# CARVIN XDRIVE

XD360 Operation Manual

The XD360 *Extreme Drive* is designed to provide flexibility, sonic excellence and intuitive controls for loudspeaker and EQ management. The XD™ software with USB PC connectivity offers total control of your system with the processing flexibility required for both installation and live use. The XD360 is a next generation tool for critical sound processing between the mixer and power amp.
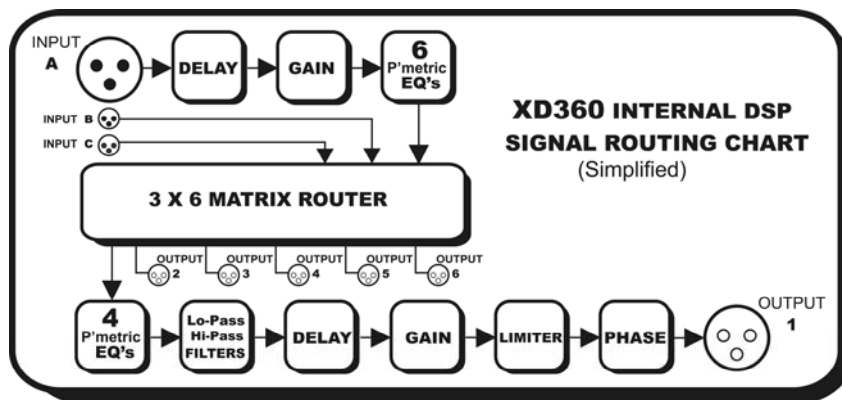
As a primary loudspeaker management system, the XD360 can control systems from a basic stereo setup to a 6-way concert system and everything in between. The System Quick Setup makes output routing and crossover configuration easy. Loadable Speaker Presets tuned for specific Carvin speaker cabinets provide optimized settings to get the most out of each element in your system. The XD360 includes 6 parametric EQ's on each input, 4 parametric EQ's on each Output with high and low crossover filters; Bessel, Butterworth or Linkwitz-Riley (6 to 48dB/oct.), Limiter with Threshold, Phase, and Delays up to 120mS for distance or for individual driver alignments.

The XD360 provides a high contrast 2x24 graphic display for programming from the front panel. For remote settings, use the intuitive USB PC interface (go to carvin.com/XD360 for the online demonstration). Onboard memory capacity has

enough storage to contain up to sixteen complete 3x6 system configurations with settings for multiple loudspeakers and line arrays, or to store unlimited configurations on your PC. Premium 24-bit A/D and D/A converters offer low noise and full 20-20kHz bandwidth with extremely low latency processing. The XD360 provides the serious tools needed for loudspeaker management. With first-rate components, high order AD/DA converters, an easy to use interface and a price that anyone can afford, the XD360 is a valuable addition to any rack.

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(continued)

2. SAFETY
IMPORTANT! FOR YOUR PROTECTION, PLEASE READ THE FOLLOWING:

CAUTION: RISK OF ELECTRIC SHOCK, DO NOT OPEN.

WATER AND MOISTURE: Electronic equipment should not be used near water (near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc). Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

POWER SOURCES: The electronic equipment should be connected to a power supply only of the type described in the operating instructions or as marked on the electronic equipment.

GROUNDING OR POLARIZATION: Precautions should be taken so that the grounding or polarization means of an electronic equipment is not defeated.

POWER CORD PROTECTION: Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles and the point where they exit from the electronic equipment.

SERVICING: The user should not attempt to service the electronic equipment beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel. If your unit is equipped with a fuse receptacle, replace only with the same type fuse. Refer to replacement text on the unit for correct fuse type.

This equipment has been tested and found to comply with international safety standards.

Warranty Information:
LIMITED WARRANTY

Your Carvin processor is guaranteed against failure for 1 YEAR unless otherwise stated. Carvin will service and supply all parts at no charge to the customer providing the unit is under warranty. Shipping costs are the responsibility of the customer. CARVIN DOES NOT PAY FOR PARTS OR SERVICING OTHER THAN OUR OWN. A COPY OF THE ORIGINAL INVOICE IS REQUIRED TO VERIFY YOUR WARRANTY. Carvin assumes no responsibility for horn drivers or speakers damaged by this unit. This warranty does not cover, and no liability is assumed, for damage due to: natural disasters, accidents, abuse, loss of parts, lack of reasonable care, incorrect use, or failure to follow instructions. This warranty is in lieu of all other warranties, expressed or implied. No representative or person is authorized to represent or assume for Carvin any liability in connection with the sale or servicing of Carvin products. CARVIN SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

SERVICE:
  In the USA go to www.carvinservice.com
  Outside the USA, contact your dealer or go to http://www.carvinworld.com for your nearest service center. Include a written description of the problem with serial number and date of purchase.

MAINTAINING YOUR EQUIPMENT

Avoid spilling liquids or allowing any other foreign matter inside the unit. The panels of your unit can be wiped from time to time with a dry or slightly damp cloth in order to remove dust and bring back the new look. As with all pro gear, avoid prolonged use in caustic environments such as dust or salt air. When used in such an environment, be sure the unit is adequately protected by a cover.

Please record the unit's serial number, invoice number and invoice date (purchase date).

Serial No.:_____

Invoice No.:_____

Invoice Date:_____

3. Rear Panel:
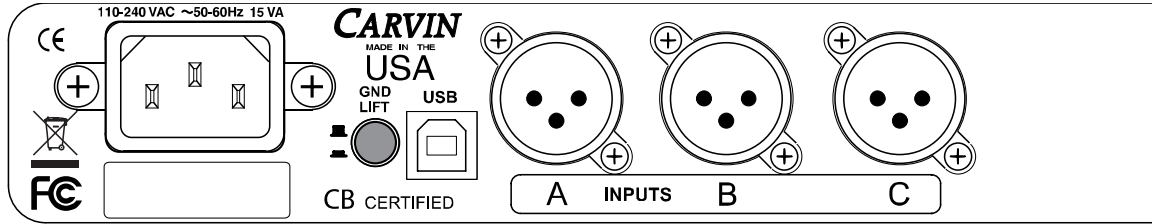
AC Power receptacle: A standard IEC that will accept 90-250 VAC, 50-60Hz.

Ground Lift switch: Lifts the XD360 signal grounds to solve ground loop issues in complex setups.

XLR inputs A, B, C: Connect to audio sources.

