Includes
PC4-XLa™

WARNING: TO PREVENT ELECTRICAL SHOCK OR FIRE HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. BEFORE USING THIS APPLIANCE, READ THE OPERATING GUIDE FOR FURTHER WARNINGS.
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INTRODUCTION TO THE PC4-X™ PHASE COHERENT 4-WAY CROSSOVER

Your new PC4-X™ is a fully programmable, completely digital four way crossover. The PC4-X may also be configured to dual two-way mono, two-way stereo, or three-way with a fourth output as an additional low, mid, high, or full range output. The PC4-X provides full time alignment capability with up to 650ms of pre-delay that may be allocated to the two balanced inputs, and up to 10ms of output delay on each individual output.

The PC4-X has been designed with ease of setup and functionality in mind. The control panel is simple and straightforward with labeled buttons for the various features and a 20 x 2 LCD display to visually indicate precise system adjustment. A “data entry knob” has been included for rapid system adjustment, and there are also increment and decrement (“up” and “down”) buttons for slower, more accurate adjustment.

The PC4-X filter frequencies can be set in two ways in the crossover mode. In the normal mode, the crossover frequency between the two outputs is set. In the special mode, the low-cut and high-cut frequencies are individually set. This second mode allows the crossover points to be underlapped or overlapped and allows for special configurations such as two way mono with three tone aligned high frequency horns.

In addition to crossover configuration, the PC4-X also functions as a Delay Line with the following variations; one delay line with 4 taps, two delay lines, each with 3 taps and the other with 1, two delay lines, each with 2 taps totaling 675ms of delay. Each delay line output includes low and high cut filters.

Perfect time alignment is often sought after in the design of studio monitors and even sound reinforcement enclosures, but it is not always practical due to the varying physical dimensions of horns, woofers, etc. Designing for the most discriminating sound engineers and realizing the benefits of time alignment, we have included 10ms of delay on each of the four outputs just for the purpose of driver alignment within the system. This built-in delay dedicated to system alignment is adjustable in 20.8 microseconds or approximately 1/4” steps.

The PC4-X has six selectable crossover filter types; 4th and 8th order Linkwitz-Riley, 4th and 8th order Butterworth, and 4th and 8th order Bessel (linear phase), offering total control and precise driver/frequency range matching. The 8th order filters approach the proverbial “brick wall” with a 48 dB/octave slope.

Your PC4-X Phase Coherent 4-Way Crossover will prove extremely useful in a variety of audio environments. In order to get the most out of your PC4-X, we urge you to read this manual thoroughly.

OVERVIEW AND GENERAL FEATURES
- Four-way mono crossover.
- Three-way mono crossover with the 4th output as an additional low, mid, high, or bandpass output.
- Two-way mono or stereo crossover.
- 48kHz sample rate.
- 24 bit internal processing.
- 64 times oversampled A-D.
- Up to 650ms of pre-delay time memory that can be allocated to the two inputs.
- Up to 10ms of delay on each output for driver time-alignment (adjustable in 20.8 microsecond or 1/4” increments).
- Two balanced inputs.
- Four balanced outputs.
- Selectable filter types
  - 4th and 8th order Linkwitz-Riley
  - 4th and 8th order Butterworth
  - 4th and 8th order Bessel
- Delay line mode with four taps (up to 675ms of delay).
- Low and high cut filters.
- 20 x 2 rear illuminated LCD display for clear viewing.
- Special adjustable Constant Directivity horn EQ.
- Two 5-segment input LED arrays.
- Relay on/off transient muting.
- Selectable polarity reversal and output muting on each output.
- Stores up to 99 complete setups, each with its own 15 character label.
- Built in security lock. When enabled, all parameters can be examined, but cannot be changed without entry of access code.
- Remote operation via MIDI.

PART 1. PANEL LAYOUTS

A. Front Panel

(1) LED Meters for Inputs A and B:
   Illumination of the red LED indicates that the input signal is within 6dB of clipping. Adjust source signal to allow the red LED to illuminate only on program peaks. Continuous illumination of the red LED means there is a risk of audible distortion.

* FUNCTION KEYS (2-9)

(2) Master Key
   Used to access selection of system configurations.
   - Crossover filter types, constant directivity horn EQ, constant directivity EQ level, and display view angle.

(3) Frequency Key
   Used to access selection of high cut, low cut, and crossover points.

(4) Level Key
   Used to access the input and output levels.

(5) Delay Key
   Used to access the selection of input pre-delays and output delays.
(6) MIDI Key
Used to name, store, and recall presets, and access MIDI communication functions.

(7) Test Key
Used to perform a self test of the DSP and sample RAM.

(8) Mute Key
Used to access the output mutes.

(9) Phase Key
Used to access the output polarity.

(10 & 11) Increment (+) and Decrement (-) Keys
Used to increase (+) or decrease (-) the displayed value or to toggle between different system parameters. A quick press-and-release of either key will change the displayed value parameter by one increment. Holding either key down will continuously increase or decrease the displayed value until released.

(12 & 13) Upper and Lower Softkeys
These keys initiate commands or cursor movements which appear in some function displays.

(14) Main Display Window
Large 20 x 2 LCD display with variable view angle adjustment for easy visibility.

(15) Data Knob
Used to rapidly change system parameters or to rapidly increase (clockwise) / decrease (counterclockwise) the displayed value.

(16) Power On/Off Switch

B. Rear Panel

(17 & 18) Crossover Inputs (A,B)
Assignment of the inputs is determined by the system configuration.

(19 - 22) Crossover Outputs (1-4)
Assignment of the outputs is determined by the system configuration.

(23) MIDI In Port
Used to receive MIDI data.

(24) MIDI Out/Thru Port
Used to echo data from the MIDI input except when the PC4-X is transmitting stored settings to other units.

PART 2. THE USER INTERFACE

A. Getting Started

The User Interface section is provided to introduce and familiarize you with using the PC4-X. Read through the Definitions and Abbreviations, then follow through the Guided Tour of the Various Display Modes. In this Guided Tour we will describe the functions of the various keys and then demonstrate how they are selected to create a custom configuration.

