

Frequency Response, 1 meter on-axis, swept-sine in anechoic environment: 65 Hz – 18 kHz (±3 dB)

Usable Low Frequency limit (-10 dB point anechoic): 52 Hz

Power Handling: Full Range: 500W continuous 1000W program

2000W peak Low Frequency Section:

450W continuous 900W program 1,800W peak

High Frequency Section: 6oW continuous 12oW program 24oW peak Sound Pressure Level, 1 Watt, 1 meter in anechoic environment: Full Range: 98 dB SPL, (2.83V input)

Low Frequency Section: 101 dB SPL, (2.83V input)

High Frequency Section: 110 dB SPL, (2.83V input)

# Maximum Sound Pressure Level (1 meter): Full Range:

125 dB SPL continuous 131 dB SPL peak

Low Frequency Section: 127 dB SPL continuous 133 dB SPL peak

High Frequency Section: 128 dB SPL continuous 134 dB SPL peak

# Radiation Angle measured at -6 dB point of polar response:

Nominal: 100° horizontal X 50° vertical Axis of the vertical main polar lobe is angled down 10°, resulting in the angular pattern with respect to straight ahead being +15, -35°

500 Hz - 1.6 kHz: Horiz. 102° +/- 25° Vert. 116° +/- 25° 1.6 kHz - 5 kHz: Horiz.74° +/- 20° Vert. 75° +/- 15° 5 kHz - 16 kHz: Horiz.89° +/- 10° Vert. 50° +/- 15°

Directivity Factor, Q (Mean): 9.7+/- 2.7

Directivity Index, Di (Mean): 9.8 dB+/- 1.4 dB

Transducer Complement: Low Frequency Section: SDC 1544 Neo, Dual Voice Coil Neodymium Magnet Scorpion®

High Frequency Section: 1x .875 in. Exit/51mm Voice Coil RX<sup>™</sup>22 Titanium Diaphragm Compression Driver on an asymmetric Quadratic Throat Waveguide<sup>™</sup>

# Box Tuning Frequency: Low Frequency Section: 44 Hz

# Harmonic Distortion:

**1% rated power** 2nd Harmonic: 100 Hz: 0.30% 1 kHz: 0.15%

3rd Harmonic: 100 Hz: 0.28% 1 kHz: 0.33% 10% rated power

2nd Harmonic: 100 Hz: 1.76% 1 kHz: 0.29%

3rd Harmonic: 100 Hz: 2.51% 1 kHz: 0.56%

Crossover Frequency (internal passive): Low Frequency - High Frequency: 1.65 kHz



# Recommended Active Crossover Frequency Region and Slope:

**Note:** This is a general purpose setting for analog crossovers, for crossover/ processor settings compatible with Peavey digital crossover processors, and many other brands of digital processors, see page 8 for detailed settings.

Low Frequency - High Frequency: 1700 Hz at 24 dB/octave

# Time Offset:

Impedance (Ζ) in ohms (Ω):				
High Frequency:	0.0 MS			
Low Frequency:	o.26 ms, delay			

Full Range:	
Nominal:	8.ο Ω
Minimum:	6.2 Ω
Low Frequency:	
Nominal:	8.ο Ω
Minimum:	6.2 Ω
High Frequency:	
Nominal:	8.ο Ω
Minimum:	5.4 Ω

# Input Connections:

Two 4-pin twist lock connectors in parallel for full range input, and one 4-pin switching Neutrik<sup>®</sup> Speakon<sup>®</sup> jack for bi-amp use.

# **Enclosure Materials & Finish:**

Thirteen ply 18 mm birch plywood finished in black HammerHead<sup>™</sup> polyurethane finish. Full-length wrap-around 16 ga. perforated steel grille with an inner polycloth liner and a black powder coat finish.

# **Mounting provisions:**

This unit is not designed for overhead suspension. A metal dual-angle stand mount adapter is incorporated, and four large rubber feet on bottom for floor use.

