

# VP SERIES

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venue performance



VP7215/95DPC

VP7210/95DP

VP7212MDP

VP7212/95DPC

## DrivePack® DPC-2 Product User's Guide



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# SECTION 1 : SAFETY INSTRUCTIONS



## Important

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. **WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
16. Do not expose this equipment to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the equipment.
17. To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle.
18. The mains plug of the power supply cord shall remain readily operable.





THIS APPARATUS CONTAINS POTENTIALLY LETHAL VOLTAGES. TO PREVENT ELECTRIC SHOCK OR HAZARD, DO NOT REMOVE DRIVEPACK CHASSIS, INPUT MODULE OR AC INPUT COVERS. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

### **WATCH FOR THESE SYMBOLS**



The lightning bolt triangle is used to alert the user to the risk of electric shock.



The exclamation point triangle is used to alert the user to important operating or maintenance instructions.

### **FCC COMPLIANCE NOTICE**

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**CAUTION:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### **CSA COMPLIANCE NOTICE**

CSA Certification Applies to Amplifier Module Only

# JBL DRIVEPACK® DECLARATION OF CONFORMITY

## Safety and EMC Compliance Specifications

**EN 55103-1:1997** Electromagnetic Compatibility - Product Family Standard for Audio, Video, Audio-Visual and Entertainment Lighting Control Apparatus for Professional Use, Part 1: Emissions

**EN 55103-1:1997** Magnetic Field Emissions-Annex A @ 10 cm and 1 M

**EN 55022:2003** Limits and Methods of Measurement of Radio Disturbance Characteristics of ITE: Radiated, Class B Limits; Conducted, Class A

**EN 55103-2:1997** Electromagnetic Compatibility - Product Family Standard for Audio, Video, Audio-Visual and Entertainment Lighting Control Apparatus for Professional Use, Part 2: Immunity

**EN 61000-4-2: A2:2001** Electrostatic Discharge Immunity (Environment E2-criteria B, 4 kV Contact, 8 kV Air discharge)

**EN 61000-4-3:2003** Radiated, Radio-frequency, Electromagnetic Immunity (Environment E2, criteria A)

**EN61000-4-4:2005** Electrical Fast Transient/Burst Immunity (criteria B)

**EN 61000-4-5:2001** Surge Immunity (criteria B)

**EN 61000-4-6:1996** Immunity to Conducted Disturbances Induced by Radio-Frequency Fields (criteria A)

**EN 61000-4-11:2004** Voltage Dips, Short Interruptions and Voltage Variation

**UL 6500 2nd Edition 1999** Audio/Video and Musical Instrument Apparatus for Household, Commercial and Similar General Use

**CAN/CSA E60065-00** Audio, Video and Similar Electronic Apparatus – Safety Requirements

## SECTION 2 : BEFORE YOU BEGIN

The VP Series loudspeakers covered by this manual are not intended for fixed installation in outdoor or high moisture environments. Moisture can damage the speaker cone and surround and cause corrosion of electrical contacts and metal parts. Avoid exposing the speakers to direct moisture. Keep loudspeakers out of extended or intense direct sunlight. The driver suspension will prematurely dry out and finished surfaces may be degraded by long-term exposure to intense ultra-violet (UV) light.

The VP Series loudspeakers can generate considerable energy. When placed on a slippery surface such as polished wood or linoleum, the speaker may move due to its acoustical energy output. Precautions should be taken to assure that the speaker does not fall off a stage or table on which it is placed.

### ***Stand mounting safety precautions***

Some VP Series models can be used with an optional stand mount accessory allowing mounting on tripod stands or on a pole over subwoofers. When using stands or poles, be sure to observe the following precautions:

- ◀ Check the stand or pole specification to be certain the device is designed to support the weight of the speaker. Observe all safety precautions specified by the manufacturer.
- ◀ Always verify that the stand (or subwoofer / pole) is placed on a flat, level, and stable surface and be sure to fully extend the legs of tripod type stands. Position the stand so that the legs do not present a trip hazard.
- ◀ Route cables so that performers, production crew, and audience will not trip over them and pull the speaker over.
- ◀ Inspect the stand (or pole and associated hardware) before each use and do not use equipment with worn, damaged, or missing parts.
- ◀ Do not attempt to place more than one VP Series loudspeaker on a stand or pole.
- ◀ Always be cautious in windy, outdoor conditions. It may be necessary to place additional weight (i.e. sandbags) on the base of the stand to improve stability. Avoid attaching banners or similar items to any part of a speaker system. Such attachments could act as a sail and topple the system.
- ◀ Unless you are confident that you can handle the weight of the speaker, ask another person to help you get it onto the tripod stand or pole.

### ***Hearing damage, prolonged exposure to excessive SPL***

VP Series loudspeakers are easily capable of generating sound pressure levels (SPL) sufficient to cause permanent hearing damage to performers, production crew and audience members. Caution should be taken to avoid prolonged exposure to SPL in excess of 90 dB.

