XP

User Manual

XILICA

Important Safety Information

1. READ THESE INSTRUCTIONS
All the safety and operating instructions should be read before the product is operated.

2. KEEP THESE INSTRUCTIONS
The safety and operating instructions should be retained for future reference.

3. HEED ALL WARNINGS
All warnings on the product and in the operating instructions should be adhered to.

4. FOLLOW ALL INSTRUCTIONS
All operating and use of instructions should be followed.

5. DO NOT USE THIS APPARATUS IN WATER.
Do not use the product near water. For example, near a bathtub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.

6. CLEAN ONLY WITH DRY CLOTH.
Unplug the unit from the wall outlet before cleaning.

7. DO NOT BLOCK ANY VENTILATION OPENINGS
Slots and openings in the cabinet back or bottom are provided for ventilation, to ensure reliable operation of the limit and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or similar surface. This product should never be placed near or over a radiator or heat source. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

8. DO NOT INSTALL NEAR ANY HEAT SOURCES
This product should be situated away from heat sources such as radiators, stoves or other products (including amplifiers) that produces heat.

9. DO NOT DEFEAT THE SAFETY PURPOSE OF THE POLARIZED OR GROUNDING-TYPE PLUG
A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prongs are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10. PROTECT THE POWER CORD FROM BEING WALKED ON OR PINCHED PARTICULARLY AT PLUGS, CONVENIENCE RECEPTACLES, AND THE POINT WHERE THEY EXIT FROM THE APPARATUS.

11. ONLY USE ATTACHMENTS/ACCESSORIES SPECIFIED BY THE MANUFACTURER.

12. USE ONLY WITH CART, STAND, TRIPOD, BRACKET, OR TABLE SPECIFIED BY THE MANUFACTURER, OR SOLD WITH THE APPARATUS. WHEN A CART IS USED, USE WITH CAUTION WHEN MOVING THE CART/APPARATUS TO AVOID INJURY FROM TIP-OVER.
Do not place this unit on an unstable cart, stand, tripod, bracket, or table. The unit may fall, causing serious injury to someone, and serious damage to the appliance. A unit and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

13. UNPLUG THIS APPARATUS DURING LIGHTNING STORMS OR WHEN UNUSED FOR LONG PERIODS OF TIME.
For added protection for this unit during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the unit due to lightning and power surges.

14. REFER ALL SERVICING TO QUALIFIED PERSONNEL. SERVICING IS REQUIRED WHEN THE APPARATUS HAS BEEN DAMAGED IN ANY WAY. SUCH AS, WHEN THE POWER SUPPLY CORD OR PLUG IS DAMAGED, LIQUID HAS BEEN SPILLED, OR OBJECTS HAVE FALLEN INTO THE APPARATUS, THE APPARATUS HAS BEEN EXPOSED TO RAIN OR MOISTURE, DOES NOT OPERATE NORMALLY, OR HAS BEEN DROPPED.

15. WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.

16. APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING AND NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.
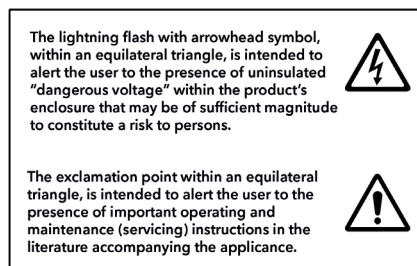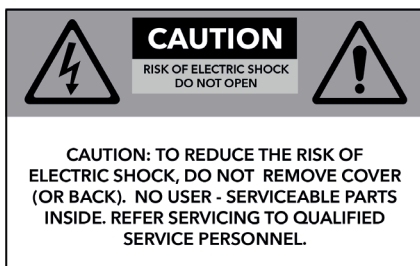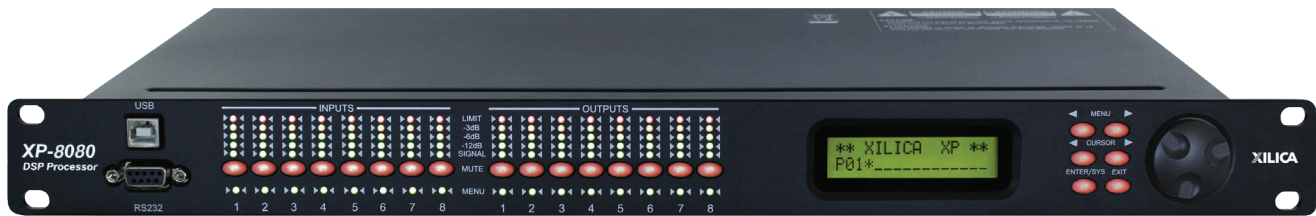
CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER - SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk to persons.