# Dimensions (H x W x D):

#### Front:

27.38 in. x 18.13 in. x 17.50 in. 695 mm x 460 mm x 444 mm

# Rear:

27.38 in. x 15.13 in. x 17.50 in. 695 mm x 384 mm x 444 mm

# **Net Weight:**

60 Lbs. (27.3 kg)

# Features

- 2-way full range sound reinforcement system
- RX<sup>™</sup>22 compression driver with 2" diaphragm and ferrofluid cooling
- 15" Scorpion<sup>®</sup> Neo dual voice coil woofer
- 1000 W program, 2000 W peak
- Patented Quadratic Throat Waveguide<sup>™</sup> technology
- Asymmetrical horn aims the sound down 10°, at the audience, not over their heads.
- Sound Guard<sup>™</sup> III tweeter protection
- Full range inputs are two 4-pin twist lock connectors, and one switching Neutrik<sup>®</sup> Speakon<sup>®</sup> bi-amp jack
- Trapezoidal birch plywood enclosure
- Durable HammerHead<sup>™</sup> polyurethane finish
- Dual-angle stand mount adapter

# Description

The EU<sup>™</sup> 115 has a new asymmetrical Quadratic Throat Waveguide<sup>™</sup> for the tweeter, and an enclosure made from birch plywood. It is a two-way speaker system comprised of a high output 15" Scorpion<sup>®</sup> Neo dual voice coil woofer and an RX<sup>™</sup>22 compression driver loaded onto the patented Quadratic Throat Waveguide<sup>™</sup>.

The EU<sup>™</sup> 115 has a trapezoidal shaped enclosure, which reduces the build-up of standing waves inside the enclosure, which minimizes mid-bass and mid-range coloration's due to the cabinet. It is constructed of 13-ply birch plywood and is covered with a durable black HammerHead<sup>™</sup> finish. A full-length wrap-around powder-coated perforated metal grille covers the front of the cabinet, providing a very smooth look. A dual-angle stand mount adapter is built-in for precision and ease of speaker stand use.

The low frequencies are supplied by a 15" BWX<sup>™</sup> DVC 15 Neo, dual voice coil woofer and a highly linear suspension. The dual voice coils in conjunction with a Neodymium magnet structure with extensive heat sink fins provide an outstanding power handling capability of over 450W for the woofer. The high frequencies are handled by an RX<sup>™</sup> 22 2" titanium diaphragm compression driver utilizing ferrofluid cooling. This superb driver is coupled to a Quadratic Throat<sup>™</sup> constant directivity waveguide, covered under US patent #6,059,069 with smooth, even response, low distortion and good high frequency dispersion. This horn has an asymmetrical vertical polar response, aiming the main energy lobe down 10°, so it is aimed at the audience, instead of over their heads. This helps reduce ceiling reflections for greater clarity and gain before feedback. The RX<sup>™</sup>22 driver features the Radialinear Planar Phase Correction System, under US Patent 6,064,745, which provides smoother and extended high frequency response.

Input connection to the system is made via two 4-pin twist lock connectors in parallel, and a switching Neutrik<sup>®</sup> Speakon<sup>®</sup> bi-amp jack is also provided. The internal passive crossover features the Sound Guard<sup>™</sup> III tweeter protection circuit, and an advanced topology crossover with high performance components, to provide high power handling and reliability. Peavey's proprietary high-frequency driver protection circuitry, Sound Guard<sup>™</sup>, provides long and medium term driver overload protection when the system is used full-range, without impairing musical transients or dynamics. The crossover provides driver roll-off and protection, as well as driver EQ for the woofer and horn, the sum total is a clean, clear and smooth response. High-quality, reliable crossover components include polypropylene capacitors, and high current inductors. The optimal integration of the crossover with the selected drivers results in a smooth frequency response from 65 Hz to 18 kHz.

Despite it's compact dimensions and light weight for a 15" based two-way enclosure, this system can put out some very serious sound levels, and take 1000 watts program of clean amplifier power, resulting in clean coverage with high articulation and good reliability.

# **Frequency Response**

This measurement is useful in determining how accurately a given unit reproduces an input signal. The frequency response of the EU<sup>™</sup> 115 is measured at a distance of 1-meter using a 1 watt (into the nominal impedance) swept-sine input signal. As shown in figure 1, the selected drivers in the combine to give a smooth frequency response from 65 Hz to 18 kHz.