### Package Contents

- Product User's Guide (this document)
- JBL DrivePack® self-powered loudspeaker
- A.C. Power North America/Europe Cord-Set
- Warranty Card

## SECTION 3 : INTRODUCTION TO VP SERIES POWERED LOUDSPEAKER SYSTEMS



### **VP (Venue Performance) Series**

The VP Series is a family of powered integrated audio loudspeaker systems featuring JBL DrivePack® amplifier modules, designed in cooperation with Crown International. The JBL DrivePack features cutting-edge technology such as patented high efficiency Class-I or Class D power amplifier circuitry. Loudspeaker components include patented JBL Differential Drive® woofers. The full-range models feature the JBL 2452H-SL large format 1.5" exit compression driver. This high frequency driver is coupled to a JBL Progressive Transition™ (PT) Waveguide for excellent pattern control, smooth frequency response, and low distortion. Waveguides can be rotated for either a horizontal or vertical orientation.

This guide covers the following models:

**VP7210/95DP - 10" two-way, 90 x 50 degree waveguide with integrated bottom panel pole mount**

**VP7212MDP - 12" two-way floor monitor with 50 x 90 degree waveguide**

**VP7212/95DPC - 12" two-way, 90 x 50 degree waveguide with integrated bottom panel pole mount**

**VP7215/95DPC - 15" two-way, 90 x 50 degree waveguide with integrated bottom panel pole mount**



# VP SERIES SYSTEMS SPECIFICATIONS

	VP7210/95DP	VP7212MDP	VP7212/95DPC	VP7215/95DPC
<b>Specifications:</b>				
Frequency Response (+/-3dB):	80 Hz - 20 kHz	60 Hz - 18 kHz	65 Hz - 18 kHz	60 Hz - 18 kHz
Frequency Range (-10dB):	50 Hz - 20 kHz	55 Hz - 20 kHz	55 Hz - 20 kHz	45 Hz - 20 kHz
Coverage Pattern:	90° x 50° rotatable waveguide	50° x 90° rotatable waveguide	90° x 50° rotatable waveguide	90° x 50° rotatable waveguide
Directivity Factor (Q):	10	12.6	12.6	12.6
Directivity Index (DI):	10 dB	11 dB	11 dB	11 dB
Max Peak Output:	132 dB SPL 1m	134 dB SPL 1m	134 dB SPL 1m	135 dB SPL 1m
<b>Transducer Section:</b>				
Low Frequency Section:	JBL 2261FF, 254 mm (10 in) dia., 76 mm (3 in) Dual Coil neodymium Differential Drive®, Direct Cooled	JBL 2262FF, 381 mm (12 in) dia., 76 mm (3 in) Dual Coil neodymium Differential Drive®, Direct Cooled	JBL 2262FF, 381 mm (12 in) dia., 76 mm (3 in) Dual Coil neodymium Differential Drive®, Direct Cooled	JBL 22625FF, 381 mm (15 in) dia., 76 mm (3 in) Dual Coil neodymium Differential Drive®, Direct Cooled
Bandpass Nominal Impedance:	2 x 2 ohms	2 x 2 ohms	2 x 2 ohms	2 x 2 ohms
High Frequency:	JBL2452H-SL, 100 mm (4 in) titanium damped diaphragm, 1.5 in. exit	JBL2452H-SL, 100 mm (4 in) titanium damped diaphragm, 1.5 in. exit	JBL2452H-SL, 100 mm (4 in) titanium damped diaphragm, 1.5 in. exit	JBL2452H-SL, 100 mm (4 in) titanium damped diaphragm, 1.5 in. exit
Bandpass Nominal Impedance:	8 ohms	8 ohms	8 ohms	8 ohms
<b>System:</b>				
DPC-2 Internal Amplification Output (at nominal load):	1750 Watts Peak (875 Watts Continuous)			
DPC-2 Output (Continuous IEC shaped pink noise into rated load impedance):	750LF/125HF Watts			
DPC-2 Output Section:	LF: Dual Bridged Technology™, Class D HF: Bridged Class D			
Audio Input Connector:	XLR with loop-through			
User Controls:	80 Hz Subwoofer High Pass Filter, Enable/Disable, 0-16 dB input Attenuator with 32 precision 0.5 dB steps			
Signal Processing:	DSP based, resident in Input Module.			
System Management:	DSP based limiters for mechanical and thermal protection			
AC Power Operating Range:	90-132VAC/216-264VAC, 50/60 Hz			
AC Line Voltage:	50/60 Hz, User Select; 120V/240V (-15%, +10%)			
AC Input Connector:	Neutrik PowerCon (NAC 3MPA)			
AC Loop-Thru:	Neutrik PowerCon (NAC 3MPB)			
AC Current Requirement:	6A per system at 120V, 3A per system at 240V			
<b>Enclosure:</b>				
Box Construction:	5/8 in. multi-ply exterior grade Baltic birch. Internally braced. Black DuraFlex® finish	5/8 in. multi-ply exterior grade Baltic birch. Internally braced. Black DuraFlex® finish	5/8 in. multi-ply exterior grade Baltic birch. Internally braced. Black DuraFlex® finish	5/8 in. multi-ply exterior grade Baltic birch. Internally braced. Black DuraFlex® finish
Suspension System:	10 M10 fittings, 2 x M6 pullback on rear, 35 mm standmount	None	10 M10 fittings, 2 x M6 pullback on rear, 35 mm standmount	10 M10 fittings, 2 x M6 pullback on rear, 35 mm standmount
Grille:	14 Gauge Black, powder-coated perforated steel with foam backing			
Dimensions (H x W x D):	521 x 293 x 303 mm 20.5 x 11.5 x 11.9 in.	346 x 565 x 413 mm 13.6 x 22.3 x 16.2 in.	523 x 358 x 334 mm 21.0 x 14.1 x 13.1 in.	613 x 434 x 359 mm 24.1 x 17.1 x 14.1 in.
Net Weight:	18.4 kg (40.5 lbs)	20.7 kg (45.5 lbs)	21.3 kg (47 lbs)	24.7 kg (55 lbs)

