AVX1

Instruction Manual

7.1 CHANNEL 4K / HDR HOME THEATRE AV PROCESSOR

USER GUIDE

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heaters, stoves, or another apparatus (including amplifiers) that produces heat.
9. Do not override the safety features of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong, are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and at the point that they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when a 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.
    - Refer to the manufacturer's operating instructions for power requirements. Be advised that different operating voltages may require the use of different line cords and/or attachment plugs.
    - Do not install the unit in an unventilated rack, or directly above heat-producing equipment such as power amplifiers. Observe the maximum ambient operating temperature listed in the product specifications.
    - Never attach audio power amplifier outputs directly to any of the unit's connectors.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses andradiates radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio or television reception. This can be determined by turning the equipment off and on. The user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different to the one that the receiver is connected to.
- Consult the dealer or an experienced radio/television technician for help.

WARNING:

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. Do not place objects containing liquid, such as vases, on this apparatus.

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About the AVX1

Thank you for purchasing our new IOTAVX AVX1 Surround Sound Processor.

The IOTAVX AVX1 is a high-performance 7.1 4K / HDR Home Theatre Processor that supports 4K UHD video and all the current 5.1 and 7.1 channel surround sound formats. The AVX1 includes six HDMI video inputs, including three that support 4K UHD HDR video, with HDMI 2.0a and HDCP 2.2, as well as multiple analog and digital audio inputs where you can attach your other audio sources. The AVX1 can be operated via the simple front panel controls, or by the included infrared remote control. The intuitive menu system makes the AVX1 simple to configure and operate using either the large bright blue VFD display on the front panel or the clear concise on-screen display.

Of course, like every product in the AVX series, the AVX1 includes two critical features that you will not find in most other components in its price range: great sound and video quality.

The IOTAVX AVX1 is a true audiophile component, designed, developed and built by audiophiles to deliver the kind of great sound quality that both audiophiles and enthusiasts expect in a high-end audio system.

The AVX1 also features precision high-speed video switches that route video directly from the selected input to the output without any extraneous processing, ensuring that you'll continue to get the absolute best possible picture quality from your HD and 4k UHD video sources. The AVX1 delivers truly stellar audio and video performance.... at down to Earth prices.

So please, put your feet up, turn the Volume up and Enjoy.

The IOTAVX Team

About This Manual

This manual will provide you with the information you need to get started enjoying your IOTAVX AVX1 7.1 4K / HDR Home Theatre Processor.

We suggest that you read through the entire manual; we kept things as short and direct as possible. Even if you are an expert user, you will probably find some interesting information and useful suggestions.

If you're really in a hurry to get started, please read the Quick Start section (on page 8); you may then read the remainder of the manual at your leisure.

Features

The IOTAVX AVX1 is a high performance 7.1 4K / HDR Home Theatre Processor that includes support for the latest high quality 5.1 and 7.1 channel surround sound formats and 4K UltraHD video. The AVX1 offers a variety of powerful features, a comprehensive yet intuitive menu system, informative front panel and on-screen displays, and a full function infrared remote control. Most important of all, the AVX1 delivers superb sound quality.

You may wish to keep a copy of this manual with your records, and record serial numbers or other purchase information on the Notes page at the back.

Highlights

The IOTAVX AVX1 7.1 4K / HDR Home Theatre Processor combines simplicity of operation, outstanding video and audio performance, and incredible value. Here are just some of the exciting features offered by the AVX1:

- Exceptional video quality, with super-fast, error free switching for up to six HDMI inputs - three of which support full 4K UHD HDR video.
- Superb sound quality delivered by advanced surround sound decoders and highly optimized analog audio circuitry.
- Support for all current 5.1 channel and 7.1 channel surround sound formats, including Dolby Digital, Dolby TrueHD, Dolby Pro Logic IIx, DTS, DTS HD Master Audio, DTS Neo:6, and S/PDIF and multi-channel PCM digital audio.
- A high-quality headphone amp for private listening.
- Comprehensive real-time status information provided by the informative on-screen display and the bright, easy to read, front panel VFD.
- Convenient control options, including a full function infrared remote control, front panel menu navigation buttons, and a real front panel Volume knob.
- Advanced EQFLEX automatic multi-channel room correction and loudspeaker setup gets you started fast (calibrated measurement microphone with internal buffer amplifier included).
- Last Video Memory, which allows you to view one source while listening to another.
- Video-On-Standby, which can be configured to send audio and video to the display even when the AVX1 is in Standby mode.