# Directivity

Beamwidth is derived from the -6 dB points from the polar plots (see figure 3), which are measured in a whole space anechoic environment. Q and Directivity Index are plotted for the on-axis measurement position. These are specifications that provide a reference to the coverage characteristics of the unit. These parameters provide insight for proper placement and installation in the chosen environment. The blending of the components of the exhibit a desirable beamwidth and directivity (figure 3 & 4) suitable for sound reinforcement applications.

# Power Handling

There are many different approaches to power handling ratings. Peavey rates this loudspeaker system's power handling using a full-range form of the AES Standard 2-1984. Using audio band 20 Hz to 20 kHz pink noise with peaks of four times the RMS level, this strenuous test signal assures the user that every portion of this system can withstand today's high technology music. This rating is contingent upon having a minimum of 3 dB of amplifier headroom available.

# Harmonic Distortion

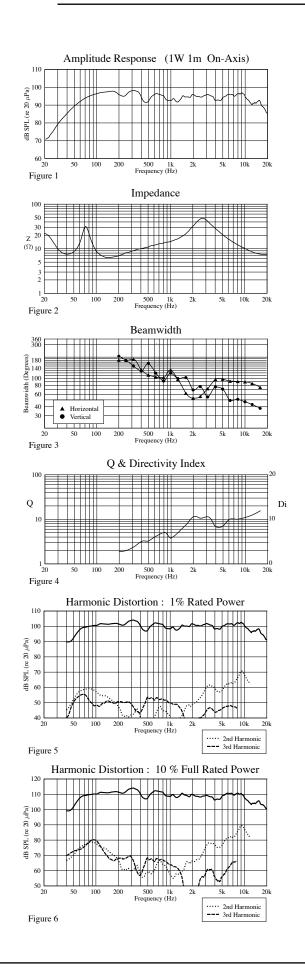
Second and third harmonic distortions vs. frequency are plotted in figures 5 & 6 for two power levels. Ten percent (10%) of rated input power and either one percent (1%) of rated input power or one watt, whichever is greater. Distortion is read from the graph as the difference between the fundamental signal (frequency response) and the desired harmonic. As an example, a distortion curve that is down 40 dB from the fundamental is equivalent to 1% distortion.

# Mounting

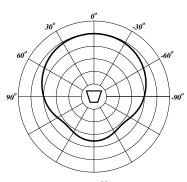
This unit is not designed for over head suspension. A metal stand mount adapter is incorporated, and four large rubber feet on the bottom for floor use.

# **Architectural & Engineering Specifications**

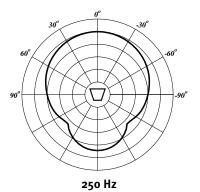
The loudspeaker system shall have an operating bandwidth of 65 Hz to 18 kHz. The nominal output level shall be 98 dB when measured at a distance of one meter with an input of one watt. The nominal impedance shall be 8 ohms. The maximum continuous power handling shall be 500 watts, maximum program power of 1000 watts and a peak power input of at least 2000 watts, with a minimum amplifier headroom of 3 dB. The nominal radiation geometry shall be 100° in the horizontal plane and 50° in the vertical plane. The outside dimensions shall be 27.38" high by 18.13" wide by 17.50" deep. The weight shall be 60 pounds. The loudspeaker system shall be a Peavey model EU<sup>TM</sup> 115.