The exclamation point within an equilateral triangle, is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the applicance.

Table of Contents

What's in the Box

- XP series hardware device
- Hard copy of the Quick Start Guide
- USB drive with XConsole software, User manual and Spec Sheet
- Detachable IEC 90-240 VAC (50-60Hz) power cable
- Detachable 3.5mm Phoenix/Euro type terminal block connectors

What you need to Provide

- PC computer with a processor 1GHz or higher
- Windows 7 or higher
- 500 MB of free space
- 1 GB graphics card
- 4 GB of RAM
- Network interface (Router/switch/hub)
   A router is used for IP assignment and easy connectivity to computer and control devices.
- Ethernet cable (Cat5/6), RS232 or USB cable

Getting Help

Additional Help Files and video tutorials are available at our website: www.xilica.com

For further technical support, please email: support@xilica.com and we'll connect you with a solutions engineer. Alternatively, you can call our worldwide offices for immediate assistance:

International: +1 905 770-0055
US Toll Free: +1 877 767-0234
Europe: +31 29940-1100
China & Hong Kong SAR: +852 2604-9382
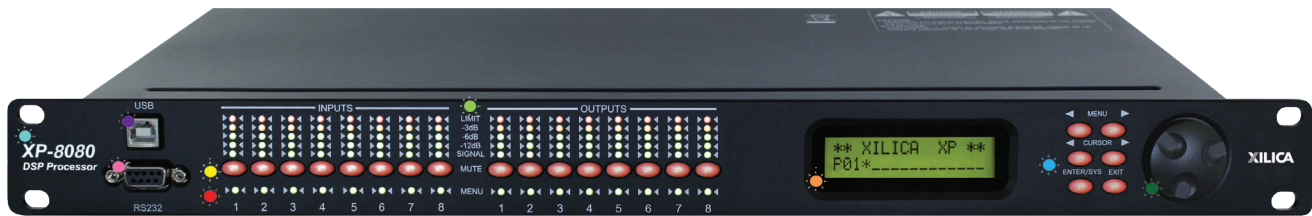
Model name

USB Port
A standard Type B USB connector. The device driver must be installed prior to usage.

RS232 Port
A standard female DB9 socket. A straight through cable is required for PC connection.

Mute (channel) buttons
Mute or unmute input and output channels. When and input channel is muted, a red LED will come on for indication.

When the **<<Menu** or **Menu>>** key is held down, the **Mute buttons** select the corresponding channel for the LCD menu display and is acknowledged by a green LED below the button. The last modified menu will be displayed on the LCD. Multiple channels can be linked or unlinked by pushing the desired channels. This eases programming for same parameters across multiple channels. Multiple inputs can be linked together multiple outputs can be linked together. Inputs and outputs are linked separately.

Channel LED
Indicates the activated channels for data modification.

Peak Level LED
Indicates the current peak level of the signal: -12dB, -6dB, -3dB, over/limit. The input Limit LED references to the device's maximum headroom. The output Limit LED references to the threshold of the output limiter.

LCD Display
The LCD display shows all of the necessary information to control the settings of the unit from the front panel.