## SECTION 4: VP SERIES TRANSDUCERS



### **2452H-SL High Frequency Compression Driver**

JBL's new 2452H-SL features a lightweight neodymium magnet structure, 4" damped laminate diaphragm and a 1.5" exit. It is designed to deliver crystal-clear sound with superb dynamic range. The 2452H-SL is an 8 Ohm device.



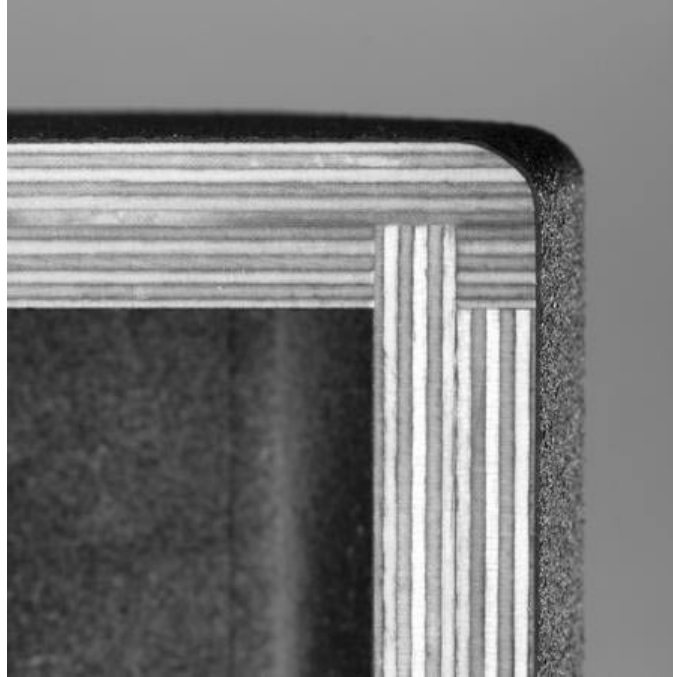
### **Differential Drive® Low Frequency Drivers**

JBL's patented Differential Drive low frequency drivers dramatically reduces driver weight while greatly enhancing all critical performance parameters: frequency response, power output, and distortion. The Differential Drive technology features a unique design with heat sinks integrated into the cast aluminum frame for a highly improved performance to weight ratio. The dual voice coil design places the neodymium magnets inside the voice coil assembly, completing the magnetic circuit without the heavy surrounding steel structure of conventional drivers.

*For more information, see JBL Tech Note Vol. 1 Number 33, "Differential Drive Transducers"*

## SECTION 5 : ENCLOSURE CARE AND MAINTENANCE

VP Series enclosures are constructed of 5/8-in. multi-ply exterior grade Baltic birch. Each enclosure model is internally braced. The exterior is covered with JBL's exclusive DuraFlex™ finish.



### ***PAINTING JBL VP SERIES SYSTEM PRODUCTS***

Each JBL Professional VP Series system model is readily paintable. The DuraFlex finish provides a lightly textured surface that any household or industrial paint readily adheres to. The result is a speaker enclosure that is able to blend unobtrusively into the decor of any stage set or environment.

#### **Instructions for painting:**

1. Prepare the enclosure surface by cleaning and wiping off dust and film with a damp cloth. It may be necessary to use a mild household cleaner to remove grease. Avoid using a cloth that will deteriorate over the textured surface.
2. Apply as many coats of paint as is required. Application can be by rolling, brushing or spraying. Care must be taken when painting the grille. Avoid any paint or type of application that will clog the open cells in the foam of the front grille. Depending on the type of paint, it may not be wise to spray the grille.
3. For painting systems that are installed in environmentally-hostile locations, it is recommended that an automotive paint should be used for maximum protection.

*Note: for systems that will be transported on a regular basis, oil-based paints or Krylon-type spray paints will give better long-term results than water-based Latex type paints.*

## SECTION 6 : SUSPENSION HARDWARE

### Safety Precautions

*Before attempting to suspend your speakers, read and understand the following safety information.*

#### IMPORTANT SAFETY WARNING!

The information in this section has been assembled from recognized engineering data and is intended for informational purposes only. None of the information in this section should be used without first obtaining competent advice with respect to applicability to a given circumstance. None of the information presented herein is intended as a representation or warranty on the part of JBL. Anyone making use of this information assumes all liability arising from such use.

All information presented herein is based upon materials and practices common to North America and may not directly apply to other countries because of differing material dimensions, specifications, and/or local regulations. Users in other countries should consult with appropriate engineering and regulatory authorities for specific guidelines.