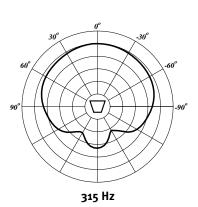


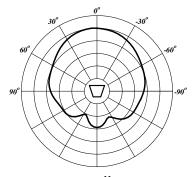
# Horizontal Polars



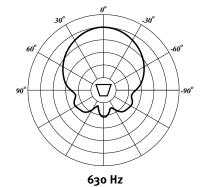


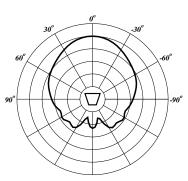




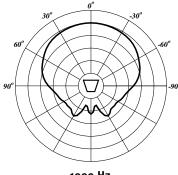


400 Hz

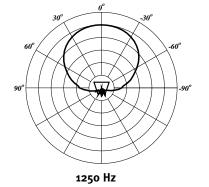


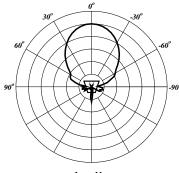


800 Hz

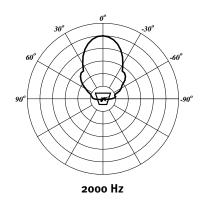


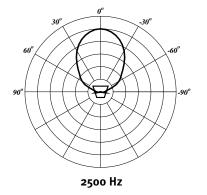


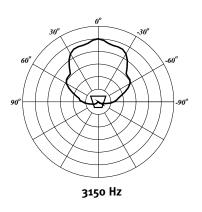




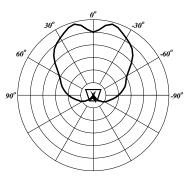




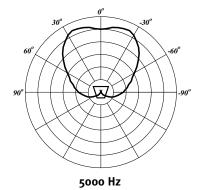


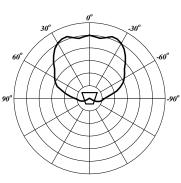


# Horizontal Polars, Continued

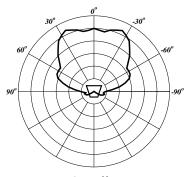




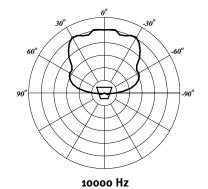


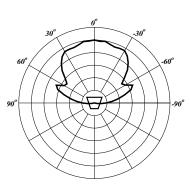


6300 Hz

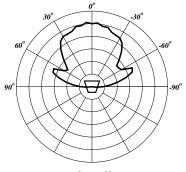


8000 Hz



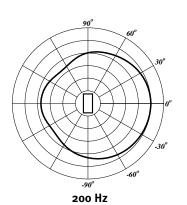


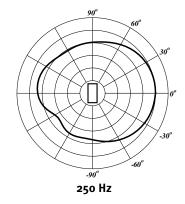
12500 Hz

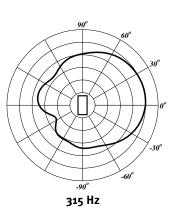


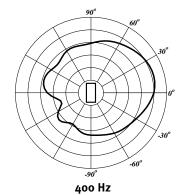
16000 Hz

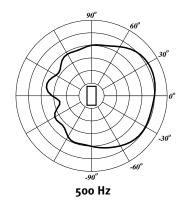
**Vertical Polars** 

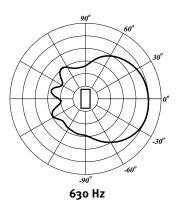


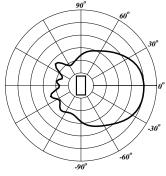




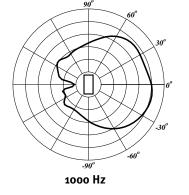


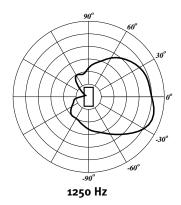


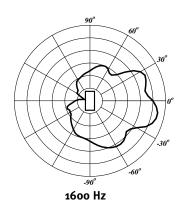


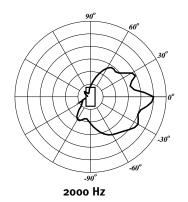


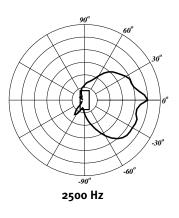




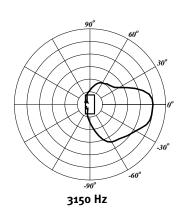


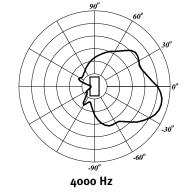


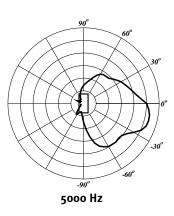


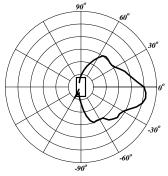


# Vertical Polars, Continued

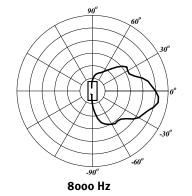


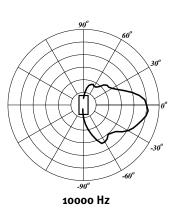


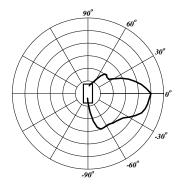


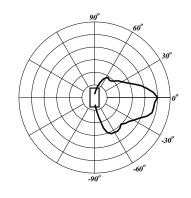












12500 Hz

16000 Hz

# EU<sup>™</sup> 115 Crossover/Processor Settings & EQ

## Infrasonic filtering:

Filter/Gate = High Pass 12dB/oct., 34 Hz, q= 0.71; EQ = High Pass 12dB/oct., 34Hz, q= 0.71 (equivalent to a 24 dB/oct. Linkwitz-Riley @ 40 Hz). Alternate setting for tight bass: 24 dB/oct. Bessel @ 40 Hz)

# Crossover settings:

Woofer= 24 dB/oct. Linkwitz-Riley @ 1.37 kHz, Tweeter= 24 dB/oct. Linkwitz-Riley @ 1.98 kHz NOTE: (Final electro-acoustic crossover point is at approximately 1.5 kHz.)