USB type B jack: For connection to a PC using Carvin's XD360 control software with a full screen graphic interface and for XD360 firmware updating.
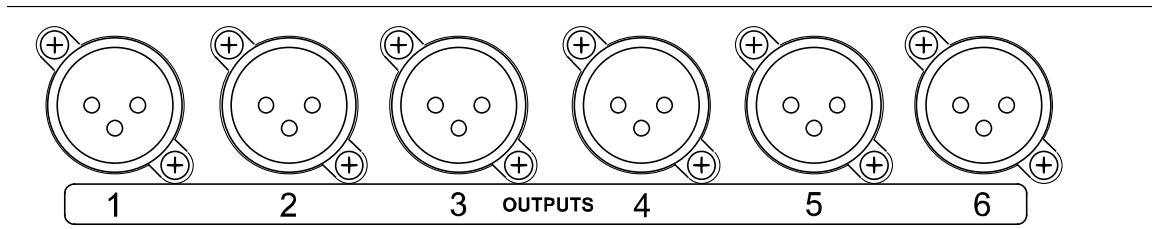
XLR outputs 1, 2, 3, 4, 5, 6: Connect to audio inputs.

4. Front Panel:
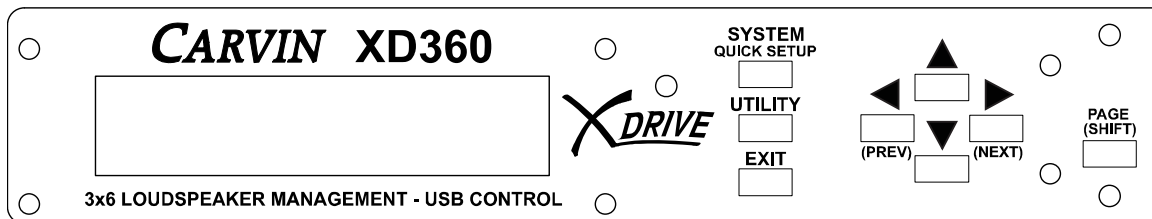
SYSTEM, **UTILITY**, and **EXIT**
  Enter to SYSTEM or UTILITY menus. Escape from the menus with EXIT.

◀**PREV (Left)**, ▶**NEXT (Right)**
  Selects which parameter to change or move to the next or previous page.

▲ (**Up**), ▼ (**Down**)
  Adjusts parameter value.

PAGE (SHIFT)
  Hold and also press **PREV** or **NEXT** to skip one full page.

4. Front Panel:
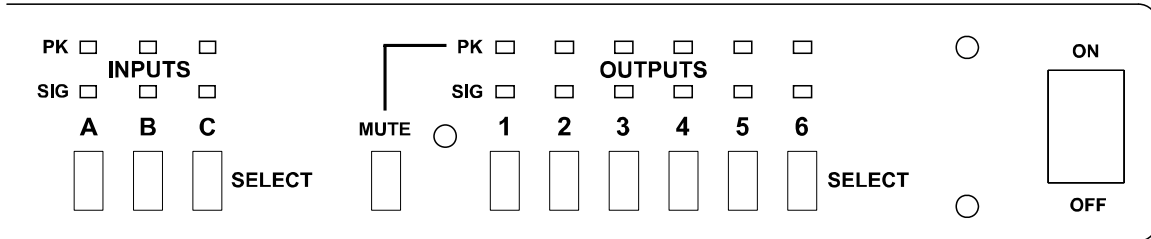
SIG LED's (INPUT signal indicators)
  Indicate that a signal is present at the rear **A**, **B**, or **C** XLR INPUT connector.

PK LED's (INPUT peak indicators)
  Indicate an input is being overloaded from the external source at the rear **A**, **B**, or **C** XLR INPUT connector.

A,B,C (Input SELECT buttons):
  Press to adjust settings for each INPUT.

MUTE button (for Outputs):
  To enter MUTE mode, press **MUTE** once, then press the **1**, **2**, **3**, **4**, **5**, or **6** (OUTPUT **SELECT**s) to mute or un-mute the OUTPUTs.
Press **MUTE** again to exit this mode.
      *Note: If TURN ON MUTE is ON, all outputs will be muted at POWER ON.
      *Note: If SECURITY LOCKOUT is ON, TURN ON MUTE will be bypassed.

SIG LED's (OUTPUT signal indicators)
  Indicate that a signal is present at the rear **1-6** XLR OUTPUT connector.

PK LED's (OUTPUT peak indicators)
  Indicates an output path to XLR OUTPUTs **1-6** is being internally overloaded. Check EQ settings for too much boost, or multiple inputs routed to the same output. The Limiter Threshold can also reduce output peaks.

1 to 6 Output **SELECT** buttons
  Press to adjust settings for each OUTPUT.

4.A. SYSTEM MENU (QUICK SETUP):

Press the **SYSTEM / QUICK SETUP** button to open the SYSTEM menu.
Use the **PREV/NEXT** buttons to move through the menu.
Press **EXIT** to return to the INPUT/OUTPUT screens.

Page 1 - > QUICK SETUP:

  QUICK SETUP mode will allow you to quickly configure a full system, without having to set routing and crossover parameters from each Output screen.

~ Press **SYSTEM** again for QUICK SETUP mode (or press **NEXT** to skip).
Press **UP/DOWN** to select one of the four SYSTEM TYPE configurations below.
The default Crossover Filter Type is Linkwitz-Riley 24dB/Octave. This can be changed in the Output Settings.

- **Stereo 3-way**:
  Inputs: **A** and **B**
  Crossovers: High/Mid and Mid/Low
  Outputs: **1**:High(A), **2**:Mid(A), **3**:Low(A), **4**:High(B), **5**:Mid(B), **6**:Low(B)
- **Three 2-way**:
  Inputs: **A**, **B, C**
  Crossovers: High/Low
  Outputs: **1**:High(A), **2**:Low(A), **3**:High(B), **4**:Low(B), **5**:High(C), **6**:Low(C)
- **Mono 4-Way**:
  Input: **A**
  Crossovers: High/Mid, Mid/Low and Low/Sub
  Outputs: **1**:High(A), **2**:Mid(A), **3**:Low(A), **4**:Sub(A)
- **Stereo 2-Way + Sub**:
  Inputs: **A** and **B**
  Crossovers: High/Low and Low/Sub
  Outputs: **1**:High(A), **2**:Low(A), **3**:High(B), **4**:Low(B), **5**:Sub(A+B)

Once the SYSTEM TYPE is selected, press **SYSTEM** again to set the frequency for the first crossover. **Example: High – Mid Freq: 2.30kHz**
Press **UP/DOWN** to set the crossover frequency, then press **SYSTEM** to select the next crossover frequency. Once each crossover is set, pressing **SYSTEM** will exit the QUICK SETUP mode.
  To view or change crossover frequencies, press buttons **1, 2, 3, 4, 5,** or **6** (Output SELECTs) for each output and press **RIGHT** to view and **UP**/**DOWN** to change the settings. Each output will adjust individually.