Correct use of all hardware is required for secure system suspension. Careful calculations should always be performed to ensure that all components are used within their rated workload before the array is suspended. Never exceed maximum recommended load ratings.

Before suspending any speaker system always inspect all components (enclosure, suspension frames, pins, etc.) for cracks, deformations, corrosion, missing, loose or damaged parts that could reduce strength and safety of the array. Do not suspend the speaker until the proper corrective action has been taken. Use only load-rated hardware when suspending VP Series loudspeakers.

### ***Are You New to Rigging?***

If you are new to rigging, you should do the following:

- Read and study JBL Technical Note Volume 1, Number 14: Basic Principles for Suspending Loudspeaker Systems (available at [http://www.jblpro.com/pub/technote/tn\\_v1n14.pdf](http://www.jblpro.com/pub/technote/tn_v1n14.pdf)).
- Know the Rules for Safe Loudspeaker Suspension.
- Attend a safe rigging seminar, such as that presented by professionals like Rigging Seminars™ or by Chain Motor Hoist manufacturers like Columbus McKinnon Corp. (manufacturers of the C/M Lodestar).
- Meet and establish a relationship with a licensed mechanical or structural engineer. Get in the habit of asking them questions instead of guessing about their answers. Learn from what they tell you.
- Meet and discuss this aspect of your business with your Insurance Agent.
- Research and understand the codes, practices, and requirements in the venues where you intend to operate your sound system.



### **General Hardware Information**

Any hardware used in an overhead suspension application must be load rated for the intended use. Generally, this type of hardware is available from rigging supply houses; industrial supply catalogs and specialized rigging distributors. Local hardware stores do not usually stock these products.

### **Attachment to Structures**

A licensed Professional Engineer must approve placement and method of attachment to structures prior to installation of any overhead object. The following performance standards should be provided to the Professional Engineer for design purposes: Uniform Building Code as applicable, Municipal Building Code as applicable, Seismic Code as applicable. Installation of hardware and method of attachment must be carried out in the manner specified by the Professional Engineer. Improper installation may result in damage, injury or death.

### **Hardware Inspection & Maintenance**

Suspension systems are comprised of mechanical devices and, as such, they require regular inspection and routine maintenance to insure proper function ability. JBL VP Series loudspeakers must be inspected for fatigue at least annually. The inspection shall include a visual survey of all corners and load bearing surfaces for signs of cracking, water damage, de-lamination, or any other condition that may decrease the strength of the loudspeaker enclosure. Accessory hardware provided with or for JBL VP Series loudspeakers must be inspected for fatigue at least annually. The inspection shall include a visual material survey for signs of corrosion, bending or any other condition that may decrease strength of the fastener. For other fittings used, refer to the manufacturer's inspection and maintenance guidelines for process.

*JBL is not responsible for the application of its products for any purpose or the misuse of this information for any purpose. Furthermore, JBL is not responsible for the abuse of its products caused by avoiding compliance with inspection and maintenance procedures or any other abuse. Prior to suspending the system, an expert, trained and experienced in flying loudspeaker systems should inspect all suspension hardware and components.*

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## ***Industry Resources***

Allen Products / ATM Fly-Ware  
(562) 424-1100  
1635 E. Burnett Street  
Signal Hill, CA 90806  
[www.allenproducts.com](http://www.allenproducts.com)  
[www.atmflyware.com](http://www.atmflyware.com)

Rigging Seminars  
(206) 283-4419  
2416 Third Avenue West  
Seattle, WA, 98119  
[www.riggingseminars.com](http://www.riggingseminars.com)

M.A.N. Flying Systems  
20 Sidar Road Brook Road  
Industrial Estate  
Rayleigh, Essex SS6 7XF U.K.  
[www.manfly.co.uk](http://www.manfly.co.uk)

McMaster Carr  
Various locations through the U.S.A.  
For a location near you, visit them online:  
[www.mcmastercarr.com](http://www.mcmastercarr.com)

JBL Professional - Tech Note V1 No. 14  
“Basic Principles for Suspending Loudspeakers”

[www.jblpro.com/technote/tn\\_v1n14.pdf](http://www.jblpro.com/technote/tn_v1n14.pdf)

## ***Safe Suspension Practices***

The JBL VP Series suspendable loudspeakers are supplied with built-in brackets. The system is designed to facilitate the suspension of the loudspeaker by a qualified person familiar with rigging hardware and industry practices. Improper installation may result in damage, injury or death.

## ***Working Load Limit***

The working load limit (WLL) of JBL VP 7210/95DP, VP7212/95DPC and VP7215/95DPC suspendable loudspeakers shall be maintained as long as no more than 46 kg (100 lb) is suspended by TWO (2) of the PRIMARY SUSPENSION points (M10 forged Shoulder Eyebolts). These models include two M6 suspension points located on the rear of the cabinet that are solely intended for use as pullback points and are not considered as Primary Suspension points. Each M6 fitting has a WLL of 23 kg (50 lbs).

A kit containing three M10 forged-shoulder eyebolts with washers is available as JBL Part number 229-00009-01. For VP7210/95DP, VP7212/95DPC or VP7215/95DPC rear pullback point applications, order JBL part number 364287-001. This kit includes one M6 forged-shoulder eyebolt with washer. For additional suspension components, contact a professional suspension hardware supplier.