Menu Buttons
There are six menu buttons: **<<Menu** (Menu down), **Menu>>** (Menu up), **<<Cursor** (Cursor down), **Cursor>>** (Cursor Up), **Enter** and **Exit**.
<<Menu: Go to previous menu screen
Menu>>: Go to next menu screen
<<Cursor: Go to previous cursor in the menu screen
Cursor>>:Go to next cursor in menu screen
Enter: Enter enters the **system menu** from the main menu and is used in the system menu to proceed with selected actions
Exit: Exit to **main menu**

Jog wheel
Scroll through menu options using the jog wheel. The wheel has travel velocity sensing which ease large incremental data modifications. For modifying delay and frequency (1 Hz resolution), pressing the Enter key simultaneously will increment/decrement the data value by 100X.
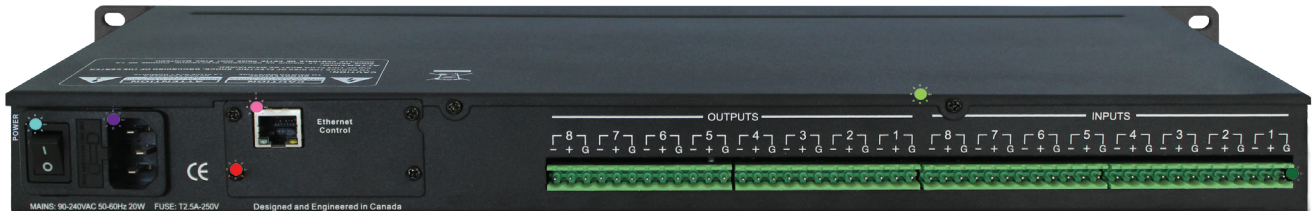
Power On/Off switch

Power input connector
Insert the supplied IEC plug connector into the socket. Connect the AC end of the cord into a 90-240 VAC 50-60Hz power source.

Ethernet control
A standard RJ45 (Ethernet) connector for Ethernet control. The device should be connected to a router/switch/hub via a straight through Cat5 cable.

XP 8080 Analogue inputs and outputs
Euro/Phoenix style terminal block output connections utilizing 3.5mm terminal block connectors (included). Use balanced shielded audio cabling. XP 8080 model has 8x8 inputs/outputs

XP 4080 / 3060 / 2040 Analogue inputs and outputs
Separate 3-pin connectors are provided for each audio input and output. The device's output stage employs the balanced impedance topology. All I/O connectors have pin 1 as ground (shield), pin 2 as + and pin 3 as - .

XConsole PC software

The XP series is shipped with Xilica's XConsole software. XConsole gives the user an option to control the unit from a remote PC. The GUI application makes it much easier to control and monitor the device from one screen. Programs can be recalled and stored to and from a PC's hard drive, thus expanding the storage to become virtually limitless.

XConsole can be connected to the XP series via RS232, USB or Ethernet. USB requires the installation of an additional driver. The user is given an option to install this driver during the installation of XConsole. If the user did not install the driver at the time of installing XConsole, they may run the USB driver installer from the provided software.
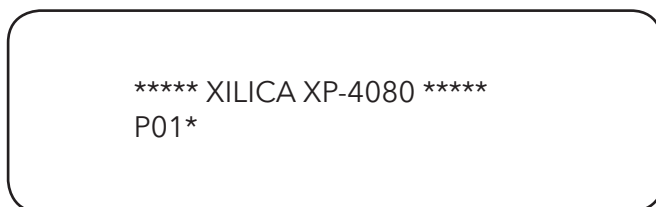
Power On Devices

1.   Upon powering up the unit, the following initialization screen will display on the LCD:

```
***** XILICA XP-4080 *****
      XP-4080   v9.00B
```
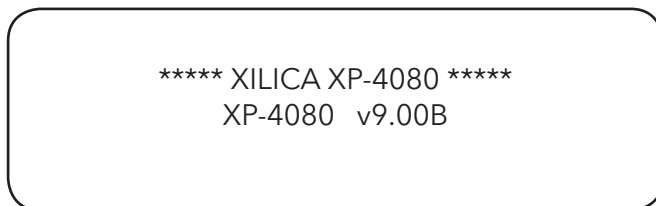
The initialization process takes several seconds. The unit will start up and display the device model and firmware version.