There are some basic facts about the PC4-X User Interface that you should note:

When the PC4-X is first turned on, the following display will appear:

Peavey Electronics
PC4-X Version X.XX

The version indicates the version of firmware installed in the PC4-X.

After several seconds, the following display will appear and will stay in the display until a button is pressed.

Peavey PC4-X
Preset Label

The preset label is the 15 character label that the user stored with the active system configuration (Preset).

The System Configuration determines exactly which displays will appear under each of the other functions, so it should be selected first.

The PC4-X has 8 Function keys. Each Function key accesses a set of display pages. For example, the Level function key allows access to the display pages for setting the input and output level controls. Pressing the particular function key will step through the Functions' display pages. When the last display page is shown, the display pages will repeat or "loop" back to the first display. Because the displays are "looped", you may exit a function from any particular display page. The display page which is last shown under a particular function will be the display which appears first when re-entering that function.
B. Definitions: Configuration, Preset

Configuration (System Configuration): The PC4-X has 11 basic configurations. These configurations establish the assignments of the inputs and outputs of the crossover. Example: 2 way, 3 way, 2 way stereo, etc. Each configuration can be customized for a specific amplifier/speaker system and stored as a preset.

Preset: A preset is a storage location in memory that holds a complete system configuration program. This program consists of the preset name, the basic system configuration, and all the user adjustable function parameters. There are 99 Preset locations in the processor's memory within the PC4-X.

C. Abbreviations

X-Over—Crossover
CD Horn—Constant Directivity Horn
LF—Low Frequency
MF—Mid Frequency
HF—High Frequency
VHF—Very High Frequency
BP—Band Pass
M—Mono
DLY—Delay
LVL—Level

D. The Various Functions
(Creating a Custom Configuration)

The PC4-X operates on a page-type system designed to easily address its many advanced functions. These pages will be referred to as displays throughout this manual. Within a particular display, parameters can be selected and/or edited using the Increment (+) and Decrement (-) (10 & 11) keys, the Softkeys (12 & 13), and the Data knob (15).

For our example we will create a configuration to operate a pair of Peavey HDH™-1 cabinets and a Peavey HDH™-3 sub cabinet.

1 Master Function

a. System Configuration
   The first step in creating a custom configuration is to select one of the 11 System Configurations. Press the Master (2) key until the System Configuration display appears.

   SYSTEM CONFIGURATION
   IN "A" 4-WAY

   This display indicates which configuration is presently active.

   Press either the Increment (10) key, the Decrement (11) key, or use the Data (15) knob to scroll through the System Configurations. (You will notice that after you get to the end of the list, it loops back around to the beginning.)
   Since the HDH-1 speakers are a 3 way system and we will be using an additional sub cabinet, the best configuration for our example is (IN "A" 3-WAY + 2ND LF).

   EXECUTE: SYS CONFIG
   IN "A" 3-WAY + 2ND LF

   The Execute display appears whenever a configuration other than the active configuration has been selected.

   Press the Upper (EXECUTE) (12) Softkey to activate the new configuration. The display will briefly show:

   CHANGE EXECUTED
   OUTPUTS ARE MUTED

   After a couple of seconds, the following display will appear:

   EXECUTE: SET FREQ BY
   Crossover pt (Normal)

   Pressing the Upper "EXECUTE" softkey again will select the normal crossover mode where the frequency is set by selecting the crossover points. If however you have a special application where you want to underlap or overlap the crossover points, press the Increment or Decrement keys (10 & 11) or turn the data knob to select:

   EXECUTE: SET FREQ BY
   Lo-Hi cut (Special)

   Executing this selection will allow you to set the low-cut and high-cut frequencies for each output.

   In the event you wish to abort the change of configuration, press any key except the Increment/Decrement (10 & 11) and Softkeys (12 & 13). The EXECUTE/ABORT display will appear.

   EXECUTE: Change of
   ABORT: Configuration

   Pressing the Lower (ABORT) (13) Softkey will ABORT the change.

   CHANGE ABORTED

b. Selecting Crossover Filter Types
   The PC4-X offers six different Filter choices. The filter type can easily be changed while listening to determine which filter is best for your system. Filter type is saved as part of a Preset.

   4th order Linkwitz-Riley: (24dB per octave slope)
   The two outputs are in phase at the crossover frequency 6dB down. When added, they add back to flat.

   4th order Butterworth: (24dB per octave slope)
   The two outputs are in phase at the crossover frequency 3dB down. When added, they form a 3dB peak at the crossover point.

   4th order Bessel: (24dB per octave slope)
   This is a linear phase filter with the two outputs 3dB down at the crossover frequency.
8th order Linkwitz-Riley: Same as above except with 48 dB per octave slope.

8th order Butterworth: Same as above except with 48 dB per octave slope.

8th order Bessel: Same as above except with 48 dB per octave slope.

Press the Master (2) key until the Crossover Filter Type display appears. Using the Increment/Decrement (10 & 11) keys or the Data (15) knob, select the desired Filter Type. For our example, we will select a 4th order Linkwitz-Riley.

X-OVER FILTER TYPE
4th LINKWITZ-RILEY

c. Constant Directivity Horn EQ and Level (A Guided Tour)

The PC4-X offers an adjustable CD horn EQ which can be selected or bypassed as desired. The EQ leaves the top end of the band at the same level and slopes off below 15 kHz. The net result of the EQ is a high frequency pre-emphasis. The CD horn level adjusts the slope (up to 6 dB/oct) and as the slope (CD horn level) increases, so does the pre-emphasis. (See diagram 1)

Diagram 1
High Frequency Output

off/OdB + 5dB + 10dB + 15dB 15K

*Activating the CD Horn EQ

Press the Master (2) key until the CD HORN EQ display appears.

CD HORN EQ IS OFF
(OUTPUT 3 4-WAY HF)

*Note: You must select a configuration which uses a CD horn EQ for the CD horn display to appear under the Master Function key.

Press the Increment/Decrement (10 & 11) key to activate the CD HORN EQ.

CD HORN EQ IS ON
(OUTPUT 3 4-WAY HF)

The CD horn EQ is activated on Output 3.

*Setting the CD HORN Level

Press the Master (2) key until the CD HORN EQ LVL display appears.