- Flexible quadruple bass management, with 12dB or 24 dB per octave crossover filters, configurable in precise 5 Hz steps below 80 Hz (and 10 Hz steps above 80 Hz), helps you get the best bass performance from virtually any room and subwoofer.
- Eleven user-programmable fully parametric equalizers per channel provide exceptional manual control over room acoustics (with storage for three separate configurations).
- Optional Bluetooth 3.0 module includes support for full CD quality audio from mobile devices with Apt-X™.
- Balanced and unbalanced subwoofer outputs provide additional options for long cable runs or multiple subwoofers.
- High-efficiency, low noise, universal voltage switch mode power supply.
- Firmware updates are carried out using a USB stick - no computer connection is required.
- Full IOTAVX Two Year warranty, 30-day return policy.

Quick Start

To get the most from your AVX1 we urge you to read the entire manual. If you just cannot wait to listen to it, this section will cover the basics you need to get started.

- Find a secure location for your IOTAVX AVX1.
- Connect your IOTAVX AVX1 to a power amplifier and a set of speakers.
- Find some music you really like to listen to.
- Turn on the AC Power switch and turn up the volume a bit!
- Enjoy!

While you are enjoying your IOTAVX AVX1, it would be a great time to read the rest of the manual to learn more about it.

Unpacking

Your IOTAVX AVX1 7.1 4K / HDR Home Theatre Processor was carefully packed and should reach you in perfect condition. If you notice any shipping damage or other issues when you unpack it, please contact IOTA Enterprises Limited immediately.

Gently remove your AVX1 from the packing carton and remove all wrappings and shipping material.

It is important to save the box and all packing materials in case your AVX1 ever needs to be moved or shipped back to the factory for service.

We truly value customer feedback and would like to hear from you.

IOTAVX AVX1 Front Panel

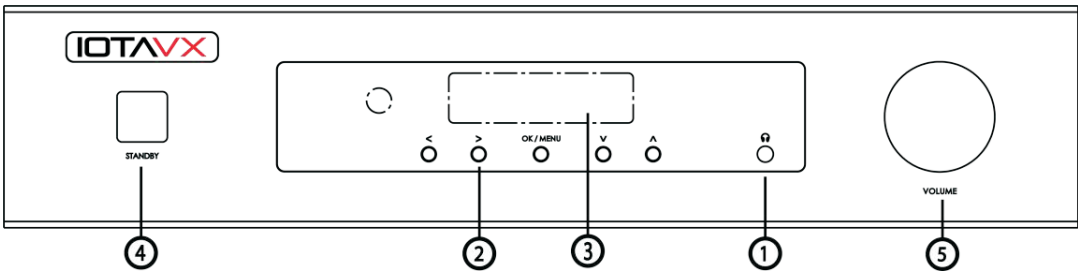

Figure 1 - Front Panel

1. Headphone Jack

Use this jack to connect a pair of high-quality headphones.

Note: The Main Outputs are muted when headphones are inserted.

Note: The intelligent level control on the AVX1 independently stores and remembers the levels for your Main Outputs and your Headphones. When you unplug your headphones, your speakers will return to their previous level.

2. Navigation Buttons

Input Selection - In normal operation, the Left and Right Arrow Buttons are used to select which Input to listen to.

Menu Navigation - The center button is used to enter the AVX1 Setup Menu. Once you have entered the Setup Menu, the Up, Down, Left, and Right buttons are used to navigate the menus, and the center button is used as an Enter button.

3. Front Panel VFD Display

The large, bright, easy to read VFD display keeps you continually informed about the status of your AVX1. The brightness of the front panel display can be controlled using the Dim Button on the Remote Control.

4. Power / Standby Button

This button is used to toggle the AVX1 between Standby and On modes. The halo ring around the button will be illuminated red when the AVX1 is in Standby mode, and white when the AVX1 is On.

Note: The AVX1 will only operate when the AC Power Switch on the rear panel is On. When the AC Power Switch is turned On, the halo will illuminate amber; at which point pressing the Standby button will turn the AVX1 On.

5. Volume Knob

This knob is used to control the Volume on the AVX1.
(If you are in the Setup Menu, turning the Volume knob exits the menu.)

IOTAVX AVX1 Rear Panel

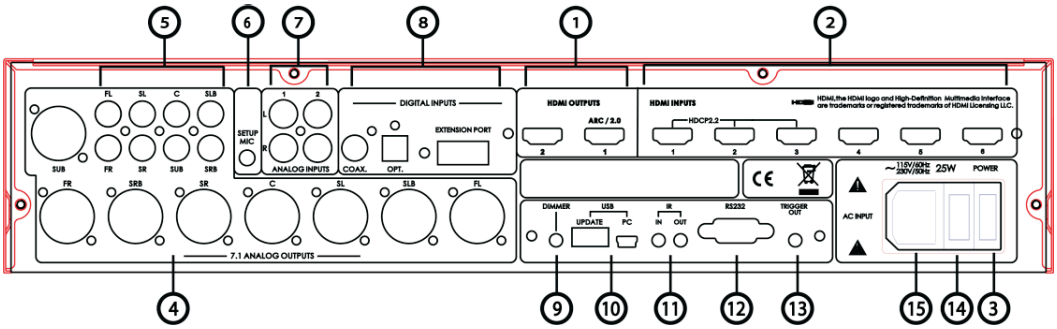

Figure 2 - Rear Panel

1. HDMI Video Outputs

HDMI Output #1 is the main video output, and supports ARC (Audio Return Channel) and commercial 4k UHD video signals. HDMI Output #2 allows you to connect a secondary HDMI video display.