2.   After the initialization process is complete, the XP will display the following:

```
***** XILICA XP-4080 *****
P01*
```

The screen displays the current program number and program name assigned to the unit. If the program number ends with *, it means that no program is assigned, the last data before previous power down is recalled instead.

3.   The XP series processor is now ready to operate.

Operating Channel menus
Channel linking

While holding down the **<<Menu** or **Menu>>**, more than one channel from the same input or output group can be selected to link the channels together. The green LEDs below the for the **mute** buttons are lit for the linked channels.
Any modification of the data for the selected linked channel will be applied to the linked channels as well.
To cancel linking, simply deselect the desired channel while the **<<Menu** or **Menu>>** key is still pressed, or simply press the **Exit** key to deselect all channels.

Input microphone gain
(Only available for XP 2040M, 3060M, 4080M and 8080M models)

```
I1: _____        Mic
LEVEL: 0dB
```

LEVEL
The level (or gain) ranges from 0dB to +45dB in 3dB steps.
This level will only have an affect on the input channel when Mic input is selected from the **system menu**. Please refer to Page 15.

Input/output signal

```
I1: _____        Signal
LEVEL: 0.00dB
```

LEVEL
The level (or gain) ranges from -40dB to +15dB in 0.25dB steps.

```
I1: _____        Signal
POL: +
```

POL
The polarity (or phase) can be normal (+) or inverted (-)

```
I1: _____        Signal
DELAY: 000.000ms
```

DELAY
The maximum delay permitted is 650ms, in steps approximately 10us (1/96k). The delay time unit can be set to ms, ft or m in the **System menu.** Please refer to Page 15.

Input/output equalizer

```
I1: _____        EQ1
EQ#: 1
```

EQ#
Each input channel has 8 bands of equalization. This control selects one of the 8 available bands.

```
I1: _____        EQ1
BYPASS: Off
```

BYP
This control will un-bypass (Off) or Bypass (On) the currently selected band.

```
I1: _____        EQ1
TYPE: PEQ
```

TYP
The five types of EQ that can be used are: parametric (PEQ), low shelf (LO-SHF), high shelf (HI-SHF), first degree all-pass (AP-1), and second degree all-pass (AP-2).

```
I1: _____        EQ1
FREQ: 1000Hz
```

FRQ
The EQ centre frequency ranges from 20Hz to 30kHz in either 1Hz steps or 1/36 octave steps. The frequency steps can be selected in the **System Menu.** Please refer to Page 15.

```
I1: _____      EQ1
BW:0.33      Q=4.36
```

```
I1: _____      EQ1
DEG: 15.5 deg
```

BW
The EQ bandwidth ranges from 0.02 to 3.61 octaves in steps of 0.01 octave. The equivalent Q value is automatically shown besides the octave value. For first degree all-pass (AP-1) filter, the bandwidth will set the phase shift at the centre frequency. The phase shift is gradually changed from 180 degrees above the centre frequency to the specified value.

```
I1: _____        EQ1
LEVEL: 0.00dB
```

LVL
The EQ level (or gain) ranges from -30dB to +15dB in 0.25dB steps.

Input graphic equalizer

```
I1: _____      GEQ1
GEQ#: 1        f=20
```

GEQ#
The graphic equalizer has 31 bands of equalization from 20Hz to 20kHz. This control selects one of the 31 available bands. The frequency corresponding to each band is also shown.

```
I1: _____      GEQ1
LEVEL: 0.00dB
```

LEVEL
The GEQ level (or gain) ranges from -30dB to +15dB in 0.25dB steps.

```
I1: _____      GEQ1
BYPASS: Off
```

BYPASS
This control will un-bypass (Off) or bypass (On) the entire GEQ for this channel.