CD HORN EQ LVL 0
(OUTPUT 3 4-WAY HF)

*Note: The CD HORN EQ must be activated for the CD HORN EQ LVL display to appear under the Master Function key.

Using the Increment/Decrement (10 & 11) keys or the Data (15) knob, adjust the CD HORN EQ to the desired setting (range 0-15).

d. Setting the View Angle

Because the PC4-X may be viewed from a variety of angles, the LCD contrast may be adjusted to provide comfortable visibility.

1. Press the Master (2) key several times until the view angle display appears.

DISPLAY VIEW ANGLE
3

2. Using the Increment/Decrement (10 & 11) keys, adjust the viewing angle for maximum comfort and clarity. There are eight different viewing angles, here we have selected 3 as a sample viewing angle.

2. Frequency Function

The Frequency Function allows access to setting all of the crossover frequencies as well as the low-cut and high-cut frequencies. The selected values are saved as part of a Preset.

For our example we will use a low-cut frequency of 40 Hz, a low to mid frequency of 300 Hz, a mid to high frequency of 1200 Hz, and a high-cut frequency of 18 kHz.

Press the Frequency (3) key and one of the frequency display pages will appear. Press the Frequency (3) key to scroll through the displays until the Low-Cut Frequency display appears.

IN "A" LOW-CUT FREQ
3 WAY OFF

Use the Increment/Decrement (10 & 11) keys or the Data (15) to select the desired low-cut frequency.

IN "A" LOW-CUT FREQ
3-WAY 40Hz

Press the Frequency (3) key once to advance to the next display.

IN "A" 3W X-OVER FREQ
FROM LF TO MF
500Hz
Again using the Increment/Decrement (10 & 11) keys or the Data (15) knob, select the desired low to mid crossover frequency.

IN "A" 3W X-OVER FREQ
FROM LF TO MF 300Hz

Press the Frequency (3) key again to advance to the next display.

IN "A" 3W X-OVER FREQ
FROM MF TO HF 1.5K

Use the Increment/Decrement (10 & 11) keys or the Data (15) knob to select the desired mid to high crossover frequency.

IN "A" 3W X-OVER FREQ
FROM MF TO HF 1.2K

Press the Frequency (3) key once more to advance to the next display.

IN "A" HIGH-CUT FREQ
3-WAY 8.0K

Use the Increment/Decrement (10 & 11) keys to select the desired high cut frequency.

IN "A" HIGH-CUT FREQ
3-WAY 18 kHz

The crossover frequencies and low/high cut frequencies have now been established for our configuration.

3. Level Function
This function accesses the input and output level settings. When setting the levels, set the Input Level first.

To set the Input Level, connect the balanced Output from your mixer to Input "A". Set the Level on your mixer to the anticipated maximum and then use the Increment/Decrement (10 & 11) keys or the Data (15) knob to increase or decrease the Level until the LED meter is illuminating red only on program peaks. Illumination of the red LED indicates that the input signal is within 6dB of clipping. Continuous illumination of the red LED means there is a risk of audible distortion.

Press the Level (4) key until the Input Level display appears.

INPUT "A" LVL 0
(3-WAY)

Turn the volume on your amplifiers all the way up, then adjust the Output Levels on the PC4-X to balance the system.

Press the Level (4) key to advance to the next display.

Output 1 is the low frequency output.

Press the Level (4) key to advance to the next display.

OUTPUT 2 LVL 0
(MF 3-WAY IN "A")

Output 2 is the mid frequency output.

Press the Level (4) key to advance to the next display.

OUTPUT 3 LVL 0
(HF 3-WAY IN "A")

Output 3 is the high frequency output.

Press the Level (4) key to advance to the next display.

OUTPUT 4 LVL 0
(LF 3-WAY IN "A")

Output 4 is the 2nd low frequency output.

4. Delay Function
The Delay Function accesses the input and/or output delays. Delay settings are stored as part of a Preset.

*Input Pre-Delay

In situations where the loudspeakers are cut in front of the original sound source (for instance a choral group), the amplified sound will reach the audience before the original sound. Using pre-delay, you can delay the amplified sound such that sound from the speakers reach the audience at the same time or slightly after the live sound. This can be achieved by measuring the distance between the original sound source and the loudspeakers and selecting a pre-delay to match. The delay can be fine tuned by listening.

*Output Delay

Output delay is used to align the individual drivers in a loudspeaker system to achieve optimal time alignment.

Method 1:
Measure the difference between the drivers (see diagram 2) and set the delays according to the measured distances between the depths of the drivers.
PART 3. DESCRIPTIONS OF THE BASIC CONFIGURATIONS
(Guided tours of configuration displays)

This section is designed to familiarize you with the 11 basic configurations and their unique displays.

A. In "A" 4-Way

This configuration is a standard four-way crossover with outputs 1, 2, 3, and 4 assigned to the low, mid, high, and very high frequencies respectively. Input "A" is used as a mono source for all four of the outputs.

Select and activate the (IN "A" 4-WAY) configuration.
*Constant Directivity Horn EQ*

In this configuration, a CD Horn EQ is available for both the high frequency output and the very high frequency output (outputs 3 and 4 respectively).

CD HORN EQ IS OFF
(OUTPUT 3 4-WAY HF)

CD HORN EQ IS OFF
(OUTPUT 4 4-WAY VHF)

*Crossover point and low/high cut frequency displays*

IN "A" LOW-CUT FREQ
4-WAY 60Hz

Select the desired low-cut frequency point.

IN "A" 4W X-OVER FREQ
FROM LF TO MF 800Hz

Select the desired low to mid frequency crossover point.

IN "A" 4W X-OVER FREQ
FROM MF TO HF 1.5K

Select the desired mid to high frequency crossover point.

IN "A" HIGH-CUT FREQ
4-WAY OFF

Select the desired high-cut frequency point.

*B. IN "A" 3-WAY + 2ND LF*

This configuration is a standard 3-way crossover with outputs 1, 2, and 3 assigned to low, mid, and high frequencies respectively. Output 4 is used as an additional low frequency output. Input "A" is a mono source for all four of the outputs.

Select and activate the (IN "A" 3WAY + 2ND LF) configuration.

*Constant Directivity Horn EQ*

In this configuration a CD Horn EQ is available for the high frequency output, output 3.