2. HDMI Video Inputs

The AVX1 allows you to connect up to six HDMI video source devices. HDMI Input #1 through HDMI Input #3 should be used for commercial 4K UHD and 4K UHD HDR video sources like 4K Blu-Ray players and satellite boxes; HDMI Input #4 through HDMI Input #6 should be used for HD video sources and non-commercial 4K video content.

3. AC Power Switch

Switches the Main AC power to the AVX1 On and Off. When this switch is Off, no controls operate, and the AVX1 cannot be turned On from the front panel or with the remote control.

4. Balanced 7.1 Channel XLR Outputs

Connect these to the XLR Balanced inputs of your Power Amp. Balanced connections have better immunity to hum and noise - especially if you have very long cables.

The channels are:
LF - Left Front
RF - Right Front
C - Center
LS - Left Surround
RS - Right Surround
SW - Subwoofer
LBS - Left Back Surround
RBS - Right Back Surround

5. RCA 7.1 Channel Analog Outputs

Connect these to the unbalanced analog audio inputs on your power amp or power amps and the input on your powered subwoofer.

The channels are:
LF - Left Front
RF - Right Front
C - Center
LS - Left Surround
RS - Right Surround
SW - Subwoofer
LBS - Left Back Surround
RBS - Right Back Surround

Note: If you have a 5.1 channel system, then you should use the LF, RF, C, RS, LS, and SW outputs. The LBS and RBS are not used in a 5.1 channel system. (Even if your surround speakers are located in the back of the room, in a 5.1 channel system they are considered to be Surround speakers and NOT Back Surround speakers.)

6. Microphone Input (EQFLEX Automatic Room Correction)

Connect the provided calibrated microphone to this input when you are preparing to run the EQFLEX Automatic Room Correction feature in the AVX1. You should always use the calibrated microphone provided with the AVX1. If you use a different microphone it may produce unusual results, or even damage your microphone or the AVX1.

Note: You should connect the microphone before starting EQFLEX. You do not need to leave the microphone connected except when you're planning to run EQFLEX.

7. Stereo Analog Inputs

Use these inputs to connect your analog stereo sources. They might be used to connect the output of a phono preamp or tuner, or you could connect the analog output of a phone or music player to one of these inputs with the appropriate adapter cable.

8. Digital Audio Inputs

Use these inputs to connect a digital audio source. The AVX1 includes one electrical S/PDIF (Coax) input and one optical S/PDIF (Toslink) input. These inputs accept stereo audio at sample rates up to 24/192k and low bandwidth digital surround sound formats like Dolby Digital and DTS Digital Surround.

The third input is for the optional Bluetooth module, which will allow the AVX1 to play wireless audio sent from your phone or other Bluetooth-enabled source.

9. Dimmer Output Socket

Use to connect a jack cable between AVX1 and AVXP1 ports to synchronize the lighting of each unit. AVX1 is the master. The cable is delivered with AVX1.

10. USB Update Inputs

These two inputs are reserved for installing updates and future enhancements on the AVX1.

11. IR Remote Input and IR Remote Output

Use the IR Remote Input to connect an external IR detector (eye); use the IR Remote Output to connect an external IR signal transmitter (sometimes referred to as a flasher).

12. RS-232 Serial Remote-Control Input

This input accepts control signals from a RS-232 Serial remote-control device.

13. Trigger Output

A 12 VDC signal is sent from the Trigger Output of the AVX1 to turn on other devices when the AVX1 is turned on. This signal can be used to turn on other trigger-enabled audio equipment - such as a power amplifier.

14. Fuse Holder

To change the fuse in your AVX1, remove the power cable, then gently pry the fuse compartment open. (The fuse holder opens like a drawer.) Replace the fuse with one of the correct value, replace the fuse drawer, and reinsert the power cable.

Note: If the fuse in your AVX1 blows repeatedly without apparent reason, then you might have an electrical fault, and you should call IOTA Enterprises Technical Support for assistance.

15. IEC Power Cable Receptacle

The IEC Power Cable receptacle accepts any standard IEC power cable. A high quality commercial power cable is provided with your AVX1.