Input/output crossover

```
01: _____      XOver
TYPL: Off
```

TYPL:
The three filter types for the low frequency crossover point (high pass) are: Butterworth, Linkwitz-Riley, or Bessel.

```
01: _____      XOver
FRQL: 1000Hz
```

FRQL:
The filter cut-off frequency for the low frequency crossover point (high pass) ranges from 20 to 30kHz in either 1Hz steps or 1/36 octave steps. The frequency steps can be selected in the **System menu**. Please refer to page 15.

```
01: _____      XOver
SLPL: 24dB
```

SLPL:
The filter slope for low frequency crossover point (high pass) ranges from 6 to 48dB/octave. The available slopes are 12, 24, 36, or 48dB/octave.

```
01: _____        XOver
TYPH: Off
```

TYPH:
The three filter types for the high frequency crossover point (low pass) are: Butterworth, Linkwitz-Riley, or Bessel.

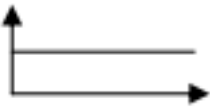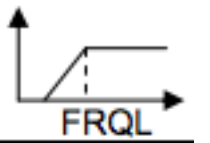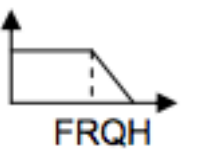```
01: _____   XOver
FRQH: 1000Hz
```

**FRQH:**
The filter cut-off frequency for the high frequency crossover point (low pass) ranges from 20 to 30kHz in either 1Hz steps or 1/36 octave steps. The frequency steps can be selected in the **System menu**. Please refer to page 15.

```
01: _____        XOver
SLPH: 24dB
```

SLPH:
The filter slope for high frequency crossover point (low pass) ranges from 6 to 48dB/octave. If the selected filter type is Linkwitz-Riley, the available slopes are 12, 24, 36, or 48dB/octave.

Filter configuration	Low crossover point	High crossover point	
None	FTRL Off	FTRH Off	
Highpass	FTRL not Off	FTRH Off	
Lowpass	FTRL Off	FTRH not Off	
Bandpass	FTRL not Off	FTRH not Off	

Input compressor

```
01: _____      Comp
THRESH: +20.0dB
```

THRESH
The compressor threshold ranges from -20dBu to +20dBu in 0.5dB steps.

```
01: _____      Comp
ATTACK: 10ms
```

ATTACK
The compressor attack time ranges from 0.3ms to 1ms in 0.1ms steps, then ranges from 1ms to 100ms in 1ms steps.

```
01: _____      Comp
RELEASE: 8XAtck
```

RELEASE
The compressor release time can be set at 2X, 4X, 8X, 16X, or 32X the attack time.

```
01: _____      Comp
RATIO: 1:1
```

RATIO
The compressor ratio is the slope in which the signal is compressed. It ranges from 1:1 to 1:40.

Input/output channel name

```
I1: _____      Name
NAME:_____
```

NAME
A six character name can be assigned to each channel.

Output limiter

```
01: _____        Limit
   THRESH: +20.0dB
```

THRESH
A limiter threshold ranges from -20dBu to +20dBu in 0.5dB steps.

```
01: _____        Limit
   ATTACK: 10ms
```

ATTACK
The limiter attack time ranges from 0.3ms to 1ms in 0.1ms steps, then ranges from 1ms to 100ms in 1ms steps.