**NOTE:** M6 forged eyebolts used for VP7210/95DP, VP7212/95DPC and VP7215/95DPC pullback points require a minimum thread length of 25.4 mm (1in).

## SECTION 7 : JBL DRIVEPACK® TECHNOLOGY



### Introduction to the JBL DrivePack® DPC-2 Integrated Audio System

JBL DrivePack equipped loudspeakers are a family of fully integrated audio systems, coupling industry-leading loudspeaker technology to a combination of comprehensive digital signal processing and advanced amplifier technology, perfectly matched to the enclosures to deliver superb audio quality and powerful performance. Designed in cooperation with Crown International, the ultra-compact, high-power JBL DPC-2 amplifier module features Crown's patented Dual-Bridged Technology™ digital power amplification circuitry and is integrated to the back of each DP-compatible loudspeaker enclosure, creating a seamless electro-mechanical system that offers both convenience and portability along with the unmatched reliability, accuracy and superb sound of JBL loudspeakers. DBT (Dual-Bridged Technology™) directly links discrete amplifier channel outputs to each voice-coil in the Differential Drive loudspeaker. Electrical power transfer to the transducer is optimized for maximum system performance. The DrivePack includes onboard DSP functionality and includes lighted indicators displaying system status during operation.

#### DrivePack Signal-Processing & Amplification Unit



The DrivePack electronics unit is intended to be used when mounted to a speaker enclosure of 5/8" minimum thickness of wood or composite material and with load impedances of 4 Ohms or 8 Ohms for low and mid frequency channels, and 8 or 16 Ohms for the high frequency channel.

#### **OPERATING INSTRUCTIONS**

All that is required to get your DP compatible loudspeaker system up and running is to verify that the main panel voltage select switch setting is appropriate for the power in your area, connect an AC power source to the AC Power panel via the Neutrik twist-lock PowerCon® inlet connector, and a full range line level audio signal to the Input panel via the AUDIO IN XLR connector.

The JBL DPC-2 is equipped with a manual select 115V/230V Power Supply and can operate anywhere in the world that has an available 100-120VAC or 200-240VAC power source. Upon initial power-up of the DrivePack, the AC soft-start process will begin and the Blue Power LED illuminates when boot-up is completed.

## AC POWER REQUIREMENTS

JBL DrivePack® DPC-2 systems are equipped with a DP multi-channel Crown Dual-Bridged Technology™ power amplifier and loudspeaker specific DSP electronics and require appropriate AC power.



**CAUTION:** In compliance with safety agency criteria and proper system operation, it is critical that the system installer observe all electrical safety practices at all times and provide proper earth grounding for all AC Power connections.

## AC POWER CORD KIT

120VAC North America NEMA 5-15 Edison type AC plug to PowerCon® connector and 240V Europe CEE 7/7 Schuko type AC plug to PowerCon connector cord sets are provided with this JBL DrivePack product for light-duty shop testing or system configuration type use.

One spare gray Neutrik (P/N NAC3FCB) PowerCon connector is included in the AC Power Cord Set for your convenience to create a pass-through AC power cable. To create a light-duty pass-through cable the system installer may choose to simply cut off the AC plug from one of the provided AC cord sets and replace it with the provided Gray PowerCon AC Outlet connector. Follow the wiring convention indicated in Table 1.

**NOTE:** Tighten set screws to 2.5Nm (1.8lb-ft) torque to prevent opening by hand.

## USER-FABRICATED AC POWER DISTRIBUTION

System owners may choose to fabricate or purchase a custom AC Power cable infrastructure optimized for their specific JBL DrivePack system configuration. See Table 1 for custom application wiring and connector information.

**NOTE:** Parts not provided.



**CAUTION:** Do not exceed 80% current rating of any AC connector at any time! See AC Power Rating Table for current draw information.

**Table 1. User-Fabricated AC Cable and Connector Information**

AC Inlet Cable Connector	Neutrik PowerCon® NAC3FCA quick lock 3-pole A-type cable connector for power inlet. Rated current per contact: 20 A (rms), Rated Voltage: 250VAC.
AC Outlet Cable Connector	Neutrik PowerCon® NAC3FCB quick lock 3-pole B-type cable connector for power outlet. Rated current per contact: 20 A (rms), Rated Voltage: 250VAC.
Wiring	Cable: screw-type terminals or soldering nom. wire size/contact: 2.5 mm <sup>2</sup> / 14 AWG
Wiring convention	Ground – Ground, Neutral – Neutral, AC Hot – AC Hot
With the two non-interchangeable types of connectors (A-type, B-type) it is impossible to produce a short circuit. Mating connectors (combination) are identified by mechanical keyways and by color.	