IOTAVX AVX1 Remote Control

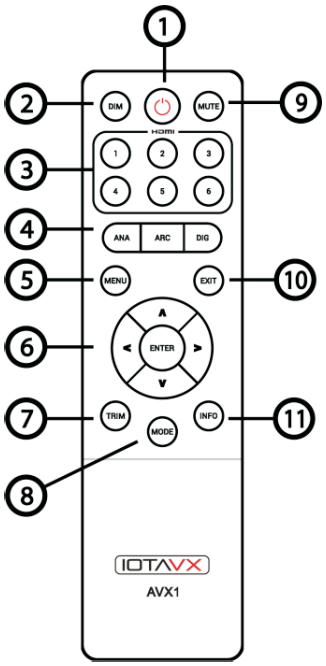

Figure 3 - Remote Control

1. Power Button

This button is used to toggle the AVX1 between Standby and On modes.
Note: The Remote Control will only operate when the AC Power Switch on the rear panel of the AVX1 is On.

2. Dim Button

This button controls the brightness of the front panel VFD display, cycling through Ten different brightness levels.

3. Video Input Buttons

These buttons provide direct access to each of the six HDMI Video Inputs on the AVX1.

4. Audio Input Buttons

These buttons are used to select the various Audio Inputs on the AVX1. Each button selects and then cycles through one set of inputs. The Analog Button selects and then cycles through the Analog Audio Inputs; the Digital Button selects and then cycles through the Digital Audio inputs; the ARC Button selects the Audio Return Channel audio from your TV.
Note: If a Video Input is currently selected, and you then select an Audio Input, the video signal from the previously selected Input will continue to play when the new audio source is selected.

5. Menu Button

The Menu Button activates the Setup Menu on the AVX1. When you are in the Setup Menu, pressing the Menu Button exits.

6. Volume Control and Navigation Buttons

In normal operation, the Up Arrow and Down Arrow Buttons adjust the volume on the AVX1. In the Setup Menu, the four Arrow Buttons and the Enter Button are used to navigate the menu.

7. Trim Button

Press the trim Button to adjust the levels of each group of speakers. Pressing this button once brings you into the Trims Menu. After that, pressing the button repeatedly cycles through the list of speakers. You may then adjust the level of each speaker group on the list using the Left Arrow and Right Arrow buttons. The adjustment range is -10 dB to +10 dB. After you have finished making adjustments, simply don't press the button for a few seconds, and the AVX1 will exit the Trims Menu.
Note: The Speaker Level Trims accessed using the Trim Button are intended to be used to adjust the sound for a particular source or program. They are temporary, and will reset when you select a different Input or place the AVX1 in Standby mode. To make level adjustments that are retained, use the Parameters Menu page in the Setup Menu.

8. Mode Button

The Mode Button allows you to cycle through the available surround sound modes for a particular source or movie. Note: Only certain surround sound modes are valid with each specific type of input signal. The Mode Button will only allow you to select modes that are valid for the input signal that is currently selected.

9. Mute Button

Press this button to mute the audio output on the AVX1; press it again to return the audio to its previous level.

10. Exit Button

The Exit Button is used to exit the Setup Menu.

11. Info Button

Pressing the Info Button does two things.
It causes the On-Screen Display to pop up and show the current Audio Mode and Volume settings.
The current Volume setting is always shown on the Front Panel VFD display, along with more detailed status information. The Info Button causes this status information to toggle between showing the name and designation of the selected Input, and showing the current input signal type and Audio Mode currently selected.

Manual Operation

The IOTAVX AVX1 is very simple to operate using either the front panel buttons or the infrared remote control.

Selecting an Input

To select an Input using the front panel controls:
Use the Left Arrow and Right Arrow navigation buttons to cycle through the available Inputs.

To select a Video Input using the remote control:
Use HDMI buttons 1 through 6 to directly access the six HDMI Video Inputs.

To select an Analog Audio Input using the remote control:
Press the Analog Input Button once to switch to the most recently used Analog Audio Input. Press the Analog Input Button repeatedly to cycle through the remaining Analog Audio Inputs.

To select an Digital Audio Input using the remote control:
Press the Digital Input Button once to switch to the most recently used Digital Audio Input. Press the Digital Input Button repeatedly to cycle through the remaining Digital Audio Inputs.

To select the Audio Return Channel (ARC) Input using the remote control: Press the ARC Input Button once to switch to the ARC audio signal.
(ARC is used to send audio from the TV or display to the AVX1 via the HDMI connection between them when using the internal tuner on the display.)

To select an Input using the Setup Menu and the front panel controls: Press the center Navigation Button to activate the Setup Menu.
Use the Up Arrow and Down Arrow keys to move to the Input you wish to select. Use the Left Arrow key to exit the Setup Menu.

To select an Input using the Setup Menu and the remote control: Press the Menu Button to activate the Setup Menu.
Use the Up Arrow and Down Arrow keys to move to the Input you wish to select. Use the Left Arrow key to exit the Setup Menu.