```
01: _____        Limit
   RELEASE: 8XAtck
```

RELEASE
The limiter release time can be set at 2X, 4X, 8X, 16X, or 32X the attack time.

Output source

```
I1: _____        Source
   IN1: Off
```

```
I1: _____        Source
   IN2: -14.00
```

1-8
This sets the input channel source for the current output channel. It can be used to mix the input source (in dB) or disable it (Off). If more than one input sources are enabled, they will be added together as the source for the current output channel. **(Number of inputs is dependent on the model.)**

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Operating the System menu

The **System menu** allows the user to control and change parameters that are related to the system behaviour and general operation. It can be accessed by pressing the **Sys** key in the main menu (When no input/output or System menu is activated). All system menus require pressing the **Enter** key to confirm and save settings.

Preset recall

The XP has a built-in non-volatile memory that can store up to 30 different preset set-ups.

```
SYSTEM    Recall
P:1 _____
```

P

This control selects which program to recall from the non-volatile memory. The program name is displayed to the right of the program number.

Preset store

The XP has a built-in non-volatile memory that can store up to 30 different program (or preset) set-ups. A program can be stored using this menu. The old program with the same program number will be replaced. Once the program is stored in the flash memory, it can be recalled at a later time, even after power down.

```
SYSTEM    Store
P:1
```

P

This control selects which location in the non-volatile memory to save the program to.

```
SYSTEM    Store
NAM: _____
```

NAM

A descriptive name of up to twelve characters can be assigned to each program.

Mic settings

An optional microphone preamp can be added to the XP series. The user can select line input or mic input from this menu. (Only available for XP-2040M, 3060M, 4080M, 8080M models only. Applies to phantom power as well.)

```
SYSTEM        Mic/L
IN1: Line
```

IN 1-8

The user can choose between Line input or mic input. For mic input, the input will receive a 30dB gain. Each input channel can be selected individually.

```
SYSTEM        Phantm
IN1: On
```

Phantom power

The optional microphone preamp also comes with 48Volt Phantom power, which can also be enabled or disabled per channel in this menu.

Copy channels

Copy channels from the source to the target. When the source and targets are both inputs and outputs, all audio parameters will be copied. When one of the source or the target is an input while the other is an output, only the level polarity, delay, EQ, crossover and channel names are copied.

```
SYSTEM        Copy
Source: In1
```

Source

This is the channel to be copied from.

```
SYSTEM        Copy
Target: In2
```

Target

This is the channel to be copied to.

General settings

```
SYSTEM       Generl
FREQ MODE: All
```

FREQ MODE
This changes the frequency control mode for EQ and crossover filters. It can be 36 steps/octave or All Frequencies (1Hz resolution).

```
SYSTEM       Generl
DELAY UNIT: ms
```

DELAY UNIT
This sets the time unit for input and output delay to ms, ft, or m.

Ethernet settings
The network settings are separated into 3 menus.

```
SYSTEM       Eth-IP
:255.255.255.254
```

Eth-IP
A unique IP address should be assigned to each unit in the network.

```
SYSTEM       Eth-GW
:255.255.255.255
```

Eth-GW
The gateway address of the network. Usually this should be the IP address of your router/switch/hub address.

```
SYSTEM       Eth-SM
:255.255.255.255
```

Eth-SM
This sets the subnet mask used by your network.

Communication settings
NOTE: User must power cycle the unit for the settings to take effect.

```
SYSTEM        Comm
DEVICE ID: 1
```

DEVICE ID
This control assigns a device ID from 1 to 16 to the unit. This ID is only useful when a network of more than 1 unit is used in conjunction with 1 or more XPanels.

```
SYSTEM        Comm
BAUD RATE: 115200
```

BAUD RATE
This sets the baud rate of the serial communication. XConsole uses a baud rate of 115200. It should be left unchanged for most users.

