance.

VHF Standard Frequencies

173.800	BLACK
174.500	BROWN
175.000	GREY
175.750	ORANGE
184.175	LIGHT GREEN
184.500	PINK
216.250	LIGHT BLUE
218.750	VIOLET
222.625	RED
233.125	DARK BLUE
234.625	LIGHT BROWN
236.575	DARK RED
237.775	WHITE

Six frequencies can operate simultaneously

UHF Standard Frequencies

799.475	A
799.600	B
801.400	D
801.550	E
803.800	F
806.750	G
810.650	H
854.900	I
808.975	M
810.025	N
863.400	Q
864.000	R
864.600	S
771.630	T
774.465	U
778.210	V

IEM 2200

Band A:	801.000 - 820.650 MHz
Band U-N:	801.000 - 819.650 MHz
Band U-UK:	854.900 - 864.950 MHz
Band K:	774.200 - 781.800 MHz

PU901/PU910

Band U-N:	801.100 - 819.650 MHz
Band U-UK:	854.900 - 864.950 MHz
Band K:	774.200 - 781.800 MHz
Band ISM:	863.050 - 864.175 MHz

Transmitter IEM 2200 T

Frequency range	UHF 774 - 865 MHz, 16 switchable frequencies
Modulation	FM
Deviation	55 KHz
Output power	25 mW
Frequency response	50 Hz - 15 KHz ± 3 dB
Distortion	< 1 %
Audio Input	2 x Neutrik-Combo® 6,3 mm jack/XLR balanced
Audio Output	2 x 6,3 mm Stereo-jack balanced LINK-OUT 1 x 3,5 mm Stereo-jack headphone output 1 x 6,3 mm Stereo-jack headphone output
Input Sensitivity	< 0 dBV / 600 Ohm, per channel adjustable
Power source	12 V AC 250 mA, external mains

Receiver IEM 2200 R

Frequency range	UHF 774 - 865 MHz,
Modulation	FM
Deviation	55 KHz
Frequency response	50 Hz - 15 KHz ±3 dB
Distortion	< 1 %
Deviation	40 dB @ 1 KHz
Signal-to-noise ratio	>105 dB Mono >100 dB Stereo
Headphone output	200 mW / 16 Ohm per channel
Current consumption	9 V Alkaline battery 6LR61
Operating time	6,5 - 8 hours
Operating mode	Mono, Dual-Mono, Stereo
Special features	Switchable limiter, Soft-Squelch

Transmitter IEM 1100 T

Frequency range	UHF 774 - 865 MHz
Modulation	FM
Deviation	55 KHz
Output power	25 mW
Frequency range	50 Hz - 15 KHz ±3 dB
Distortion	< 1 %
Audio input	2 x XLR, female, balanced
Audio output	2 x XLR, male, balanced
Input sensitivity	< 0 dBV / 600 Ohm, per channel adjustable
Power source	12 V AC 250 mA, external mains

Receiver IEM 1100 R

Frequency range	UHF 774 - 865 MHz, 16 switchable frequencies
Modulation	FM
Deviation	55 KHz
Frequency response	50 Hz - 15 KHz ±3 dB
Distortion	< 1 %
Deviation	40 dB @ 1 KHz
Signal-to-noise ratio	>105 dB Mono
Headphone output	200 mW / 16 Ohm per channel
Current consumption	9 V Alkaline battery 6 LR 61
Operating time	6,5 - 8 hours
Operating mode	Mono
Special features	Limiter, Soft-Squelch



TECHNICAL SPECIFICATIONS

Active Speaker System

FIFTY LINE			
Product	FL18	FL15	FL10
Type	Active SUB	Active MID/Hi	Passive Hi
Power RMS	600W	500+300+100W	—
Power Peak	1200W	1800W	—
Freq. response	40-100 Hz	53-250 Hz	250-19000 Hz
SPL peak	133.5 dB	132 dB	131 dB
Crossover Freq.	100 Hz	250 Hz	2000 Hz
Coverage angle	omni	omni	60°x50°
Speaker/Driver	18" B&C®	15" dB	10" dB/1"B&C
Input connector	XLR bal.	XLR bal.	Speakon 4
Output connector	XLR bal.	Speakon 4	—
Dimensions (WxHxD)	500x700x650	500x500x650	500x500x650
Weight	50 kg	42 kg	23.5 kg

FORTY LINE			
Product	QL152	QL15	QL12
Type	Active SUB	3 Amps Active	Passive Hi
Power RMS	800W	500+300+100W	—
Power Peak	1600W	1600W	—
Freq. response	40-90 Hz	55-200 Hz	200-19000 Hz
SPL peak	134 dB	130 dB	128 dB
Crossover Freq.	90 Hz	200 Hz	2000 Hz
Coverage angle	omni	omni	90°x60°
Speaker/Driver	2x15" dB /2.5" Voice	15" dB/3" Voice	12" dB/2.5" Voice
Input connector	Neutrik Combo	Neutrik Combo	Speakon 4
Output connector	2 x XLR bal.	XLR/Speakon4	—
Dimensions (WxHxD)	435x700x700	435x700x500	435x600x400
Weight	42 kg	31 kg	17.4 kg