Controlling the Volume
To control the Volume using the front panel controls:
Use the front panel Volume knob to set the Volume to your preferred listening level.

To control the Volume using the remote control:
Use the Up Arrow and Down Arrow Buttons to set the Volume to your preferred listening level.

To Change the Surround Sound Decoding Mode
To change the surround sound decoding mode using the remote control: Use the Mode Button to cycle through the available surround sound modes.

Note: The surround sound modes you can select will depend on the current audio input signal. The AVX1 will only allow you to select surround sound modes that are appropriate for the current input signal.

IOTAVX AVX1 VFD Display and Menu System

The IOTAVX AVX1 has a large, bright, easy to read VFD (vacuum fluorescent display) which keeps you informed of the current status at all times, and an On-Screen Display that pops up and displays information on your TV screen whenever the status of the AVX1 changes. Both the information that appears on the front panel VFD, and the information that appears on the OSD, can be configured to suit your personal preferences. The current Volume setting is always displayed on the VFD and, by default, is shown in the OSD for several seconds whenever the Volume is changed.

When the AVX1 is turned on, it always returns to same Input and Volume setting as when it was turned off. If you turn the AVX1 off while it is in the Setup Menu, when you turn it on it will start up in normal operating mode.

When you turn the AVX1 on, the display will show a welcome message, then the name of the
Input that's selected and the current Volume setting.

The Menu System and command structure were engineered to allow you easy and logical access to the many powerful configuration features on the AVX1.

To enter the Menu System using the front panel controls, press the Center Navigation Button. To enter the Menu System using the remote control, press the Menu Button.

The menu is comprised of a series of columns. The Left Arrow and Right Arrow buttons on the remote control and the front panel move you across the columns. The Up Arrow and Down Arrow Buttons move you vertically between selections. When you are already at the left-most column, pressing the Left Arrow button again will take you up one menu level. If you're in the top row of the Main Menu, once you reach the left-most column, pressing the Left Arrow Button again exits the menu.

The Menu System in the AVX1 was carefully designed to be intuitive and easy to use. However, because there are a significant number of configuration options, and the front panel VFD only has room for a limited amount of text, we suggest you use the On-Screen Display until you become familiar with the menu options that the AVX1 offers.

The Main Menu

Input	Mode	Parameter	Setup

The Main Menu screen offers four options:

Input
Mode
Parameter
Setup

When you enter the Main Menu, the cursor will be positioned on the top line of the Main Menu line at the left-most position (the Input Menu option).

Press the Down Arrow to enter the Input Menu.

Press the Right Arrow to move to any of the other three options.

Press the Left Arrow to EXIT the Menu System.

Note: When you are in the Main Menu, the Left Arrow Button and Right Arrow Button move the cursor between the four menu options. If the Input Menu option, which is at the left edge of the menu, is already selected, pressing the Left Arrow Button again will Exit the Main Menu.

The Input Menu

The Input Menu allows you to select the video or audio source you wish to watch or listen to.

From the Main Menu, press the Down Arrow Button to enter the Input Menu. (It is intuitive if you think of it as moving down into the lower menu.)

When you enter the Input Menu the cursor will appear on the first item, and you can then move it up or down using the Up Arrow and Down Arrow Buttons.

Move the cursor to highlight the Input you wish to select, then press the Center Navigation Button on the front panel or the Enter Button on the remote control to select it.

Note: The list of Inputs is several screens long; the display will scroll once it reaches the bottom row.

Press the Left Arrow Button to return to the Input Menu.

Press the Left Arrow Button again to return to the Main Menu. Pressing the Left Arrow Button, a third time will exit the Main Menu.

The AVX1 will Exit the Menu System automatically if no button is pressed for several seconds.

Note: If the currently selected Input provides both Video and Audio, and you select an audio source, the previously selected Video Source will continue to play accompanied by the audio from the new Input.

The Mode Menu

The Mode Menu allows you to select the surround sound mode you wish to use.

From the Main Menu, use the Right Arrow Button to move the cursor to the Mode Menu option, then press the Down Arrow Button to enter the Mode Menu.
When you enter the Mode Menu the cursor will appear on the first item, and you can then move it up or down using the Up Arrow and Down Arrow Buttons.
Move the cursor to highlight the surround sound mode you wish to select, then press the Center Navigation Button on the front panel or the Enter Button on the remote control to select it.
Note: The list of Modes is several screens long; the display will scroll once it reaches the bottom row. The options you are offered will depend on your currently selected source.
Certain choices, like DTS Neo 6, will offer additional options when you select them. When this happens, use the Up and Down Arrow Buttons to select the option you prefer, press the Center Navigation Button on the front panel or the Enter Button on the remote control to select it, and then press the Left Arrow Button to return to the main selection.
Press the Left Arrow Button to return to the Mode Menu.
Press the Left Arrow Button again to return to the Main Menu. Pressing the Left Arrow Button, a third time will exit the Main Menu.
The AVX1 will Exit the Menu System automatically if no button is pressed for several seconds.