```
SYSTEM        Comm
NETWORK ID: 0
```

NETWORK ID
This control assigns a network ID from 0 to 60000 to the unit. This ID is used for future network expansion only. Please leave it at 0.

Security lock and unlock

```
SYSTEM        Secure
PASSWORD:_____
```

PASSWORD
The password is 4 characters in length. The factory default of a new unit does not require a password.
The device can be protected for unauthorized parameters and/or system abuse. The security settings can be controlled and stored in the device with the XConsole GUI only.
When the correct password is entered in the device, all the locks are disabled. After re-entering the password or power-cycling the device, the locks are automatically enabled again.

Factory settings

```
SYSTEM        Reset
CURRENT: Yes
```

CURRENT
This resets all the current parameters back to factory default settings only, while stored presets and system settings stay untouched.

ISO settings

```
SYSTEM        ISO
THRESHOLD: 102
```

```
SYSTEM        ISO
BYPASS: On
```

This internal system optimizer reduces ground floor noise if no signal is present. If unwanted noise gate effects are audible at low sound levels, it can be switched to bypass mode.

INFO
This menu contains 3 info screens:

```
SYSTEM        Info
NAM: _____
```

The first screen displays the device name.

```
SYSTEM        Info
FIRMWARE: v9.00
```

The second screen displays the Firmware version.

```
SYSTEM        Info
CODE: 11110000
```

And the third and last screen displays the security code.
When no password is set, the factory default code is 11110000.

When another combination of characters is displayed, a password is set in the device and certain functions are disabled for the user to modify.

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Quick reference

Parameters	Menu <<Menu>>	Field <<Cursor>>	Min	Max	Steps	Units
Mic level	Mic	LEVEL	0	+45	3	dB
Level	Signal	LEVEL	-40	+15	0.25	dB
Polarity	Signal	POL	+/ -			
Delay	Signal	DELAY	0	62400	1	10us steps
EQ number	EQ	EQ#	1	8	1	
EQ bypass	EQ	BYPASS	Off/On			
EQ type	EQ	TYPE	PEQ / Lo-Shf / Hi-Shf / AP-1 / AP-2			
EQ level	EQ	LEVEL	-30	+15	0.25	dB
EQ frequency	EQ	FREQ	20	30,000	1	Hz
EQ bandwidth	EQ	BW	0.02	3.61	0.01	Octave
GEQ number	GEQ	GEQ#	1	31	1	
GEQ level	GEQ	LEVEL	-30	+15	0.25	dB
GEQ bypass	GEQ	BYPASS	Off/On			
XOver low type	XOver	FTRL	Off / Butterworth / Linkwitz-Riley / Bessel			
XOver low freq	XOver	FRQL	20	30,000	1	Hz
XOver low slope	XOver	SLPL	6	48	6	dB/octave
XOver high type	XOver	FTRH	Off / Butterworth / Linkwitz-Riley / Bessel			
XOver high freq	XOver	FRQH	20	30,000	1	Hz
XOver high slope	XOver	SLPH	6	48	6	dB/octave
Compressor threshold	Comp	THRESH	-20	+20	0.5	dBu
Compressor attack	Comp	ATTACK	0.3	100	0.1/1	ms
Compressor release	Comp	RELEASE	2 / 4 / 8 / 16 / 32X attack time			
Compressor ratio	Comp	RATIO	1:1 to 1:40			
Limiter threshold	Limit	THRESH	-20	+20	0.5	dBu
Limiter attack	Limit	ATTACK	0.3	100	0.1/1	ms
Limiter release	Limit	RELEASE	2 / 4 / 8 /16 / 32X attack time			
Source select	Source	1, 2, 3, 4, 5, 6, 7, 8	Off	+15	0.25	dB
Channel name	Name	NAME	6 characters			

XILICA

Customer Support

If you'd like to contact us regarding product support or technical designs, email support@xilica.com and we'll connect you with a solutions engineer Alternatively, if you'd like to speak to someone, you can call the following numbers for immediate assistance:

International:	+1 905 770-0055
US Toll Free:	+1 877 767-0234
Europe:	+31 29940-1100
China & Hong Kong SAR:	+852 2604-9382

www.xilica.com

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