< - Page 2 - > COPY CHANNEL:
To quickly copy the settings to another Input or Output, use COPY CHANNEL.
~ Press **SYSTEM** for COPY CHANNEL mode (or press **NEXT** to skip).
Select the channel to copy **from** with **UP/DOWN**, then press **SYSTEM**.
Select a channel location to be pasted **into** with **UP/DOWN**.
Press **SYSTEM** again to finish, or **EXIT** to end.

< - Page 3 - >   LOAD PRESET SPEAKER:

   You can recall speaker presets optimized for specific **Carvin** speaker cabinets and load them to OUTPUT channels.

   The presets contain optimized settings for crossover frequencies, EQ, Delay (alignment), and Threshold (Limiter) which are tuned for the specific speaker elements in the speaker cabinet. These presets can also be used as starting points for similar speakers in other systems.

   If you have already done a Quick Setup, loading speaker presets will over-write the OUTPUT settings. We recommend following the Output 1-6 routings (**A**,**B**,**C**) for HI, MID, LO or SUB from the Quick Setup menu.

~ Press **SYSTEM** to **Load Preset** (or press **NEXT** to skip).

Choose a preset from the list using **UP/DOWN**. Press **SYSTEM** to enter.

Choose a "**Save To Channel**" (OUTPUT 1-6) using **UP/DOWN** and press **SYSTEM** to enter. Repeat to load remaining speaker elements to other outputs.

   Example: To set up for a Carvin TRx115 cabinet:

Choose "**TRx115Hi**" and **Save to Channel** "**1**" (Hi Output),

Then choose "**TRx115Lo**" and **Save to Channel** "**2**" (Low Output).

The crossover and other settings will now be set correctly for a **TRx115** cabinet, (Note: set the switch on the speaker's jack plate to **BI-AMP**).

< - Page 4 - >   EDIT SYSTEM NAME:

~ Press **SYSTEM** to change system name (or press **NEXT** to skip).

Use **PREV** / **NEXT** to select a character, press **UP** / **DOWN** to edit the character. Press **SYSTEM** or **EXIT** to save.

< - Page 5 - >   SAVE SYSTEM:

SAVE SYSTEM will save a complete setup into a memory location, including all Input/Output settings. You can save multiple systems and recall (load) them later.

~ Press **SYSTEM** to SAVE SYSTEM (or press **NEXT** to skip).

Select a memory location **Save at slot:** "**#**" with **UP/DOWN**, then press **SYSTEM** to save.

< - Page 6 - >   LOAD SYSTEM:

LOAD SYSTEM will recall a complete setup from a memory location, including all Input and Output settings.

~ Press **SYSTEM** to load a system configuration (or press **NEXT** to skip).

Select the **Sys. to load:** "**#**" with **UP/DOWN**, then press **SYSTEM**.

< - Page 7   RESET CHANNELS TO FLAT:

This will set the parameters for ALL INPUTS and OUTPUTS to the "0" or Flat setting, and all crossovers will be set wide open at 20Hz to 20kHz.

~ Press **UP** to continue and reset to flat, **EXIT** to cancel. Press **PREV** to go back.

4.B. UTILITY MENU:
Press the **UTILITY** button to open the UTILITY menu.
Use the **PREV/NEXT** buttons to move through the menu.
Press **EXIT** to return to the INPUT/OUTPUT screens.

Page 1 - > DELAY UNITS
~ Press **Up**/**Down** to display delay times in **Seconds**, **Feet,** or **Meters**.
Press **NEXT** for Page 2 or **EXIT** to return to the INPUT/OUTPUT screens.

< - Page 2 - > DELAY MEMORY
This screen displays how much memory is remaining for use.
The XD360 starts with a total of 120mS of delay memory. As you assign more
delay to inputs or outputs, the remaining available memory time decreases.
~ Press **NEXT** for Page 3 or **EXIT** to return to the INPUT/OUTPUT screens.

< - Page 3 - > TURN ON MUTE
~ Choose **ON** to *mute* all outputs when the XD360 is powered on.
Choose **OFF** to leave outputs active at startup.
        *Note: TURN ON MUTE will be bypassed if SECURITY LOCKOUT is ON.
Press **NEXT** for Page 4 or **EXIT** to return to the INPUT/OUTPUT screens.

< - Page 4 - > SECURITY LOCKOUT
~ Select **ON** to prevent any changes to the XD360 settings.
Select **OFF** to allow changes to the XD360 settings.
Press **NEXT** to enter the password.
Input the 4-digit password using the **OUTPUT SELECT (1-6)** buttons.
        *Note: The factory set default password is **1234**.
Press **NEXT** for Page 5 or **EXIT** to return to the INPUT/OUTPUT screens.

< - Page 5 - > CHANGE PASSWORD
To change the 4-DIGIT PASSWORD, you must first enter the old password.
~ Press **OUTPUT SELECT** buttons 1-6 to first enter the old password.
        *Note: The factory set default password is **1234**.
Press **NEXT**. Then enter the new password using **OUTPUT SELECTS (1-6)**.
Press **NEXT** for Page 6 or **EXIT** to return to the INPUT/OUTPUT screens.

< - Page 6: Unit ID - USB
More than one XD360 can be controlled through USB ports from a single
computer. When doing this, set the UNIT ID for each XD360 to a different
number.
~ Press **UP/DOWN** to set the UNIT ID from 1-16. The maximum cable length for
a USB connection (without an active extension) is 16.4ft (5M).
Press **PREV** to go back to Page 5 or **EXIT** to return to the INPUT/OUTPUT
screens.

4.C. INPUT SETTINGS:

Pressing any INPUT SELECT button (**A**,**B** or **C**) will bring up that input's screen at any time, except if using the **SYSTEM** or **UTILITY** menus you must press **EXIT** to escape.

Press the **PREV/NEXT** buttons to select a parameter to edit and then press the **Up**/**Down** to change the value.

Holding the **PAGE**(**SHIFT**) button while pressing **NEXT** or **PREV** will skip to the next full screen instead of passing through each parameter one at a time.

When you change from one input to another all the changes are saved in memory.

INPUT SCREEN PAGE 1:

Input #   Input name   Input gain level

ⅎ	A	:			M	a	i	n	L	e	f	t			G	a	i	n	:	-	0	6	.	0
					D	e	l	a	y		m	S	:	1	2	1		u	S	:	9	0	5	

                                                          Delay in large units (mS)   Delay in small units (uS)

INPUT NAME:

To edit the INPUT NAME, press **Left (Prev)** (the cursor starts at GAIN),
then use **LEFT**/**RIGHT** to choose which character to edit, and press **Up**/**Down** to change the character. The name is saved when leaving the screen.

GAIN:

To adjust the Gain (volume) of the selected input use the **Up**/**Down** buttons. The range is **0db** at maximum to **-60db** at minimum, in **0.5dB** steps.