The Parameter Menu

The Parameter Menu allows you to make changes to some frequently adjusted settings. The first screen offers you the ability to adjust the level of each speaker (+ / - 10 dB in 0.5 dB steps). The second screen allows you to choose some settings for how Midnight Mode and various matrix decoding options work.
From the Main Menu, use the Right Arrow Button to move the cursor to the Parameter Menu option, then press the Down Arrow Button to enter the Parameter Menu.
Use the Up and Down Arrows Buttons to move the cursor to the speaker you wish to adjust. Press the Right Arrow Button to move into the adjustment field for each speaker.
Use the Up and Down Arrows to adjust the current value to the one you want.
Then press the Left Arrow Button to return to Parameter Menu list to select a different speaker.
Note: Unlike the Trims settings, the adjustments you make in the Parameters Menu are retained when you switch Inputs or power the AVX1 Off.
The Midnight Mode and decoder parameters on the second page of the menu are configured the same way. Use the Right Arrow Button to move the cursor to the configuration field, choose the option you want using the Up and Down Arrow Buttons, then return to the Parameter Menu using the Left Arrow Button.
Press the Left Arrow Button to return to the Parameter Menu. Press the Left Arrow Button again to return to the Main Menu. Pressing the Left Arrow Button a third time will exit the Main Menu.
The AVX1 will Exit the Menu System automatically if no button is pressed for several seconds.

The Setup Menu

The Setup Menu allows to configure exactly how the AVX1 operates to suit your personal preferences.
From the Main Menu, use the Right Arrow Button to move the cursor to the Setup Menu option, then press the Down Arrow Button to enter the Setup Menu.
Several of the choices in the Setup Menu have additional options and sub-options. When you wish to change the setting for an option, use the Right Arrow to move to the option field, use the Up and Down Arrow Buttons to change the option value, then use the Left Arrow Button to return to the previous field (there is no need to use the Enter Button unless instructed to).
Input Config - allows you to configure several options independently for each Input. For each input, you can:
- configure whether the input is Enabled
- configure what audio source is associated with that input

- change the friendly name of the input
- change the Lip Synch setting for that input
- set an individual gain adjustment for that input
- set whether the Trigger Output is activated when that input is selected

Mode Setup - allows you to configure what surround sound mode the AVX1 uses for each possible type of input signal.

Speaker Setup - allows you to configure the size and crossover parameters for each of your speakers, and the distance from each of your speakers to your main listening position.

AutoRoom / EQ - allows you to run EQFLEX Advanced Automatic Room Correction, and access the three banks of manual Parametric Equalizer presets in the AVX1.

The AVX1 has four independent groups of EQ settings:

- Manual EQ1, Manual EQ2, and Manual EQ3 contain settings that you enter using the manual parametric equalizer controls.
- EQFLEX contains the settings created and stored by the EQFLEX Automatic Room Correction system.

To select which group of settings to make active, press the Right Arrow Button to move the cursor to the second column of the display.

Use the Up and Down Arrow Buttons to highlight the EQ bank you wish to select.

Press the Enter Button on the remote control or the Center Navigation Button on the AVX1 front panel to select that option and make it active.

To CONFIGURE any of the Manual EQ banks, first highlight it, then press the Right Arrow Button to enter the Manual EQ Configuration screen. On this screen, you will be able to configure the center frequency, level, and Q (sharpness) for each of the 11 parametric EQ bands.

Note: If the Manual EQ group you wish to configure is already selected, you will enter the configuration screen the first time you press the Right Arrow Button. If the Manual EQ group you choose to configure is not currently selected, it will become selected the first time you press the Right Arrow Button, and the second time you press the button you will enter the configuration screen.

You may also manually adjust the configuration settings in the EQFLEX EQ bank in the same way you configure the manual EQ banks.

Note: While you may adjust the values in the EQFLEX EQ bank, the values displayed do not represent the entire range of corrections introduced by EQFLEX. Therefore, while your adjustments will MODIFY the adjustment made by EQFLEX as you expect, setting all bands back to zero is not equivalent to a totally flat setting in one of the Manual EQ groups.

Note: Any manual adjustments you make to the EQFLEX group will be overwritten the next time you run EQFLEX.

Option - provides access to several general operating parameters, including the appearance of the On Screen Display and what information is displayed, the HDMI CEC options, and the Volume Mode and Standby Video modes used by the AVX1.

Version - displays the version of the firmware installed on your AVX1.

Load Default - resets the AVX1 to factory default settings.