**Table 2. Power Connector Coding**

A-type (POWER INLET);	Cable connector: Blue
B-type (POWER OUTLET)	Cable connector: Gray, with Blue bushing



### DPC-2 AC Power Ratings

Description	115VAC	230VAC	
Idle	30W		
Quiescent Power Draw	30W		
1/8th Power, Pink Noise (UL/CSA)	85W, 1.5A rms	85W, 1A rms	
1/3rd Power, Pink Noise	2 A	1 A	
Maximum Power Draw	1440W		
Inrush Current	Inrush current limiting via PTC soft-start		
AC Power Panel Connectors (UL/CSA)	12A Max, 100-10VAC/220-240VAC, 50-60 Hz. Class 1 Wiring		16 AWG (1.5 mm <sup>2</sup> )
Inlet Connector Rating (UL/CSA)	5A	3A	
Outlet Connector Rating (UL/CSA)	7A	9A	

**Line Voltage Selection:** DrivePack® DPC-2 amplifier models feature a user-configurable dual-voltage international power supply and is easily set to the appropriate local AC Power Mains voltage supply. A 2-way slide switch is provided to select 100-120VAC or 200-240VAC operation, 50/60Hz.

Your DPC-2 amplifier module is factory set to 230 VAC operation to avoid damage from overvoltage conditions at any location worldwide. Applying 230 VAC to the DPC-2 with the unit set to 115V can cause serious damage. Before you set up your VP-DPC-2 series speaker for the first time, verify that the line voltage selector setting is appropriate for the AC Mains supply voltage in your area.

#### Changing the AC Mains Supply Voltage Setting

- Make sure that the speaker is powered off and the AC power cable is disconnected from the speaker.
- Locate the voltage selector switch directly above the blue PowerCon connector on the main control panel.
- Slide the voltage selector switch to 115V for (100-120V~) or 230V for (220-240V~) range setting as required for your area.
- After having reconfirmed that the correct voltage is selected, reconnect the blue AC Line Input PowerCon connector and power the unit up.

**DO NOT UNDER ANY CIRCUMSTANCES OPERATE THE UNIT WITH THE WRONG VOLTAGE SELECTED. DOING SO MAY RESULT IN SERIOUS DAMAGE TO YOUR SPEAKER SYSTEM WHICH WILL NOT BE COVERED BY WARRANTY.**

**Line Voltage Tolerance:** The amp will operate normally (with expected de-rating in power output during low line conditions) over a range of 100-120VAC +/-10% or 200-240VAC +/-10% AC input voltage. The amp will shut down for voltages below nominal line and self protect for over-voltage beyond 15% nominal line.



**CAUTION:** Continuous voltages 10% beyond high line at either 120VAC or 240VAC operation ranges can disrupt performance of the JBL DRIVEPACK! To avoid activation of amplifier low line/high line protection which will interrupt audio performance, the system operator should maintain AC supply voltages within the rated voltage windows.

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## Amplifier Protection Features

### **Thermal Management:**

JBL DrivePack® systems are cooled by Passive Convection. No fans are used in any part of the thermal management system. To maintain efficient cooling it is a good practice to assure open space around the DrivePack units.

Avoid exposure of the DrivePack to direct sunlight. In the event of excessive exposure to direct sunlight in very hot ambient conditions, it is possible that the unit may overheat and will automatically shut down to protect itself. The DrivePack will turn back on when its internal temperature has returned to within normal operating range. To prevent overheating always ensure adequate cooling and appropriate shade.

### **Operating Temperature:**

The system will remain touchable during quiescent operation and will not provide a burn hazard during any operating condition.

## SECTION 8 : INPUT PANEL INFORMATION

### Input Controls, Indicators, Connectors and Features

JBL DrivePack®-C systems are equipped with a multi-function input bay and provides flexible connectivity options for both audio and AC power.

#### Audio Signal Distribution

Connecting source audio signals to the input modules on JBL DrivePack systems is similar to daisy-chaining multiple external amplifier channels together.

Assuming an output device source impedance of 100 Ohms, up to 20 JBL DrivePack units typical can be linked together on one output source without using a distribution amp.



## VP7210DP • VP7212/95DPC • VP7215/95DPC Input Panel

See Figure 1

The standard DPC-2 input panel features analog audio inputs and sophisticated onboard digital signal processing technology. Precision Bandpass limiting, pre-equalization filters and automatic self-protection functions ensure optimized performance. JBL engineers have calibrated DSP speaker management and limiter parameters to ensure smooth phase response and transfer function curves right out of the box.

### CONTROLS

#### 1) FLAT/80 Hz HP

- 2-Position push-button DSP preset selection switch, enables the desired function. When set in the “FLAT” position, frequency response is linear and unaltered. When 80 Hz HP is selected, the system high pass filter is raised to 80 Hz, creating an 80 Hz crossover point compatible with external subwoofers.

#### 2) ATTENUATION

- 16 dB Precision Detented rotary input sensitivity control, 0.5 dB steps. Sensitivity +4 dBu nominal (+20 dBu clip) with the control fully counter clockwise, and -10 dBu nominal (+4 dBu clip) with the control fully clockwise.

#### 3) RESET

- Press to reset line voltage circuit breaker.

#### 4) LINE SELECT

- 2-position slide switch, set to 115V position for (100-120V~) or 230V position for (220-240V~) operation.



figure 1

### INDICATORS

#### 5) PEAK

- (Clip) Red LED, Clip detection monitors input, DSP, and each amplifier output channel. The LED illuminates when overload at any point is detected.

#### 6) SIG

- (Signal) Green LED, detects input signal, illuminates above the threshold set at -70 dBu.