CD HORN EQ IS OFF
(OUTPUT 3 3-WAY HF)

*Crossover Point and Low/High-Cut Frequency Displays*

IN "A" LOW-CUT FREQ
3-WAY 60Hz

Select the desired low-cut frequency point.

IN "A" 3W X-OVER FREQ
FROM LF TO MF 800Hz

Select the desired low to mid frequency crossover point.

IN "A" 3W X-OVER FREQ
FROM MF TO HF 1.5K

Select the desired mid to high frequency crossover point.

IN "A" HIGH-CUT FREQ
3-WAY 15KHz

Select the desired high cut frequency point.

*The Input and Output Level Displays*

In this configuration, Input "A" is a mono source for the four outputs. Outputs 1, 2, 3, and 4 are assigned to the low, mid, high, and very high frequencies respectively.

INPUT "A" LVL
(4-WAY)

OUTPUT 1 LVL
(LF 4-WAY IN "A")

OUTPUT 2 LVL
(MF 4-WAY IN "A")

OUTPUT 3 LVL
(HF 4-WAY IN "A")

OUTPUT 4 LVL
(VHF 4-WAY IN "A")

*The Delay displays*
assigned to the low, mid, and high frequencies respectively. Output 4 is used as an additional low frequency output.

INPUT "A" LVL 0
(3-WAY)

OUTPUT 1 LVL 0
(LF 3-WAY IN "A")

OUTPUT 2 LVL 0
(MF 3-WAY IN "A")

OUTPUT 3 LVL 0
(HF 3-WAY IN "A")

OUTPUT 4 LVL 0
(LF 3-WAY IN "A")

*Crossover Point and Low/High-Cut Frequencies Displays

IN "A" LOW-CUT FREQ
3-WAY OFF

Select the desired low-cut frequency point.

IN "A" 3W X-OVER FREQ
FROM LF TO MF 500Hz

Select the desired low to mid frequency crossover point.

IN "A" 3W X-OVER FREQ
FROM MF TO HF 1.5K

Select the desired mid to high frequency crossover point.

IN "A" HIGH-CUT FREQ
3-WAY 8.0K

Select the desired high-cut frequency point.

IN "M" LOW-CUT FREQ
3-WAY 8.0K

Select the desired low-cut frequency point for Output 4 (Bandpass).

IN "M" HIGH-CUT FREQ
3-WAY 18kHz

Select the desired high-cut frequency point for Output 4 (Bandpass).

*The Input and Output Level Displays

In this configuration, Input "A" is the source for all 4 outputs.

INPUT "A" LVL 0
(3-WAY)

OUTPUT 1 LVL 0
(LF 3-WAY IN "A")

OUTPUT 2 LVL 0
(MF 3-WAY IN "A")

OUTPUT 3 LVL 0
(HF 3-WAY IN "A")

OUTPUT 4 LVL 0
(BP 3-WAY IN "M")

*The Delay Displays

IN "A" 3-WAY + 2ND MF

This configuration is a standard 3-way crossover with outputs 1, 2, and 3 assigned to the low, mid, and high frequencies respectively. Input "A" is a mono source for all four outputs. It is identical to (IN "A" 3-WAY + 2ND LF) except that Output 4 is used as an additional mid frequency output. (See Part 3, Section B.)

D. IN "A" 3-WAY + 2ND HF

This configuration is a standard 3-way crossover with outputs 1, 2, and 3 assigned to the low, mid, and high frequencies respectively. Input "A" is a mono source for all four outputs. It is identical to (IN "A" 3-WAY + 2ND LF) except that Output 4 is used as an additional high frequency output. An additional CD Horn EQ is provided for the 2ND high frequency output (Out 4) (See Part 3; Section B).

E. IN "A" 3-WAY + BP

This configuration is a standard 3-way crossover with outputs 1, 2, and 3 assigned to the low, mid, and high frequencies respectively. Input "A" is used as a mono source for all four outputs. It is identical to (IN "A" 3-WAY + 2ND LF) except that Output 4 is used as a bandpass (full range) output with a separate set of low and high-cut frequencies.

INPUT "A" PRE-DELAY
0ms (0 Feet)

INPUT "M" PRE-DELAY
0ms (0 Feet)
OUTPUT 1 DELAY LF "A"
0.00ms (0.0 Inches)

OUTPUT 2 DELAY MF "A"
0.00ms (0.0 Inches)

OUTPUT 3 DELAY HF "A"
0.0ms (0.0 Inches)

OUTPUT 4 DELAY BP "M"
0.0ms (0.0 Inches)

Input "A" and "M" can have a pre-delay of up to 650ms in 1ms increments. Each output can be delayed up to 10ms in 20.8us increments.

F. IN "A" 3-WAY IN "B" BP

This configuration is a standard 3-way crossover with outputs 1, 2, and 3 assigned to the low, mid, and high frequencies respectively. It is identical to (IN "A" 3-WAY + BP) except that Input "A" is used as a source for Outputs 1, 2, and 3 only and Input "B" is used as a source for Output 4. Output 4 is a Bandpass (full range) output with separate low-cut and high-cut frequencies.

Select and activate the (IN "A"3-WAY IN "B" BP) configuration.

*Crossover Point and Low/High-Cut Frequency Displays

IN "A" LOW-CUT FREQ
3-WAY 60Hz

Select the desired low-cut frequency.

IN "A" 3W X-OVER FREQ
FROM LF TO MF 800Hz

Select the desired low to mid frequency crossover point.

IN "A" 3W X-OVER FREQ
FROM MF TO HF 1.5K

Select the desired mid to high frequency crossover point.

IN "A" HIGH-CUT FREQ
3-WAY 15KHz

Select the desired high-cut frequency point.

IN "B" LOW-CUT FREQ
3-WAY 8.0KHz

Select the desired low-cut frequency for the Bandpass output

IN "B" HIGH-CUT FREQ
3-WAY OFF

Select the desired high-cut frequency for the Bandpass output.

* The Input and Output Level Displays

In this configuration, Input "A" is the source for outputs 1, 2, and 3. Input "B" is the source for Output 4.