Automatic Room Correction and Loudspeaker Calibration

EQFLEX sends a series of test signals through your speakers, measures the results with the (included) calibrated microphone, and configures the AVX1 to make your system sound its best. Even though the actual operation of EQFLEX is very sophisticated, it is very simple to use, and will deliver excellent results without manual tweaking in most situations. (EQFLEX also allows you to fine tune the settings and calibration curves it generates after you run it, and to create your own manual calibration settings as well. You should also bear in mind that the choices EQFLEX makes may not agree with your musical tastes; if so, then you should always go with what you prefer, and adjust your EQ settings accordingly.)

1) Unpack your calibration microphone, unwind the wire, and plug it into the Microphone jack on the rear panel of the AVX1. (The AVX1 is calibrated for this particular microphone, so don't use a different one.)
WARNING: The calibration microphone supplied with the AVX1 includes its own high-quality buffer amplifier to eliminate noise and interference. The microphone jack on the AVX1 provides power for this microphone. If you attempt to use a different microphone with your AVX1, you may damage the microphone or the AVX1.

2) Place the microphone in your listening location. While EQFLEX will do its best to optimize the sound for your entire room, the calibration curve and settings it generates will still be the most precise at the position where the microphone was positioned when the calibration was carried out. The microphone should be placed where your head is normally located.
Here are some tips for best results:

- The test will take several minutes, and some of the test tones may be loud, so you might want to take pets or children out of the room.
- Position the microphone close to where your head or ears normally are (on top of the back-seat cushion of your favorite chair or couch or, ideally, attached to a stand or tripod).
- The microphone is normally positioned with the point up (and the flat base down).
- Do not place the microphone in a location where it is blocked from a direct line-of-sight to any speaker (like on a chair seat). If the microphone cannot "hear" a particular speaker, EQFLEX will raise the level of that speaker so it presents a balanced sound at the position of the microphone, which will probably result in that speaker being too loud for everyone else.
- Try to avoid flat reflective surfaces. If you must place the microphone on a table or other reflective surface, place a towel or blanket under it to minimize reflections.
- Turn off any air conditioners or other gadgets that make noise, and avoid talking or making noise during the test. Also turn off or remove from the area any telephones that are likely to ring. If you live in a high traffic area, or have noisy neighbors, or children, for best results wait for a quiet time of day to run EQFLEX. (If anything makes noise during the test, it will alter the results, and you'll have to run EQFLEX over again for best results.)
- Avoid moving around the room during the test. It is best if you pick a spot to stand or sit while the test is running that does not block or change the sound field. The best place is in the rear of the room towards the center of the wall. Avoid walking near the microphone during the test (even if you do not block any speakers) because reflections from your body will interfere with the accuracy of the results. And, of course, avoid making noise during the test.
- If you rearrange your furniture, move your speakers, or add or remove reflective or sound absorbing wall hangings (like big pictures or tapestries), you should re-run EQFLEX for best results.
- If you purchase new speakers, or change adjustments on your speakers or other equipment (like the level controls on your tweeters or amps), you should run EQFLEX again.

- EQFLEX is quite powerful, but you will still get the best results if you start out with a good room layout and good speakers. At a minimum, try to position speakers as symmetrically as possible from left to right relative to the listening position. (Left and right speakers of each set should be about the same distance to the sides of the listening position; the center should be as near the center as possible. Perfect symmetry may not be possible in your listening room, but the closer you get, the better your results will be.)
- In general, highly reflective rooms are not optimum in terms of sound quality, and even EQFLEX may not be able to completely correct for the acoustic properties of an overly "live" room.

3) Run EQFLEX.

To run EQFLEX, select EQFLEX CALIBRATE from the Autoroom EQ sub-menu on the Setup Menu and press the Right Arrow Button to start the calibration process. You will see a massage that the calibration process is starting, hear a single test tone, and then see a reminder to be quiet during the remainder of the test, and a note that you can press OK to continue. You may press the Center Button or the Right Arrow Button to continue; the test will continue on its own after a few seconds if you don't press a button.

EQFLEX will now play a series of test tones to determine whether each speaker is present and its acoustic distance from your listening position (the microphone). Once the sequence of test tones has completed, you will be presented with a screen showing the results of the initial measurements. This screen will list the distance between the microphone and each speaker that EQFLEX has detected. You will be prompted to press OK to continue. You may press the Center Button to continue immediately

Note: EQFLEX measures the acoustic distance from your listening position to each speaker based on the amount of time it takes sound from each speaker to reach the test microphone. Because the system is measuring time delay rather than physical distances, these distances may vary slightly from what you might measure with a tape measure.

When the test continues, EQFLEX will play a series of test tones through each of your speakers to measure its frequency response. EQFLEX will only test the speakers that it has detected in the previous portion of the test. Depending on how many speakers you have, this portion of the test may take several minutes.