DELAY:

The **Delay** time can be adjusted in large and small increments:
mS/uS (milliseconds/microseconds), **Feet/Inches** or **Meters/mm**.
(change units in the **UTILITY** menu).
The total amount of delay available for the XD360 is 120 milliseconds (120ft./36.5M). Each time a delay is added, it deletes it from the total time available for the system. For example, a Stereo system may have up to a maximum of 63mS for each of the 2 inputs.

See next page for INPUT SCREEN PAGE 2, 3, 4.

INPUT SCREEN PAGE 2, 3, 4:

Input #	PEQ#	PEQ frequency	PEQ level	PEQ bandwidth
₹ A	1	1 . 0 0 k	- 0 1 . 5 d B	3 . 0 0 B W
P E Q 2		3 4 . 5	1 0 . 0 d B	0 . 0 4 B W
	PEQ#	PEQ frequency	PEQ level	PEQ bandwidth

Parametric EQ (PEQ):

   The six bands of Parametric EQ on each Input are typically used as "Main System EQs" and can be more effective than multi-band graphic EQs.

   The first cursor position "**1**" is the Frequency for PEQ 1. Use the **Up**/**Down** buttons to increase or decrease the frequency. Press **NEXT** for GAIN setting.
PEQ GAIN: Set the boost or cut from **+12.0dB** to **-12.0dB**. Press **NEXT** for BandWidth.
PEQ BW: The bandwidth of the PEQ can be adjusted from very narrow **0.04** octave to extremely wide **3.00** octaves.
0.32 octave is equal to one fader on a normal 30 band EQ, or 1/3 octave.
Press **NEXT** to access the **PEQ2** frequency, gain, and BW.
Press **NEXT** or **NEXT+SHIFT(PAGE)** to access **PEQ3, PEQ4** and **PEQ5, PEQ6.**

4.D. OUTPUT SETTINGS:

Pressing any OUTPUT SELECT button (**1- 6**) will bring up that output's screen at any time, except if using the **SYSTEM** or **UTILITY** menus you must press **EXIT** to escape.

Press the **PREV/NEXT** buttons to select a parameter to edit and then press the **Up**/**Down** to change the value.

Holding the **PAGE**(**SHIFT**) button while pressing **NEXT** or **PREV** will skip to the next full screen instead of passing through each parameter one at a time.

When you change from one output to another all the changes are saved in memory.

OUTPUT SCREEN PAGE 1:

Output #   Output name   Output gain level

```
O
u   1 :     M a i n L e f t        G a i n : - 0 6 . 0
t
S o u r c e :     A + B + C     P h a s e :     I N
```

          Source(s) for this output   Phase IN/OUT

OUTPUT NAME:

To edit the OUTPUT NAME, press **Left (Prev)** (the cursor starts at GAIN), then use **LEFT**/**RIGHT** to choose which character to edit and press **Up**/**Down** to change the character. The name is saved when leaving the screen.

GAIN:

To adjust the **Gain** (volume) of the selected output use the **Up**/**Down** buttons. The range is **0.0db** at maximum to **-60.0db** at minimum, in **0.5dB** steps.

SOURCE:

The **Source** setting will determine which Inputs (**A, B, C**) are routed to the selected Output. Choose **A**, **B**, **C**, **A+B**, **B+C**, **A+C**, or **A+B+C**.

You can use the QUICK SETUP feature in the SYSTEM menu to easily set up the outputs as a full system.

PHASE:

The **Phase** is either **IN** or **OUT** 180 degrees. This can be used to adjust the phase of individual components in a multi-component system (2-way, 3-way, 4-way systems) or to correct a speaker wired out of phase. Some feedback problems can also be solved with the PHASE setting.

See next page for OUTPUT SCREEN PAGE 2.

OUTPUT SCREEN PAGE 2:

Output #						LPF frequency			Filter type			dB/oct.	

Out	1	L	P	F		2	.	0	k	H	z	B	u	t	t	e	r	2	4
		H	P	F		4	0	.	0		H	z	L	i	n	k	w	z	4	8

				HPF frequency			Filter type			dB/oct.

LOW PASS (LPF) and HIGH PASS (HPF) FILTERS (CROSSOVER):

LPF: Set the Low Pass Filter frequency (Hi Cut).
HPF: Set the High Pass Filter frequency (Low Cut).
Filter types:

> **BUTTER 6** : Butterworth 6db/octave slope (1 st order)
> **BUTTER 12** : Butterworth 12db/octave slope (2 nd order)
> **BUTTER 18** : Butterworth 18db/octave slope (3 rd order)
> **BUTTER 24** : Butterworth 24db/octave slope (4 th order)
> **BUTTER 48** : Butterworth 48db/octave slope (8 th order)
> **BESSEL 12,** or **24**: Bessel (2 nd order) or (4 th order)
> **LINKWZ 12, 24,** or **48**: Linkwitz-Riley (2 nd order), (4 th order), (8 th order)

OUTPUT SCREEN PAGE 3:

Output #										Limiter threshold in dB

Out	1	L	i	m	i	t	e	r		T	h	r	e	s	h	:	+	0	1	.	0
		D	e	l	a	y		m	S	:		0	u	S	:		2	1			

					Delay in large units (mS)		Delay in small units (uS)

LIMITER:

The Limiter is used to protect amplifiers, speakers and recordings by controlling peaks in the signal output which would otherwise cause distortion and clipping.
Thresh: The Threshold level has a range from **+18.0dB** to **-20.0dB**.
Output levels less than the Threshold setting will not be affected.

DELAY:

The **Delay** time can be adjusted in large and small increments:
mS/uS (milliseconds/microseconds), **Feet/Inches** or **Meters/mm**.
(change units in the **UTILITY** menu).
The total amount of delay available for the XD360 is 120 milliseconds (120ft./36.5M). Each time a delay is added, it deletes it from the total time available for the system. For example, a simple Stereo system may have up to a maximum of 63mS for each of the 2 inputs.

OUTPUT SCREEN PAGE 4, 5:

Output #	PEQ#	PEQ frequency	PEQ level	PEQ bandwidth
out 1	1	1 0 8	- 0 2 . 0 d B	0 . 6 0 B W
P E Q 2		1 . 2 5 k	0 1 . 5 d B	0 . 0 4 B W
	PEQ#	PEQ frequency	PEQ level	PEQ bandwidth

Parametric EQ (PEQ):

The four bands of Parametric EQ on each Output are used to EQ each speaker independently.

The first cursor position **"1"** is the Frequency for PEQ1.

Use the **Up**/**Down** buttons to select the frequency in Hz from **20** to **20k**.

PEQ GAIN: Sets the boost or cut from **+12.0dB** to **-12.0dB**.