STAGE OPERA						
Product	SO 42.12	SO 82.15	SO 41.15	SO 61.18	SO M12-4	SO M15-4
Type	Active FR	Active FR	Active SUB	Active SUB	Active Monitor	Active Monitor
Power RMS	300+100W	500+200+100W	400W	600W	225+50W	225+50W
Power Peak	800W	1600W	800W	1200W	450+100W	450+100W
Freq. response	60-20000 Hz	50-20000 Hz	30-150 Hz	20-150 Hz	68-20000 Hz	60-18000 Hz
SPL peak	127 dB	130 dB	127 dB	130 dB	126 dB	128 dB
Crossover Freq.	2200 Hz	700/3000 Hz	100 Hz	90/120/150 Hz	2000 Hz	2000 Hz
Speaker/Driver	2x12" dB 1" B&C®	2x15" dB/6.5" dB 1" B&C®	15" dB	18" B&C®	12" dB 1" B&C®	15" dB 1" B&C®
Input connector	Neutrik Combo	Neutrik Combo	Neutrik Combo	Neutrik Combo	Neutrik Combo	Neutrik Combo
Output connector	XLR parallel	XLR parallel	2 x XLR parallel 2 x XLR Xover	2 x XLR parallel 2 x XLR Xover	XLR parallel	XLR parallel
Dimensions (WxHxD)	1000x430x480	1400x500x500	450x500x500	600x800x600	400x410x510	470x680x470
Weight	39 kg	59 kg	24 kg	54 kg	19 kg	21 kg

SUB 12	
Power (RMS)	400 W
Power (Music)	800 W
Freq. response	40 - 150Hz
SPL max.	127 dB
Speaker	12" dB Bass
Inputs	Jack/XLR bal.
Outputs	HF-Out XLR bal. link-out XLR bal.
Sensitivity	-50 bis 0 dBm, adjustable
Impedance	20 KOhm bal., 10 KOhm unbal.
Dimension	520 x 360 x 500 mm
Weight	18.9 kg

SUB 15 Active ClassH Subwoofer	
Output	800 W/RMS@40hm
Loudspeaker	15" dBTechnologies, 3" coil
Frequency response	40 - 120 Hz
Max. SPL	133 dB SPL/peak
X-Over	Mono/Stereo active 24 dB/Octave
X-Over Frequency	switchable: 80, 100, 120 Hz
Limiter	Full-Wave-Fast-Clip-Detector
Protections	short circuit, temperature, power supply, RFI and DC
Connection	2 x Neutrik™ Combo-Input 2 x Neutrik™ XLR-Parallel-Output 2 x Neutrik™ XLR-XOver-Output
Cooling	4-speed fan with dust cover
Enclosure	19mm Multiplex, black
Dimension	430x600x600mm (19,9x23,6x23,6 inch)
Weight	32 kg / 70,5 lb



OPERA LIVE

Product	Live 210	Live 202	Live 205	Live 402	Live 405
Power RMS	150+50W	150+50W	150+50W	250+50W	250+50W
Power Peak	300+100W	300+100W	300+100W	500+100W	500+100W
Freq. response	68-18000 Hz	68-18000 Hz	68-18000 Hz	60-18000 Hz	60-18000 Hz
SPL peak	120 dB	120 dB	121 dB	128 dB	128 dB
Crossover Freq.	2000 Hz	2000 Hz	2000 Hz	2000 Hz	2000 Hz
Speaker/Driver	10" dB 1" dB	12" dB 1" dB	15" dB 1" dB	12" dB 1" Compr. dB	15" dB 1" Compr. dB
Input connector	XLR/Jack	XLR/Jack	XLR/Jack	XLR/Jack	XLR/Jack
Output connector	XLR parallel	XLR parallel	XLR parallel	XLR parallel	XLR parallel
Dimensions (WxHxD)	312x550x280	406x650x350	406x650x350	406x650x350	406x650x350
Weight	11.4 kg	14 kg	15 kg	18 kg	19 kg

BASIC LINE

TWIN SERIES

Product	Basic 100	Basic 200	Basic 400	Twin 128	Twin 228
Power RMS	70+20W	120+40W	225+50W	70+20W	150+50W
Power Peak	140+40W	240+80W	280+80W	140+40W	300+100W
Freq. response	70-18000 Hz	65-18000 Hz	68-18000 Hz	80-18000 Hz	68-18000 Hz
SPL peak	117 dB	118 dB	121 dB	118 dB	121 dB
Crossover Freq.	2000 Hz	2000 Hz	2000 Hz	2000 Hz	2000 Hz
Speaker/Driver	10" dB 1" dB	12" dB 1" dB	15" dB 1" dB	2x8" dB 1" dB	2x8" dB 1" dB
Input connector	XLR/Jack	XLR/Jack	XLR/Jack	XLR/Jack	XLR/Jack
Output connector	XLR parallel			XLR parallel	XLR parallel
Dimensions (WxHxD)	312x550x280	400x600x345	400x600x345	312x550x280	312x550x280
Weight	9 kg	14.5 kg	16.5 kg	10 kg	11.9 kg



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