INPUT "A" LVL 0
(3-WAY)

INPUT "B" LVL 0
(BANDPAS)

OUTPUT 1 LVL 0
(LF 3-WAY IN "A")

OUTPUT 2 LVL 0
(MF 3-WAY IN "A")

OUTPUT 3 LVL 0
(HF 3-WAY IN "A")

OUTPUT 4 LVL 0
(BP 3-WAY IN "B")

* The Delay Displays

INPUT "A" PRE-DELAY
0ms (0 Feet)

INPUT "B" PRE-DELAY
0ms (0 Feet)

OUTPUT 1 DELAY LF "A"
0.00ms (0.0 Inches)

OUTPUT 2 DELAY MF "A"
0.00ms (0.0 Inches)

OUTPUT 3 DELAY HF "A"
0.0ms (0.0 Inches)

OUTPUT 4 DELAY BP "B"
0.0ms (0.0 Inches)

Input "A" and "B" can have a cumulative pre-delay of up to 650ms in 1ms increments. Each output can be delayed up to 10ms in 20.8us increments.

G. IN "A" 2-WAY

This configuration is a standard dual 2-way crossover with Outputs 1 and 2 assigned to the low and high frequencies of the first 2-way crossover and Outputs 3 and 4 assigned to the low and high frequencies of the second 2-way crossover. Input "A" is used as a mono source for both pairs of outputs.

Select and activate the (IN "A" 2-WAY) configuration.

*Constant Directivity Horn EQ

In this configuration, a CD Horn EQ is available for the high frequency output of each 2-way crossover.
**The Delay Displays**

- **INPUT "A" PRE-DELAY**
  - 0ms (0 Feet)

- **INPUT "M" PRE-DELAY**
  - 0ms (0 Feet)

- **OUTPUT 1 DELAY LF "A"**
  - 0.00MS (0.0 Inches)

- **OUTPUT 2 DELAY HF "A"**
  - 0.00ms (0.0 Inches)

- **OUTPUT 3 DELAY LF "M"**
  - 0.00ms (0.0 Inches)

- **OUTPUT 4 DELAY HF "M"**
  - 0.00ms (0.0 Inches)

Input "A" and "M" (mono) can have a pre-delay of up to 650ms in 1ms increments. Each output can be delayed up to 10ms in 20.8us increments.

**H. IN "A & B" 2-WAY (Stereo 2-way)**

This configuration is a standard dual 2-way crossover with outputs 1 and 2 assigned to the low and high frequencies of the first 2-way crossover, and outputs 3 and 4 assigned to the low and high frequencies of the second 2-way crossover. It is identical to the (IN "A" 2-WAY) configuration except that Input "A" is the source for the first 2-way crossover and Input "B" is the source for the second 2-way crossover. The level of each input is individually adjustable. The "A" and "B" inputs can have a cumulative pre-delay of up to 650ms in 1ms increments. Each output can be delayed up to 10ms in 20.8us increments.

(SEE PART 3 G)

**I. DLY IN "A" → 1, 2, 3, 4**

This configuration is a four channel delay line with delay times up to 675ms. Each output is a bandpass (full range) output with selectable low and high-cut frequency points and individual level control.

Select and activate the (DLY IN "A" → 1, 2, 3, 4) configuration.

**Low and High-Cut Frequency Displays**

- **OUTPUT 1 LOW-CUT FREQ**
  - DELAY "A" OFF

Select the low-cut frequency point for delay line Output 1.

- **OUTPUT 1 HIGH-CUT FREQ**
  - DELAY "A" OFF

Select the high-cut frequency point for delay line Output 1. Outputs 2, 3, and 4 also have selectable low/high-cut frequency point delays.
The Input and Output Level Displays

In this configuration, Input “A” is a mono source for the four outputs. Outputs 1, 2, 3, and 4 are delay line bandpass (full range) outputs.

| INPUT “A” LVL (DELAY) | 0 |
| OUTPUT 1 LVL (DELAY IN “A”) | 0 |
| OUTPUT 2 LVL (DELAY IN “A”) | 0 |
| OUTPUT 3 LVL (DELAY IN “A”) | 0 |
| OUTPUT 4 LVL (DELAY IN “A”) | 0 |

The Delay Displays

| OUTPUT 1 DELAY “A” 0ms (0 Feet) |
| OUTPUT 2 DELAY “A” 0ms (0 Feet) |
| OUTPUT 3 DELAY “A” 0ms (0 Feet) |
| OUTPUT 4 DELAY “A” 0ms (0 Feet) |

The Delay line configuration offers individual output delays of up to 675ms per output in 1ms increments.

J. DLY “A” → 1, 2, 3 “B” → 4

This configuration is a four channel delay line with delay times up to 675ms allocated between Inputs “A” and “B”. Each output is a bandpass (full range) output with selectable low and high-cut frequency points and individual level control. It is identical to the (DLY IN “A” → 1, 2, 3, 4) configuration except that Input “A” is the source for Outputs 1, 2, and 3 and Input “B” is the source for Output 4. (SEE PART 3; I)

K. DLY “A” → 1, 2, “B” → 3, 4

This configuration is a four channel delay line with delay times up to 675ms allocated between Inputs “A” and “B”. Each output is a bandpass (full range) output with selectable low and high-cut frequency points and individual level control. It is identical to the (DLY IN “A” → 1, 2, 3, 4) configuration except that Input “A” is the source for Outputs 1 and 2 and Input “B” is the source for Outputs 3 and 4. (SEE PART 3; I)

PART 4. MIDI/PRESET

A. Storing and Naming Presets (A Guided Tour)

After creating a custom configuration, all of the settings that comprise that custom configuration can be stored as a preset. This feature can be used in a touring system to store parameters for configurations used in different sized venues. It can also be used in fixed installations to store different input/output gain settings or delay settings for different applications.