PEQ BW: The bandwidth of the PEQ can be adjusted from very narrow **0.04** octave to extremely wide **3.00** octaves.

0.04 octave has a narrow slope for picking out specific frequencies.

**0.32** octave is equal to one fader on a normal 30 band EQ, or 1/3 octave.

3.00 octaves has a bandwidth of 9 faders with a broad slope.

Press **NEXT** to access the **PEQ2** frequency, gain, and BW.

Press **NEXT** or **NEXT+SHIFT(PAGE)** to access **PEQ3, PEQ4**.

PARAMETRIC EQ SETTINGS:

Figure 1 is a +12dB boost, 1kHz filter of varying bandwidths in octaves:
0.04oct.(1), 0.32oct.(2), 0.64oct.(3), 1.00oct.(4), 2.00oct.(5) and 3.00oct.(6).

fig.1
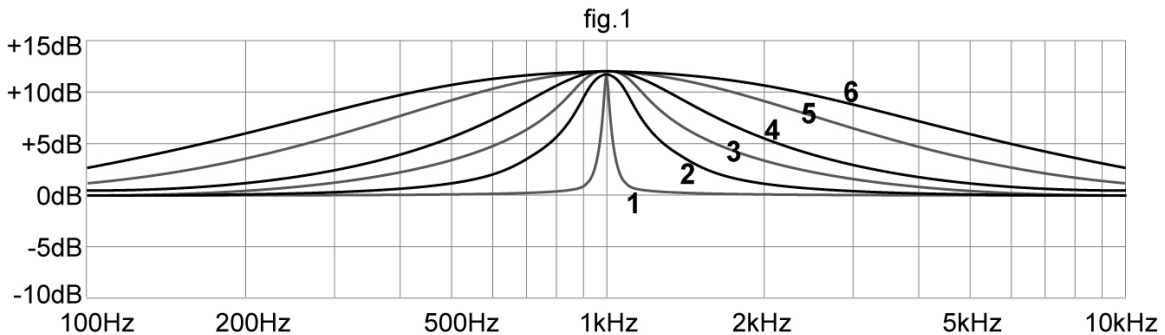
4.E. MUTE button:

(mute screen)			
P r e s s	o u t p u t	t o	m u t e
o r	p r e s s	M U T E	t o e x i t

A muted channel is indicated by the PEAK (Red LED) staying on constantly and no green SIG(signal) light on that Output channel.

~ To mute/un-mute output channels, press the **MUTE** button and then press any of the OUTPUT **SELECT** buttons **1** to **6**.

Press the **MUTE** button again to <u>exit</u> MUTE mode.

*Note: If TURN ON MUTE is ON, all outputs will be muted at POWER ON.

*Note: If SECURITY LOCKOUT is ON, TURN ON MUTE will be bypassed.

5. COMPUTER CONTROL / GRAPHIC INTERFACE

   The XD360 has a USB port allowing use with Carvin's XD™ software.

5.A. THE CARVIN XD™ SOFTWARE

MINIMUM COMPUTER SYSTEM REQUIREMENTS:
Windows XP or later.

SOFTWARE INSTALLATION:
Download the software from: www.carvin.com/XD360

To install the XD360 software:

1. Unzip the files to a directory on your Hard Drive. There is 1 file: "Setup.exe"

2. Run the Setup.exe file to install the XD360 Serial Control software on your computer.

3. The software will be installed to the **c:\Program Files\Carvin XD360** directory. It is recommended to not change the install directory.

4. You will be asked if you would like a Desktop shortcut icon created. It is recommended to do this to allow easy access to the program.

5. The XD360 software is now ready to use by double-clicking the XD360 Serial Control icon on your desktop. When linking to the XD360 hardware, the device should be connected via the USB cable and powered on before the software is used.

5.B. SERIAL CONNECTION:
Connecting through USB.

Connecting the XD360 hardware:
1. You must plug in the USB cable to both the PC computer and the XD360 before you turn on the XD360.
2. Turn on the computer and wait to see the desktop.
3. Turn on the XD360.
4. Run the XD360 software on the computer.
5. Click on the "CONNECT TO DEVICE" button at the top middle of the screen.
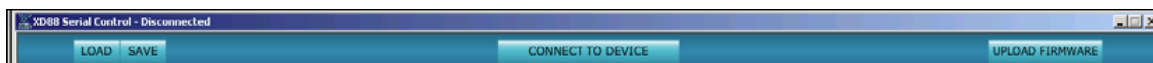
6. Select the COM port for the device. This will usually be higher than COM1. The actual COM PORT can be found by right clicking on the 'MY COMPUTER' icon and selecting 'Properties'. Select the 'HARDWARE' tab and click on 'DeviceManager' button. Finally click the PORTS (COM & LPT) to see which USB Serial Port is assigned.
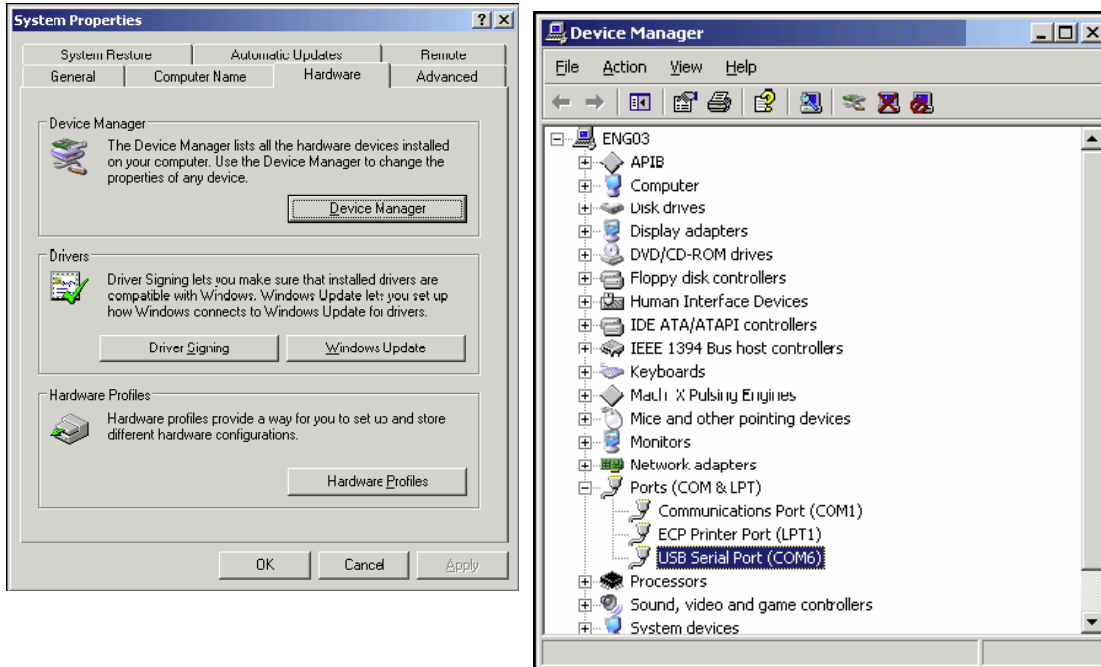
UPLOAD FIRMWARE UPDATES TO THE XD360 (top right of screen)
Future upgrades and improvements can be uploaded from the computer to the XD360 hardware memory.