## **Driver Polarity:**

Woofer Polarity Normal, Tweeter Polarity Normal

## Drive Level (Gain):

Woofer= o dB, Tweeter= - 3.0 dB

## Woofer Delay:

0.181 milliseconds

# EQ after crossover:

Woofer EQ = L\_Shelf +5.0 dB @ 85 Hz; PEQ -4.0 dB @ 312 Hz, bw=0.577 PEQ +3.0 dB @ 460 Hz, bw=0.50; PEQ -3.0 dB @ 660 Hz, bw=0.577; PEQ -4.5dB @ 1590 Hz, bw=0.577

Tweeter EQ= PEQ -3.0 dB @ 2.36 kHz, bw=1.50; PEQ -5.0 dB @ 3.42 kHz, bw=0.5; PEQ +1.5 dB @ 4.92 kHz, bw=0.577; PEQ -4.0 @ 6.48kHz, bw=0.5; PEQ +6 dB @ 14.7 kHz, bw=1.0

NOTE: For room EQ, use processor front end (input channel) EQ, do not alter woofer or tweeter EQ.

# **Processor Setting Parameters**

For processor's that use the parameter "Q" instead of bandwidth in octaves, here is a chart to convert from bw to Q.

NOTE: Q is not as well defined as bandwidth, so some processors may have Q settings that do not exactly correspond to the chart conversions, they may need to be set to one click higher or lower than the chart indicates.

# Bandwidth (bw) to Q Chart

bw 0.25	Q. 5.764
0.500	2.871
0.577	2.484
0.707 1.00	2.020
1.305	1.414 1.069
1.50	0.920
2.00	0.667
2.50	0.511

Logo referenced in Directive 2002/96/EC Annex IV (OJ(L)37/38,13.02.03 and defined in EN 50419: 2005 The bar is the symbol for marking of new waste and is applied only to equipment manufactured after 13 August 2005

# 80305739

Features and specifications are subject to change without notice.

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# BI-AMP INPUT BI-AMP INPUT LOWS 1+ IF+ 1- IF 2+ HF+ HIGHS 2- HF USE ONLY NEUTRIK® BO PARALLELED FULL-RANGE INPUTS PIN 1+ (+) POS. PIN 1- (-) NEG. PIN 1- (-) OBCW

AVEY ELECTRONICS CORPORATION HF DRIVER PROTECTED 22 HARTLEY PEAVEY DR BY SOUNDGUARDM II RIDIAN, MS 39305 BUILT UNDER US PATENT NO WW.PEAVEY.COM 6,059,069; 6,064,74 SIGNED, ENGINEERED & UK GB2 328 789 GERMANY DE 198,43,323

# EU™ 115 Input Plate

WARNING:




# PEAVEY ELECTRONICS CORPORATION LIMITED WARRANTY

Effective Date: 09/15/2010

#### What This Warranty Covers

Your Peavey Warranty covers defects in material and workmanship in Peavey products purchased and serviced in the U.S.A. and Canada.