Press the MIDI (6) key until the store display appears:

MIDI: PRESET 1 → Preset Label

Use either the Increment/Decrement (10 & 11) keys or the Data (15) knob to select a preset location in which to store your new configuration. For our example, let’s choose preset location 99:

MIDI: PRESET 99 → Preset Label

Press the Lower (←) (13) Softkey to advance the cursor. The cursor will now be flashing under the first letter of the preset name. The name can be 15 digits in length. For example, we will name Preset 99: “PEAVEY HDI 1”. Using the Increment/Decrement (10 & 11) keys or the Data (15) knob, select the desired letters for each digit. To advance the cursor, press the Lower (←) (13) Softkey. If you want to go back to change the previous digit, then repeatedly press the Lower (←) (13) Softkey and the cursor will return to the beginning. When you have finished, the display should show:

MIDI: PRESET 99 → PEAVEY HDI 1

NOTE: When saving to a Preset location, all information previously stored in that location will be erased and replaced by the new configuration.

Press the Upper (Store) (12) Softkey and the display will briefly show:

STORE COMPLETE

Your new configuration has now been saved.

The name that you stored with the preset will also appear in the display that remains after power on.

B. Recalling Presets (A Guided Tour)

Press the MIDI (6) key until the Recall display appears:

RECALL: PRESET 82 → Preset Label

Using the Increment/Decrement (10 & 11) keys or the Data (15) knob, select the preset to be recalled. For our example we will recall preset 4.
RECALL: PRESET 4
→ Preset Label

Press the Upper (RECALL) (12) Softkey and the
display will momentarily show

RECALL COMPLETE

Preset 4 configuration is now active.

C. System Exclusive Dump and Load Functions

Preset data can be transmitted or received by the
PC4-X using a MIDI system exclusive dump or
load. This is useful for permanent storage of
presets or for transferring information from one
PC4-X to another. In the following example, two
PC4-X crossovers are being used to assemble a
stereo 4-way system. A system configuration with
carefully chosen function parameters has been
stored into Preset location number 8 in the first
PC4-X. The two units are connected as shown in
diagram 3.

Diagram 3

Sending Unit

Receiving Unit

To transfer the Preset data to the second PC4-X:

Use the MIDI (6) key on each PC4-X to be sure
they are both set to the same channel. (See Section E below)

Press the MIDI (6) key on the first PC4-X until the
SYSEX DUMP display appears.

DUMP: PRESET 1
Via MIDI SYS EX

Using the Increment/Decrement (10 & 11) keys
and/or the Data (13) knob, select the desired
preset(s) to be dumped. For our example, select
Preset 8.

DUMP: PRESET 8
Via MIDI SYS EX

Press the Upper (DUMP) (12) Softkey. The
display of both PC4-X crossovers will briefly show:

MIDI SYS EX DUMP
IN PROGRESS

Preset 8 has now been transmitted to the second
PC4-X.

1. Check to be sure that the MIDI cable is con-
   nected as shown above.
2. Be sure that both units are set to the same
   MIDI channel.

D. MIDI Program Change Enable/Disable

In the PC4-X, presets can be recalled by MIDI
Program Change. To enable or disable the MIDI
Program Change, press the MIDI (6) key until the
Receive MIDI Program Change display appears.

RECEIVE MIDI
PG CHG N

The cursor will be flashing under the status. Use
the Increment/Decrement (10 & 11) keys to
change the status (Y or N). *Note: The PC4-X
comes from the factory with MIDI Program
Change disabled.

E. Setting the MIDI Channel (A Guided Tour)

Press the MIDI (6) key until the MIDI channel
display appears.

→ MIDI CHANNEL OMNI
  1 OFF

The Upper (→) (12) or Lower (←) (13) Softkeys
will toggle the cursor between the Channel
number or the Omni status. Use the Incr-
ment/Decrement (10 & 11) keys to change the
Channel number or Omni status. For our ex-
ample, select Channel number 12, OMNI “OFF”.

→ MIDI CHANNEL OMNI
  12 OFF

The PC4-X is now set to receive program
changes on MIDI Channel 12.
Turning the OMNI mode on allows the PC4-X to receive MIDI messages on all MIDI channels. (The MIDI channel is ignored.)

*Note: When transmitting program changes to the PC4-X, be sure to enable MIDI program change.

PART 5. SELF TEST

In the Test Mode, the PC4-X performs a self test of the DSP and Sample RAM. To enter the Test Mode, press the Test (7) key.

ENTER: TEST MODE WILL DISABLE XOVER

*NOTE: The Crossover will be disabled during the test.

Press the Upper (ENTER) (12) Softkey and the display will show:

START: Self test

Press the Upper (START) (12) Softkey to begin the test. The display will show:

SELF TEST IN PROGRESS

After the test is complete the display should show:

DSP AND MEMORY OK

If an error message appears instead, there may be a problem in the unit. Reinitialize the unit and repeat the Self Test. If the test still results in an error message, contact a factory authorized service center.

PART 6. SECURITY LOCK

The controls on the PC4-X can be locked to prevent unauthorized persons from making adjustments to the crossover. When locked, an access code must be entered to gain access to the controls. After the correct code has been entered, all of the controls may be accessed until the power is turned off. Each time the power is turned on, the access code must be re-entered to adjust the unit.

Enable/Disable Lock or Change Access Code

With the PC4-X turned off, press the Test (7) and Mute (8) keys simultaneously and turn the power on. After a few seconds, release the two keys and the following display will appear:

ENTER: ACCESS CODE

→ 0000

*NOTE: The factory set access code is 0000.

Press the Upper (ENTER) (12) Softkey to enter the access code. If the incorrect code is entered, the following display will appear: ACCESS DENIED

If the correct code is entered, the ENABLE/DISABLE LOCK display will appear.

OK: SECURITY LOCK
IS: DISABLED

Use the Increment/Decrement (10 & 11) keys to change the lock status. To change the Access Code, press the Upper (OK) (12) Softkey and the following display will appear:

OK: CHANGE CODE TO:

→ 0000

Use the Increment/Decrement (10 & 11) keys and the Lower (→) (13) Softkey to select a new access code. When you have finished selecting an access code, press the Upper (OK) (12) Softkey.

*WARNING When you change the access code, be sure to write it down and store it somewhere safe. The code must be entered to adjust the crossover, change the access code, and to turn the lock on or off.

Entering Access Code (Security Lock On)

When the Security Lock is enabled, attempting to change any of the controls in the PC4-X will cause the following display to appear:

ENTER: ACCESS CODE

→ 0000

Using the Increment/Decrement (10 & 11) keys and the Lower (→) (13) Softkey, enter your Access Code. Pressing the Upper (ENTER) (12) Softkey will enter the Access Code and allow normal access to the controls in the PC4-X. If the incorrect Access Code is entered, the display will momentarily show:

ACCESS DENIED

Then the Access Code display will reappear. If no keys are pressed within the next 20 seconds, the display will return to its normal display.