To perform a XD360 firmware update:
1. Download new firmware to your computer from www.carvin.com/XD360.
2. Save the file in a known location on your computer.
3. Click on the "UPLOAD FIRMWARE" button at the top right of the screen.
4. Navigate to the firmware file you saved on your computer and double click.

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5.C. CONTROLLING the XD360 from the GRAPHIC INTERFACE:
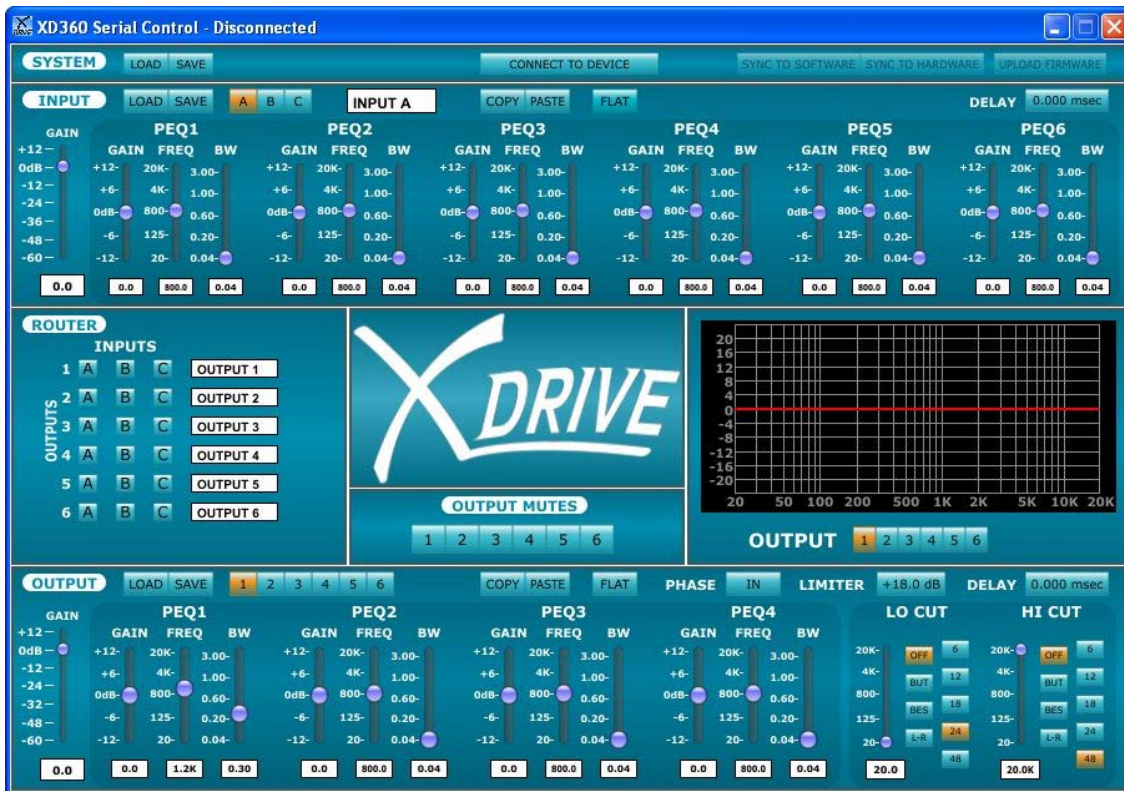
SYNC TO SOFTWARE (top right area of screen)
Click on this button to transfer the computer screen settings to the XD360.
All changes made on the computer screen will change the XD360.

SYNC TO HARDWARE (top right area of screen)
Click on this button to display the settings from the XD360 onto the computer
screen. All changes made on the computer screen will change the XD360.

SYSTEM LOAD and SAVE (top left of screen)
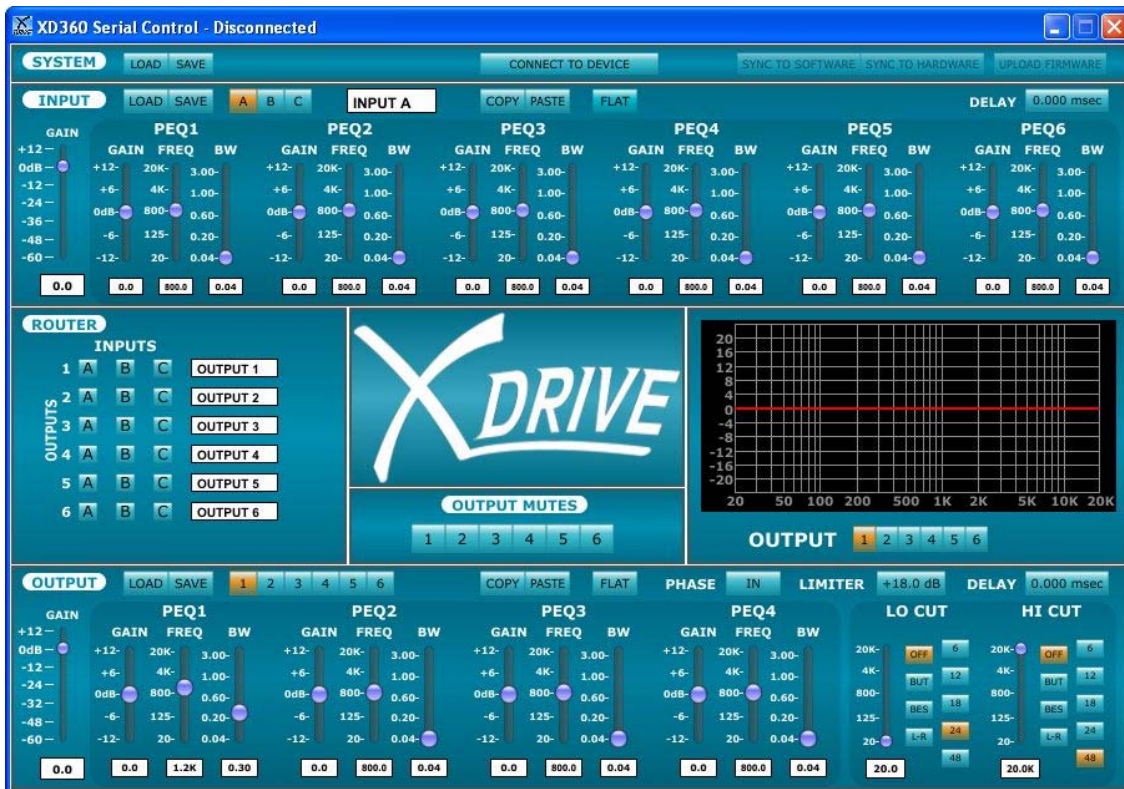Complete setups can be saved as a SYSTEM on the computer, and uploaded
back in from the computer.
Be sure to save these files in a known location so they can be retrieved later.