## What This Warranty Does Not Cover

The Warranty does not cover: (1) damage caused by accident, misuse, abuse, improper installation or operation, rental, product modification or neglect; (2) damage occurring during shipment; (3) damage caused by repair or service performed by persons not authorized by Peavey; (4) products on which the serial number has been altered, defaced or removed; (5) products not purchased from an Authorized Peavey Dealer.

### Who This Warranty Protects

This Warranty protects only the original purchaser of the product.

#### How Long This Warranty Lasts

The Warranty begins on the date of purchase by the original retail purchaser. The duration of the Warranty is as follows:

Product Category	Duration	
Guitars/Basses, Amplifiers, Preamplifiers, Mixers, Electronic Crossovers and Equalizers	2 years *(+ 3 years)	
Drums	2 years *(+ 1 year)	
Enclosures	3 years *(+ 2 years)	
Digital Effect Devices and Keyboards and MIDI Controllers	1 years *(+ 1 year)	
Microphones	2 years	
Speaker Components (incl. Speakers, Baskets, Drivers, Diaphragm Replacement Kits and Passive Crossovers)	1 year	
Tubes and Meters	90 Days	
Cables	Limited Lifetime	
AmpKit Link, Rockmaster Series, Strum'n Fun, RetroFire, GT & BT Series Amps	1 year	

[\* Denotes additional Warranty period applicable if optional Warranty Registration Card is completed and returned to Peavey by original retail purchaser within 90 days of purchase.]

#### What Peavey Will Do

We will repair or replace (at Peavey's discretion) products covered by Warranty at no charge for labor or materials. If the product or component must be shipped to Peavey for Warranty service, the consumer must pay initial shipping charges. If the repairs are covered by Warranty, Peavey will pay the return shipping charges.

#### How To Get Warranty Service

(1) Take the defective item and your sales receipt or other proof of date of purchase to your Authorized Peavey Dealer or Authorized Peavey Service Center.

OR

(2) Ship the defective item, prepaid, to Peavey Electronics Corporation, International Service Center, 412 Highway 11 & 80 East, Meridian, MS 39301. Include a detailed description of the problem, together with a copy of your sales receipt or other proof of date of purchase as evidence of Warranty coverage. Also provide a complete return address.

#### Limitation of Implied Warranties

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

Some states do not allow limitations on how long an implied Warranty lasts, so the above limitation may not apply to you.

#### **Exclusions of Damages**

PEAVEY'S LIABILITY FOR ANY DEFECTIVE PRODUCT IS LIMITED TO THE REPAIR OR REPLACEMENT OF THE PRODUCT, AT PEAVEY'S OPTION. IF WE ELECT TO REPLACE THE PRODUCT, THE REPLACEMENT MAY BE A RECONDITIONED UNIT. PEAVEY SHALL NOT BE LIABLE FOR DAMAGES BASED ON INCONVENIENCE, LOSS OF USE, LOST PROFITS, LOST SAVINGS, DAMAGE TO ANY OTHER EQUIPMENT OR OTHER ITEMS AT THE SITE OF USE, OR ANY OTHER DAMAGES WHETHER INCIDENTAL, CONSEQUENTIAL OR OTHERWISE, EVEN IF PEAVEY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation 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.

If you have any questions about this Warranty or services received or if you need assistance in locating an Authorized Service Center, please contact the Peavey International Service Center at (601) 483-5365.

Features and specifications are subject to change without notice.



Logo referenced in Directive 2002/96/EC Annex IV (OJ(L)37/38,13.02.03 and defined in EN 50419: 2005 The bar is the symbol for marking of new waste and is applied only to equipment manufactured after 13 August 2005 U.S. customer warranty registration.

# **Optional Product Extended Warranty Registration**

Give us some information and put your extended warranty into effect!