PART 7. REINITIALIZATION

Reinitializing the PC4-X will replace all of your changes with the factory settings. If you wish to keep any or all of your changes, either save them via System Exclusive Dump or make notes of the specific changes.

1. Turn the PC4-X off.
2. While pressing and holding both the Master (2) key and the STORE (6) key, turn the power switch on.
3. Release the two keys. The following display should appear:

MEMORY HAS BEEN
REINITIALIZED

The PC4-X is now reinitialized.

*NOTE: The security lock must be disabled before the memory can be reinitialized.
PART 8. SPECIFICATIONS

FREQUENCY RESPONSE
12 Hz to 20 kHz +1, -2dB

TOTAL HARMONIC DISTORTION
Less than 0.015% at 1 kHz (2V RMS)

SIGNAL-TO-NOISE RATIO
Greater than 90dB Broad band (filters off)

INPUT CMRR
(Common Mode Rejection Ratio) Greater than 60dB at
1 kHz

MAXIMUM INPUT LEVEL
+25dBU

MAXIMUM OUTPUT LEVEL
+24dBm (600 ohms) 13V RMS; +25dBu (Hi-Z load) 15V
RMS

FILTER TYPES
4th and 8th order Linkwitz-Riley
4th and 8th order Butterworth
4th and 8th order Bessel

INPUT IMPEDANCE
20K ohms

OUTPUT IMPEDANCE
100 ohms

CONSTANT DIRECTIVITY HORN EQ
Adjustable high frequency emphasis with up to 6dB/octave slope

DELAY
Crossover mode
Precdelay: max delay 650ms*
step size 1ms

Output delay: max delay 10ms
step size 20.8 microseconds

Delay line mode
max delay each tap: 675ms*
step size 1ms

*NOTE: When both inputs A and B are used, the maximum
delay time is shared between the inputs.

NOTE: 0dB = .775V

PART 9. MIDI SPECIFICATIONS

(insert MIDI spec page here)

SYSTEM EXCLUSIVE COMMANDS

*The following format is used for all the MIDI System exclusive
commands in the Peavey PC4-X:

F0 00 00 1B 05 ch cm DATA F7

Where:

F0 = MIDI SYSTEM EXCLUSIVE COMMAND
(Status Byte)
00 00 1B = PEAVEY ELECTRONICS Manufacturers
I.D. code
05 = PC4-X product I.D. code
ch = MIDI Channel
cm = Command byte (See Table 1)
DATA = actual message data
F7 = SYSEX END OF EXCLUSIVE (Status Byte)

Table 1:

ON is the Exclusive Command

01 (01) = Load Preset (Sends) (Receives)
02 (02) = Dump Preset (Receives)
03 (03) = Load All Presets (Sends) (Receives)
04 (04) = Dump All Presets (Receives)
77 (119) = Start Display Test (Receives)
7A (122) = End MIDI Initiated Test (Receives)
7B (123) = Key Code of Pressed Key (Sends)
7C (124) = Start Key Test (Receives)

Each byte of data sent in messages 1 and 2 is broken
into nibbles and sent then as two bytes. The high nible
is sent first.
<table>
<thead>
<tr>
<th>Function</th>
<th>Transmitted</th>
<th>Recognized</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Channel</td>
<td>1-16</td>
<td>1-16</td>
<td>Memorized</td>
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<tr>
<td>Mode</td>
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<td></td>
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<td>X</td>
<td></td>
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<tr>
<td>Note Number</td>
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<td>X</td>
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<td>True Voice</td>
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<td>Velocity</td>
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<td>Note ON</td>
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<td>Note OFF</td>
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<tr>
<td>After Touch</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Key's Ch's</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pitch Bender</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Control Change</td>
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<tr>
<td>Prog Change True#</td>
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<tr>
<td>System Exclusive</td>
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<td>0</td>
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<td>System Song Pos</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Song Sel</td>
<td>X</td>
<td>X</td>
<td></td>
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<tr>
<td>Common Tune</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>System Clock</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Real Time Commands</td>
<td>X</td>
<td>X</td>
<td></td>
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<tr>
<td>AUX Local ON/OFF</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Messages</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>:All Notes Off</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>:Active Sense</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>:Reset</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Mode 1: OMNI ON, POLY
Mode 2: OMNI ON, MONO  X: Yes
Mode 3: OMNI OFF, POLY
Mode 3: OMNI OFF, MONO  O: NO
THIS LIMITED WARRANTY VALID ONLY WHEN PURCHASED AND REGISTERED IN THE UNITED STATES OR CANADA. ALL EXPORTED PRODUCTS ARE SUBJECT TO WARRANTY AND SERVICES TO BE SPECIFIED AND PROVIDED BY THE AUTHORIZED DISTRIBUTOR FOR EACH COUNTRY.

These clauses de garantie ne sont valables qu'aux États-Unis et au Canada. Dans tous les autres pays, les clauses de garantie et de maintenance sont fixées par la société de distribution nationale et sont assurées par l'intermédiaire de la législation en vigueur.


PEADEV ONE YEAR LIMITED WARRANTY/REMEDY

PEADEV ELECTRONICS CORPORATION (“PEADEV”) warrants this product, EXCEPT for covers, footswitches, patchcords, tubes and meters, to be free from defects in material and workmanship for a period of one (1) year from date of purchase. PROVIDED, however, that this limited warranty is extended only to the original retail purchaser and is subject to the conditions, exclusions, and limitations hereinafter set forth.

PAADEV 90-DAY LIMITED WARRANTY ON TUBES AND METERS

If this product contains tubes or meters, PAADEV warrants the tubes or meters contained in the product to be free from defects in material and workmanship for a period of ninety (90) days from date of purchase. PROVIDED, however, that this limited warranty is extended only to the original retail purchaser and is subject to the conditions, exclusions, and limitations hereinafter set forth.