INPUT SETTINGS (top 1/3 of screen, after SYSTEM) Click on **A**, **B**, or **C**.
LOAD/**SAVE**: Load preset input settings or save them to your computer.
COPY/**PASTE**: Copy output settings from one output to another.
FLAT: sets the input to 20Hz-20kHz, all PEQs flat and volume full (0dB).
GAIN: Set input level from 0dB (full) to -60dB(off)
PEQ: Set Parametric EQ's for Gain (boost/cut), FREQuency and BandWidth.
DELAY: Set the delay time for the input. Right click to select units: S, Ft, M.

ROUTER (left middle of screen)
For each **OUTPUT**, click on the **A**, **B**, **C** buttons to select output signal sources.
OUTPUT MUTES buttons **1** to **6** (center screen, below "X-Drive")
Click on these to mute or un-mute the individual outputs.
FREQUENCY CHART buttons **1** to **6** (right middle of screen)
Display the frequency response of each output as a different color.

OUTPUT SETTINGS (bottom 1/3 of screen) Click on **1** to **6**.
LOAD/**SAVE**: Load preset output settings or save them to your computer.
COPY/**PASTE**: Copy output settings from one output to another.
FLAT: sets the output to 20Hz-20kHz, all PEQs flat and volume full (0dB).
LOW CUT and **HIGH CUT**: Set crossover points, filter type and rolloff (dB/oct.).
GAIN: Set output level from 0dB (full) to -60dB(off)
PEQ: Set Parametric EQ's for Gain (boost/cut), FREQuency, and BandWidth.
LIMITER: Set the threshold for the Limiter (+18db is no limiting).
DELAY: Set the delay time for the output. Right click to select units: mS, Ft, M.
PHASE: Flip the phase 180 degrees. IN is normal, OUT is +180 deg.

6. SAMPLE SETUPS:

STEREO 3-WAY SETUP:

MIXER
L R

LEFT (A)

1 2 3 4 5 6
XD360
A B

HIGH

AMP | in1 in2 | out1 out2

MID

AMP | in1 in2 | out1 out2

LOW

AMP | in1 in2 | out1 out2

RIGHT (B)

HIGH

MID

LOW

THREE 2-WAY SETUP:

MIXER
Aux 1 2 3

1 2 3 4 5 6
XD360
A B C

BI-AMP MONITORS

AMP | in1 in2 | out1 out2

HIGH

LOW

AUX 1 (A)

AMP | in1 in2 | out1 out2

HIGH

LOW

AUX 2 (B)

AMP | in1 in2 | out1 out2

HIGH

LOW

AUX 3 (C)

MONO 4-WAY SETUP:

MIXER (MONO)

1 2 3 4

XD360

A

AMP   in1   in2   out1   out2

AMP   parallel in   out1   out2

AMP   in   thru   BRIDGE OUT

AMP   in   BRIDGE OUT

SUB

MONO (STAGE LEFT)

HIGH

MID

LOW

MONO (STAGE RIGHT)

HIGH

thru

MID

thru

LOW

SUB

STEREO 2-WAY SETUP: (WITH ADDED SUB)

MIXER
L R

1 2 3 4 5

XD360

A B

LEFT (A)

HIGH

LOW

RIGHT (B)

HIGH

LOW

AMP   in1   in2   out1   out2

AMP   in1   in2   out1   out2

in   BRIDGE OUT   AMP

SUB
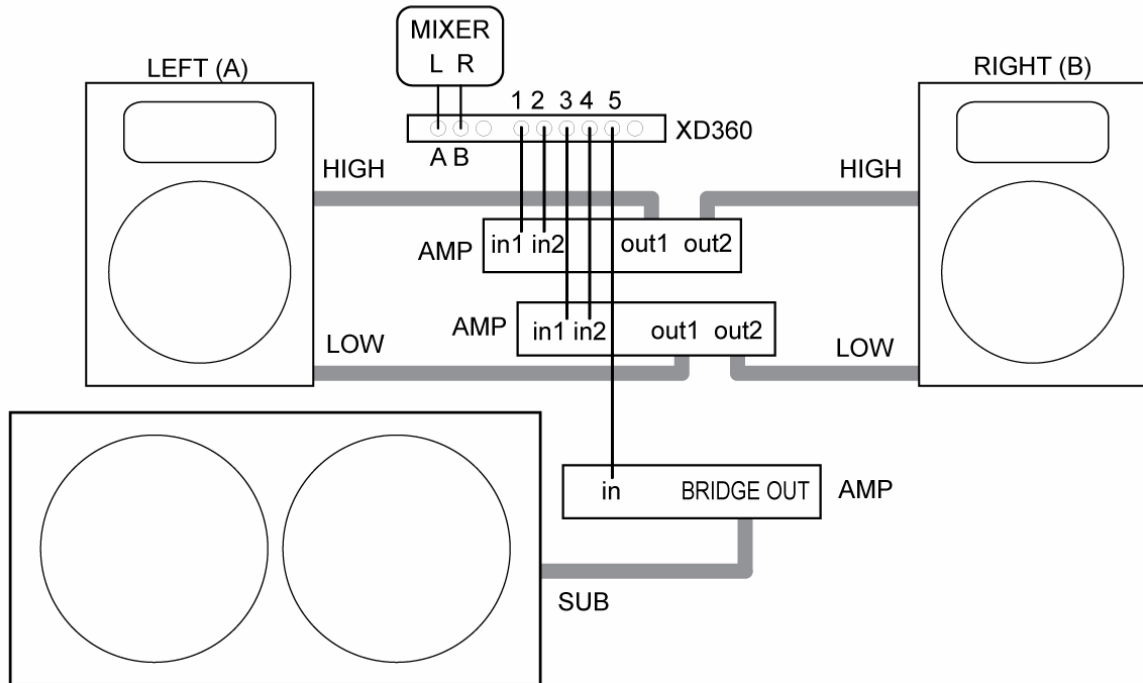
7. SPECIFICATIONS:

INPUTS:
Female XLR connectors, 10kOhm, balanced
Maximum Input +18 dBu
Digital Controls:
      Gain: 0dB to -60dB in 0.5dB steps
      Delay: 0-120mS (max. system delay) in XXuS steps
          (0-XXXft in 0.XXin steps or 0-XX meters in Xmm steps)
      6 Parametric EQs: 20Hz to 20kHz,
          +/- 12dB in 0.5dB steps, 0.04 to 3.0 octaves(Q)

OUTPUTS:
Male XLR connectors, 150 Ohms electronically balanced
Maximum Output +18 dBu
Dynamic Range 120dB unweighted 22Hz – 22kHz
Frequency Response 20Hz – 20kHz
Distortion (THD) <0.005%, 20Hz – 20kHz @+10dBu
Digital Controls
      Gain: 0dB to -60dB in 0.5dB steps
      Source Routing
      Phase: 0 or -180 degrees (in or out)
      High pass and Low pass (Crossover) Filters:
          Butterworth: 6, 12, 18, 24, 48dB/oct.
          Bessel: 12, 24, 48dB/oct.
          Linkwitz-Riley: 12, 24, 48dB/oct.
      4 Parametric EQs: 20Hz to 20kHz,
          +/- 12dB in 0.5dB steps, 0.04 to 3.0 octaves(Q)
      Limiter: +18dB to -20dB Threshold, hard limiting
      Delay: 0-120mS (max. system delay) in 21uS steps
          (0-120ft in 0.28in steps or 0-40 meters in 7mm steps)

USB:
Compatible with Microsoft Windows USB 1.1 or higher

System Processing:
Multi DSP 48kHz 24 bit
A/D Converters 114dB 24 bit
D/A Converters 120dB 24 bit

General:
Dimensions 19”W x 1.75”H x 8”D (483mm x 45mm x 204mm)
Weight 4.32 lbs (1.96 kg)
Power 90-250 VAC, 50/60Hz standard IEC receptacle

CARVIN SPEAKER SETTINGS

XD360 Speaker Preset Parameters

#	Name	Gain	Phase	LPF Type	LPF Freq	HPF Type	HPF Freq	Limiter Threshold	Delay Large	Delay Small	PEQ1 Freq	PEQ1 Gain	PEQ1 BW	PEQ2 Freq	PEQ2 Gain	PEQ2 BW
1	LS1523Hi	0.00	IN	Off	0	BUT18	430	0.00	0	0						
2	LS1523Lo	0.00	IN	BUT18	430	BUT24	50	0.00	0	0						
3	LS1523Sb	0.00	IN	BUT24	92	BUT48	29	0.00	0	0						
4	LS2153Hi	0.00	IN	OFF	0	BUT24	50	0.00	0	0	3.45k	-4.5	1.50			
5	LS2153Lo	0.00	IN	BUT48	540	BUT24	50	0.00	0	0						
6	LS2153Sb	0.00	IN	BUT12	100	BUT48	29	0.00	0	0						
7	LS1801Sb	0.00	IN	BUT24	125	BUT48	29	0.00	0	0						
8	TRx12NHi	-6.00	IN	OFF	0	BUT18	2.00k	0.00	0	0	2.90k	-5.0	1.00			
9	TRx12NLo	0.00	IN	BUT24	2.00k	BUT48	50	0.00	0	0	85	3.0	0.60	430	-6.0	1.00
10	TRx12NSb	0.00	IN	BUT18	125	BUT48	29	0.00	0	0						
11	TRx115Hi	-5.50	IN	OFF	0	BUT18	3.15k	0.00	0	0						
12	TRx115Lo	0.00	IN	L-R48	2.15k	BUT18	40	0.00	0	0	1.35k	3.0	1.00			
13	TRx115Sb	0.00	IN	BUT24	125	BUT48	29	0.00	0	0						
14	TRx215Hi	-3.00	IN	OFF	0	L-R48	1.35k	0.00	0	0	2.70k	-5.5	2.00			
15	TRx215Md	0.00	IN	BUT24	2.00k	OFF	0	0.00	0	0						
16	TRx215Lo	0.00	IN	BUT6	187	OFF	0	0.00	0	0						
17	TRx215Sb	0.00	IN	BUT12	108	BUT48	29	0.00	0	0						
18	TRx153Hi	-6.00	IN	OFF	0	L-R24	3.15k	0.00	0	0	8.00k	3.0	1.50			
19	TRx153Md	-4.00	IN	L-R24	3.15k	L-R24	465	-3.00	0	0	2.00k	6.0	0.60			
20	TRx153Lo	0.00	IN	L-R24	465	BUT18	40	0.00	0	0						
21	TRx153Sb	0.00	IN	BUT18	125	BUT48	29	0.00	0	0						
22	TRx118N	0.00	IN	BUT24	125	BUT48	29	0.00	0	0						

CARVIN XD360 XDRIVE
3x6 LOUDSPEAKER MANAGEMENT
OPERATION MENU REFERENCE SHEET

SYSTEM / QUICK SETUP

- QUICK SETUP
  - SYSTEM TYPE:
  - (X-OVER #1) FREQ:
  - ? (X-OVER #2) FREQ:
  - ? (X-OVER #3) FREQ:
- COPY CHANNEL
  - COPY FROM:
  - PASTE INTO:
- LOAD PRESET SPEAKER
  - LOAD PRESET:
- EDIT SYSTEM NAME
  - EDIT SYS. NAME:
- SAVE SYSTEM
  - SAVE AT SLOT:
- LOAD SYSTEM
  - SYS. TO LOAD:
- RESET CHANNELS TO FLAT
  - SURE? (UP), or EXIT (end)

UTILITY

- DELAY UNITS: S/Ft/M
- DELAY MEMORY REMAINING
- TURN ON MUTE: ON/OFF
- SECURITY LOCKOUT: ON/OFF
- CHANGE PASSWORD
- UNIT ID - USB: 1-16

INPUT: A, B or C

- < LEFT to EDIT NAME
- GAIN
  - DELAY
- PARAMETRIC EQ1
  - PARAMETRIC EQ2
- PARAMETRIC EQ3
  - PARAMETRIC EQ4
- PARAMETRIC EQ5
  - PARAMETRIC EQ6

OUTPUT: 1, 2, 3, 4, 5 or 6

- < LEFT to EDIT NAME
- GAIN
  - SOURCE
  - PHASE
- LPF / FILTER TYPE
  - HPF / FILTER TYPE
- LIMITER THRESHOLD
  - DELAY
- PARAMETRIC EQ1
  - PARAMETRIC EQ2
- PARAMETRIC EQ3
  - PARAMETRIC EQ4

MUTE / UNMUTE:
press MUTE, press 1-6 (OUTPUTS)
press MUTE to EXIT this mode

CARVIN XD360
3x6 LOUDSPEAKER MANAGEMENT
XDRIVE
INTERNAL DSP SIGNAL ROUTING CHART