#### 7) POWER

- Blue LED – located near voltage select switch, illuminates when AC power is applied and unit is ready for operation.

## CONNECTORS

### 8) Audio In

- a) F-XLR Active 20K Ohm Balanced, 10K Ohm Unbalanced.
- b) Pin 2 Hot (Positive voltage produces outward cone motion of L.F. Transducers).

### 9) Audio Out

- a) M-XLR Passive Audio Pass-through.
- b) Pin 2 Hot (Positive voltage produces outward cone motion of L.F. Transducers).

### 10) AC LINE INPUT

- a) Blue Neutrik PowerCon® NAC3MPA A-type air tight twist-lock chassis connector for AC power inlet.
- b) The mating blue cable connector is keyed and will insert in only one orientation. Electrical connection is made when the AC plug is fully inserted and twisted clockwise until locked into position.

### 11) AC LOOP OUTPUT

- a) Gray Neutrik PowerCon® NAC3MPB B-type air tight twist-lock power outlet connector is provided to loop AC power through to additional units.
- b) The mating gray outlet cable connector is keyed and will insert in only one orientation. Electrical connection is made upon fully inserting the AC plug and twisting clockwise until locked into position.
- c) To accomplish loop-thru AC power connections, simply attach a PowerCon jumper cable from the gray connector of the first loudspeaker system to the blue connector of the second, etc. Blue Inlet and Gray Outlet connectors are not interchangeable.



**CAUTION:** Looping more than three DPC-2 systems together is not recommended! Do not exceed 80% current rating of any AC connector at any time! Refer to AC Power Rating Tables in this document for current draw information.

# VP7212MDP Input Panel

See Figure 2

The VP7212MDP input panel is optimized for high impact stage monitor use and features analog audio inputs and sophisticated onboard digital signal processing technology. Precision Bandpass limiting, pre-equalization filters and application specific DSP presets ensure flexible and reliable performance. JBL engineers have calibrated DSP speaker management and limiter parameters to ensure smooth phase response and transfer function curves right out of the box.

## CONTROLS

### 1) DUAL WEDGE TUNING

- a) 2-Position DSP preset selection switch, enables the desired function. When set in the "SINGLE" position, frequency response is optimized for single wedge performance. In the "DUAL" position, low and mid-high frequencies are contoured to optimize dual wedge coupling.

### 2) ATTENUATION

- a) 16 dB Precision Detented rotary input sensitivity control, 0.5 dB steps. Sensitivity +4 dBu nominal (+20 dBu clip) with the control fully counter clockwise, and -10 dBv nominal (+4 dBu clip) with the control fully clockwise.

### 3) RESET

- a) Press to reset line voltage circuit breaker.

### 4) LINE SELECT

- a) 2-position slide switch, set to 115V position for (100-120V~) or 230V position for (220-240V~) operation.

## INDICATORS

### 5) PEAK

- a) (Clip) Red LED, Clip detection monitors input, DSP, and each amplifier output channel. The LED illuminates when overload at any point is detected.

### 6) SIG

- a) (Signal) Green LED, detects input signal, illuminates above the threshold set at -70 dBu.

### 7) POWER

- a) Blue LED – located near voltage select switch, illuminates when AC power is applied and unit is ready for operation.

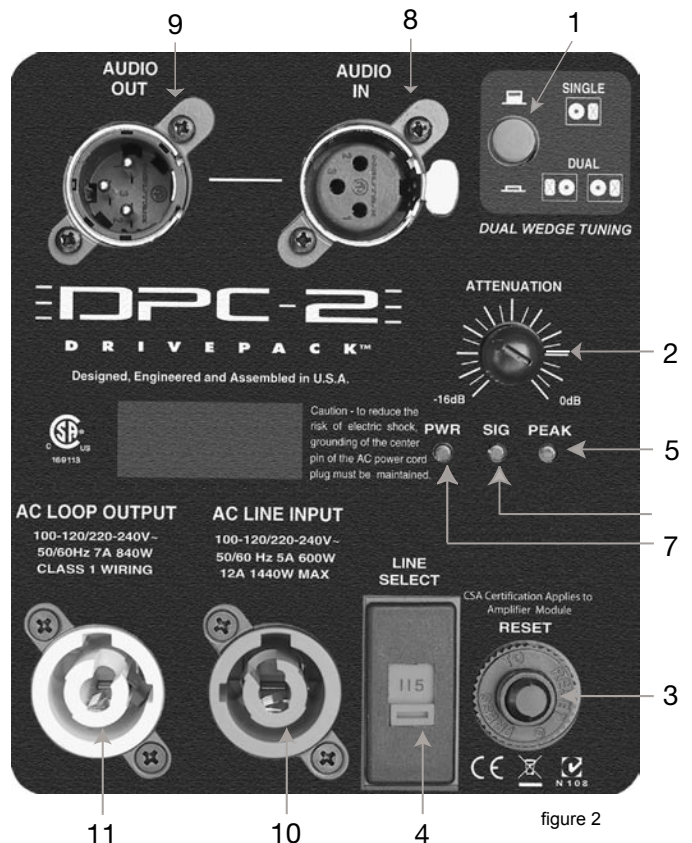


figure 2

## CONNECTORS

### 8) Audio In

- a) F-XLR Active 20K Ohm Balanced, 10K Ohm Unbalanced.
- b) Pin 2 Hot (Positive voltage produces outward cone motion of L.F. Transducers).