Please take a few minutes to fill out this information/survey sheet to help us get to know and serve you better. To save time, submit your warranty registration online at www.peavey.com/support/warrantyregistration

1.		7. How did you learn about this Peavey product? (select best answer)		
First Name     Initial       Street Address	Last Name	<ul> <li>Magazine review</li> <li>Newspaper review</li> <li>Radio advertisement</li> <li>Advertised special</li> <li>Friend/Relative's recommendation</li> <li>Salesperson's recommendation</li> </ul>	<ul> <li>Teacher's recommendation</li> <li>Catalog or flyer</li> <li>Saw in store</li> <li>Use by professional</li> <li>Other</li> </ul>	
-		8. Which other brands/models did you	u consider?	
		-		
City State/	Province Postal Code			
Telephone Number	E-mail Address	9. How would you describe your level	l of musicianship/technical expertise?	
( )		Beginner - Never played or taken less than one (1) year of lessons		
Fax Number	Date of Birth	Intermediate - One (1) to five (5) years of lessons or playing Advanced - More than five (5) years of lessons or playing; play professionally		
Gender D M D F		- 10 Education: (coloct host answer)		
2.		<ul> <li>10. Education: (select best answer)</li> <li>☐ High school</li> </ul>		
		☐ Some college		
Model 8-Dig	jit Serial Number	<ul> <li>Completed college</li> <li>Graduate school</li> </ul>		
Date of Purchase Price I	Paid	<b>11.</b> Which best describe your family i	ncome? (select best answer)	
3.		<ul> <li>□ Under \$15,000</li> <li>□ \$15,000 - \$24,999</li> <li>□ \$25,000 - \$34,999</li> </ul>	□ \$75,000 - \$99,999 □ \$100,000 - \$149,999 □ Over - \$150,000	
Name of store where purchased		_ □ \$25,000 - \$34,999 □ \$35,000 - \$49,999 □ \$50,000 - \$74,999		
City Stat	e	<b>12.</b> Which of the following is your prin products: (select best answer)	nary source of information on musical	
4. Top two (2) reasons why you pure	chased from this store/dealer:	Television	Mail order catalogs	
<ul> <li>Availability of product</li> <li>Friend/Relative's recommendation</li> </ul>	<ul> <li>Past favorable experience</li> <li>Best price</li> </ul>	☐ Radio ☐ Internet	Direct mail Literature from manufacturer	
Store credit card	□ Advertised special	Newspaper	Other	
<ul> <li>Knowledgeable staff</li> <li>Availability of lessons</li> </ul>	Convenient location Received as a gift	□ Magazines		
Technical instruction	□ Other	<b>13.</b> What is your main motivation for t	ouying new equipment?	
5. Where do you most often shop fo	r music and sound products?	□ Replacing old product	□ Impulse	
<ul> <li>Independent retailer</li> <li>Mass market retailer</li> </ul>	Newspaper ads Internet/Web sites	Want new and leading edge equipment	Need for improved performance New technology	
Mail order magazines	Other	□ Fullfill a specific need	Availability of product	
• What has (2) factors much influence	and your purphase of this and ust?	<ul> <li>Supplement existing products</li> <li>Value</li> </ul>	□ Other	
<ul><li>6. What two (2) factors most influen</li><li>Peavey brand name</li></ul>	ced your purchase of this product?	<b>14</b> Disease list up with the second for the	with winited Wab aiter	
Craftsmanship	Durability	<ul><li><b>14.</b> Please list your three most frequently visited Web sites.</li><li>1. http://</li></ul>		
<ul> <li>Features for price</li> <li>Bundled accessories</li> </ul>	Prior experience with Peavey Packaging	2. http://		
□ Sound quality	Other	3. http://		

15. In your opinion, what could Peavey do to improve its products and/or service? Please use the space below to tell us your answer.

Thank you for taking the time to fill out our survey! Don't forget to fold and tape (with Peavey address facing out), affix postage stamp and drop in the mail!



Logo referenced in Directive 2002/96/EC Annex IV (OJ(L)37/38,13.02.03 and defined in EN 50419: 2005 The bar is the symbol for marking of new waste and is applied only to equipment manufactured after 13 August 2005

Place Postage Here



Peavey Electronics Corporation Attn: Warranty Department P.O. Box 5108 Meridian, Ms 39302-5108