CONDITIONS, EXCLUSIONS, AND LIMITATIONS OF LIMITED WARRANTIES

These limited warranties shall be void and of no effect, if:

a. The first purchase of the product is for the purpose of resale; or
b. The original retail purchase is not made from an AUTHORIZED PAADEV DEALER; or
c. The product has been damaged by accident or unreasonable use, neglect, improper service or maintenance, or causes not arising out of defects in material or workmanship; or
d. The serial number affixed to the product is altered, defaced, or removed.

In the event of a defect in material and workmanship covered by this limited warranty, PAADEV will:

a. In the case of tubes or meters, replace the defective component without charge.
b. In other covered cases (i.e., cases involving anything other than covers, footswitches, patchcords, tubes and meters), repair the defect in material or workmanship or replace the product, at PAADEV’s option, and provided, however, that, in any case, all costs of shipping, if necessary, are paid by the purchaser.

THE WARRANTY REGISTRATION CARD SHOULD BE ACCURATELY COMPLETED AND MAILED TO AND RECEIVED BY PAADEV WITHIN FORTY (40) DAYS FROM THE DATE OF YOUR PURCHASE.

In order to obtain service under these warranties, you must:

a. Bring the defective item to any PAADEV AUTHORIZED DEALER or AUTHORIZED PAADEV SERVICE CENTER and present therewith the ORIGINAL PROOF OF PURCHASE supplied to you by the AUTHORIZED PAADEV DEALER in connection with your purchase from him of this product.

b. Ship the defective item, prepaid, to:

   PAADEV ELECTRONICS CORPORATION
   International Service Center
   Highway 80 East
   MERIDIAN, MISSISSIPPI 32301

   including therewith a complete, detailed description of the problem, together with a legible copy of the original PROOF OF PURCHASE and a complete return address. Upon PAADEV’s receipt of these items:

   If the defect is remedial under these limited warranties and the other terms and conditions expressed herein have been complied with, PAADEV will provide the necessary warranty service to repair or replace the product and will return it, FREIGHT COLLECT, to you, the purchaser.

PAADEV’s liability to the purchaser for damages from any cause whatsoever and regardless of the form of action, including negligence, is limited to the actual damages up to the greater of $500.00 or an amount equal to the purchase price of the product that caused the damage or that is the subject of or is directly related to the cause of action. Such purchase price will be that in effect for the specific product when the cause of action arose. This limitation of liability will not apply to claims for personal injury or damage to real property or tangible personal property allegedly caused by PAADEV’s negligence. PAADEV does not assume liability for personal injury or property damage arising out of or caused by a non-PAADEV alteration or attachment, nor does PAADEV assume any responsibility for damage to interconnected non-PAADEV equipment that may result from the normal functioning and maintenance of the PAADEV equipment.

UNLESS OTHERWISE SPECIFIED, PAADEV SHALL BE LIABLE TO THE PURCHASER FOR NO INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PRODUCT, EVEN IF PAADEV HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

THESE LIMITED WARRANTIES ARE IN LIEU OF ANY AND ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, PROVIDED, HOWEVER, THAT IF THE OTHER TERMS AND CONDITIONS EXPRESSLY REQUIRED TO THE EXISTENCE OF THE EXPRESSED, LIMITED WARRANTIES, AS HERETABONE STATED, HAVE BEEN COMPLIED WITH, IMPLIED WARRANTIES ARE NOT DISCLAIMED DURING THE APPLICABLE ONE-YEAR OR NINETY-DAY PERIOD FROM DATE OF PURCHASE OF THIS PRODUCT.

SOME STATES DO NOT ALLOW LIMITATION ON HOW LONG AN IMPLIED WARRANTY LASTS, OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU. THESE LIMITED WARRANTIES GIVE YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

INSTRUCTIONS — WARRANTY REGISTRATION CARD

1. Mail the completed WARRANTY REGISTRATION CARD to:

   PAADEV ELECTRONICS CORPORATION
   POST OFFICE BOX 2899
   MERIDIAN, MISSISSIPPI 32302-2899

   a. Keep the PROOF OF PURCHASE. In the event warranty service is required during the warranty period, you will need this document. There will be no identification card issued by PAADEV Electronics Corporation.

2. IMPORTANCE OF WARRANTY REGISTRATION CARDS AND NOTIFICATION OF CHANGES OF ADDRESSES

   a. Completion and mailing of WARRANTY REGISTRATION CARDS — Should notification become necessary for any condition that may require correction, the REGISTRATION CARD will help ensure that you are contacted and properly notified.

   b. Notice of address changes — If you move from the address shown on the WARRANTY REGISTRATION CARD, you should notify Peavey of the change of address so as to facilitate receipt of any bulletins or other forms of notification which may become necessary in connection with any condition that may require dissemination of information or correction.

   c. You may contact Peavey directly by telephone (800) 453-5355.
**DANGER**

Exposure to extremely high noise levels may cause a permanent hearing loss. Individuals vary considerably in susceptibility to noise-induced hearing loss, but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a sufficient time.

The U.S. Government's Occupational Safety and Health Administration (OSHA) has specified the following permissible noise levels. Exposures above these levels could result in the risk of permanent hearing loss.

<table>
<thead>
<tr>
<th>Duration (in hours)</th>
<th>Sound Level (in dBA)</th>
<th>SLM Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>80</td>
<td></td>
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<tr>
<td>24</td>
<td>70</td>
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<td>52</td>
<td>60</td>
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<td>100</td>
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<tr>
<td>120</td>
<td>40</td>
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<tr>
<td>180</td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

According to OSHA, any exposure in excess of the above permissible limits could result in some hearing loss.

CAN PLUG OR PROTECTORS IN THE EAR CANALS OR OVER THE EARS BE WORN WHEN OPERATING THIS AMPLIFICATION SYSTEM IN ORDER TO PREVENT A PERMANENT HEARING LOSS.

**CAUTION**

This device is not intended for use as an automatic safety device and is not recommended for applications where the loss of this equipment could result in personal injury or property damage.

**Features and specifications subject to change without notice.**

Peavey Electronics Corporation 711 A Street / Meridian, MS 39302-2898 / U.S.A. / (601)483-5365 / Telex 504115 / Fax 486-1279

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#80301250

Printed in U.S.A. 10/90