### 9) Audio Out

- a) M-XLR Passive Audio Pass-through.
- b) Pin 2 Hot (Positive voltage produces outward cone motion of L.F. Transducers).

### 10) AC LINE INPUT

- a) Blue Neutrik PowerCon® NAC3MPA A-type air tight twist-lock chassis connector for AC power inlet.
- b) The mating blue cable connector is keyed and will insert in only one orientation. Electrical connection is made when the AC plug is fully inserted and twisted clockwise until locked into position.

### 11) AC LOOP OUTPUT

- a) Gray Neutrik PowerCon® NAC3MPB B-type air tight twist-lock power outlet connector is provided to loop AC power through to additional units.
- b) The mating gray outlet cable connector is keyed and will insert in only one orientation. Electrical connection is made upon fully inserting the AC plug and twisting clockwise until locked into position.
- c) To accomplish loop-thru AC power connections, simply attach a PowerCon jumper cable from the gray connector of the first loudspeaker system to the blue connector of the second, etc. Blue Inlet and Gray Outlet connectors are not interchangeable.



**CAUTION:** Looping more than three DPC-2 systems together is not recommended! Do not exceed 80% current rating of any AC connector at any time! Refer to AC Power Rating Tables in this document for current draw information.





## SECTION 9 : JBL LIMITED WARRANTY

The JBL Limited Warranty on professional loudspeaker products (except for enclosures) remains in effect for five years from the date of the first consumer purchase. JBL DrivePack® amplifiers are warranted for three years from the date of original purchase. Enclosures and all other JBL products are warranted for two years from the date of original purchase.

### **Who Is Protected by This Warranty?**

Your JBL Warranty protects the original owner and all subsequent owners so long as: A.) Your JBL product has been purchased in the Continental United States, Hawaii or Alaska. (This Warranty does not apply to JBL products purchased elsewhere except for purchases by military outlets. Other purchasers should contact the local JBL distributor for warranty information.); and B.) The original dated bill of sale is presented whenever warranty service is required.

### **What does the JBL Warranty cover?**

Except as specified below, your JBL Warranty covers all defects in material and workmanship. The following are not covered: Damage caused by accident, misuse, abuse, product modification or neglect; damage occurring during shipment; damage resulting from failure to follow instructions contained in your Instruction Manual; damage resulting from the performance of repairs by someone not authorized by JBL; claims based upon any misrepresentations by the seller; any JBL product on which the serial number has been defaced, modified or removed.

### **Who Pays for What?**

JBL will pay all labor and material expenses for all repairs covered by this warranty. Please be sure to save the original shipping cartons because a charge will be made if replacement cartons are requested. Payment of shipping charges is discussed in the next section of this warranty.

### **How to Obtain Warranty Performance**

If your JBL product ever needs service, write or telephone us at JBL Incorporated (Attn: Customer Service Department), 8500 Balboa Boulevard, PO. Box 2200, Northridge, California 91329 (818/893-8850). We may direct you to an authorized JBL Service Agency or ask you to send your unit to the factory for repair. Either way, you'll need to present the original bill of sale to establish the date of purchase. Please do not ship your JBL product to the factory without prior authorization. If transportation of your JBL product presents any unusual difficulties, please advise us and we may make special arrangements with you. Otherwise, you are responsible for transporting your product for repair or arranging for its transportation and for payment of any initial shipping charges. However, we will pay the return shipping charges if repairs are covered by the warranty.

### **Limitation of Implied Warranties**

ALL IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE LENGTH OF THIS WARRANTY.

### **EXCLUSION OF CERTAIN DAMAGES**

JBL'S LIABILITY IS LIMITED TO THE REPAIR OR REPLACEMENT, AT OUR OPTION, OF ANY DEFECTIVE PRODUCT AND SHALL NOT INCLUDE INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS AND/OR DO NOT ALLOW THE EXCLUSION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS AND EXCLUSIONS MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS, WHICH VARY, FROM STATE TO STATE.

## SECTION 10 : JBL CONTACT INFORMATION

<p><b>Mailing Address:</b> JBL Professional 8500 Balboa Blvd. Northridge, CA 91329 USA</p> <p><b>Shipping Address:</b> JBL Professional 8370 Balboa Blvd., Dock D Northridge, CA 91329 USA (Do not return product to this address without first obtaining prior authorization from JBL)</p> <p><b>Customer Service:</b> Monday through Friday 8:00am - 5:00pm Pacific Coast Time In the U.S.A. (800) 8JBLPRO (800.852.5776) www.jblproservice.com</p> <p><b>On the World Wide Web:</b> www.jblpro.com</p>	<p><b>Outside the USA:</b> Contact the JBL Professional Distributor in your area. A complete list of JBL Professional international distributors is provided at our U.S.A. website - www.jblpro.com</p> <p><b>Product Registration:</b> Register your product online at: www.jblpro.com/registration</p>
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### WEB LINKS

JBL Professional:	www.jblpro.com
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