After this series of test tones are done, EQFLEX will present you with another screen of information. This time you will be prompted to SAVE the information by pressing OK. Press the Center Button to save the measurements and corrections calculated by EQFLEX. (You may also review the measurements for each speaker by using the Right Arrow Button to cycle between them). When you save the settings, you will be taken back to the Setup Menu. The EQFLEX EQ settings should already be set as your default choice.
You will be able to go back later and change your choice, and to manually adjust the settings made by EQFLEX if you prefer. You may also create up to three full sets of custom manual EQ setting and choose between them. To make your new EQFLEX settings active, and apply them to your inputs, you must select EQFLEX as the active EQ choice.

Note: Moving the selector to an EQ choice that isn't highlighted (red) and pressing Enter selects that choice (and it turns red). At this point (if you have an active input which is subject to EQ) you will be able to preview what that choice sounds like. Moving the blue selector bar to an EQ choice that is already highlighted (red), and pressing the Right Arrow Button, takes you into a sub-menu where you can make detailed adjustments to the selected EQ

configuration. (If you get into this screen by mistake, and want to get out without changing anything, you can do so by pressing the Left Arrow Button.)

Note: You may feel free to adjust the settings stored in the EQFLEX EQ bank to suit your personal preferences. However, when you run EQFLEX, extra information which is not visible is stored in the EQFLEX EQ bank. Because of this extra information, while you may copy the settings from the EQFLEX EQ bank to one of the Manual EQ banks, the results may not be identical to the original EQFLEX settings.

Note: If you have Direct Mode selected, you will NOT be able to preview the EQ settings (because EQ is not applied in Direct Mode). It is therefore a good idea to make sure that you are listening to an input and mode in which EQ is applied if you want to preview your settings. (If you haven't done any advanced configuration, HDMI 1 or HDMI 2 will probably work well for this.)

Note: If you run EQFLEX multiple times, you will get similar results (but probably not identical). You will not get more accurate results by running EQFLEX repeatedly (it does not save or average results from multiple runs). If you are not entirely satisfied with the results, try moving the microphone to a slightly different position, or simply adjust the results manually to fit your tastes.

Note: EQFLEX is very sophisticated, but not totally foolproof. Unusual room acoustics, reflections, or unusual speakers, can cause it to get incorrect results. If you are not satisfied with the results you get when running EQFLEX, we suggest you try a slightly different microphone location. (Moving the microphone forward or backwards, while keeping it in the left-right center of the room, will often produce better results.)

Notes (about setting subwoofers):

Since EQFLEX is controlling the bass management for your subwoofer, it is usually optimum to set your sub itself to "flat".

If your subwoofer has a phase setting, you should set it to "0 degrees" or "normal" (and not inverted).

If your sub has a built-in crossover that cannot be disabled, then set it to the highest allowed crossover point.
If your sub has a level control, setting it to a center position, or to "0 dB", is a good place to start. If your subwoofer has special features for eliminating room nodes, or if you are using bass traps or other advanced room correction devices, these adjustments should usually be made BEFORE running EQFLEX for best results.

Care and Maintenance

Periodic Maintenance

Your IOTAVX AVX1 requires no periodic maintenance or calibration.

Cleaning your AVX1

- If necessary, the AVX1 should be cleaned gently with a soft cloth.
- If something sticky gets on the front panel or case of the AVX1, it should be cleaned with a mild cleaning solution applied to a soft cloth, followed by wiping with a clean cloth dampened with plain water and drying with a soft dry rag or cloth.

Note: DO NOT spray water or cleaning solution directly onto the front or rear panel of the AVX1.

Installing Firmware Updates

From time to time IOTAVX may issue firmware updates for your AVX1. We strongly recommend that you only install firmware that was downloaded from the official IOTA Enterprises website, or that you received from IOTA Enterprises Technical Support staff.

To install a firmware update on your AVX1:
1) Download the firmware file from our website or the link or e-mail attachment provided by our Technical Support representative.
2) Place the firmware update file on a USB stick formatted with the Fat32 operating system (any commercial USB stick formatted to work on both Apple and Windows computers should work fine). Place the file into the main or root directory of the stick.
Note: If the firmware update is provided in the form of an archive, such as a Zip file, extract the firmware update file from the archive onto the stick.
3) Turn off your AVX1 (using the Power Switch on the rear panel).
4) Insert the USB stick with the firmware update file into the USB port on the AVX1 rear panel labelled USB Update.
5) Switch the AVX1 On (using the Power Switch on the rear panel).
6) When the front panel Power / Standby button stops blinking, press it to turn the AVX1 On.
7) Your AVX1 will automatically detect and install the firmware update.
8) Once the firmware update is complete, the AVX1 will notify you, and then start normally.
9) Turn the AVX1 Off and remove the USB stick.
10) We strongly recommend resetting your AVX1 (Load Default from the Setup Menu) after performing a firmware update. Note that this will clear all configuration settings.

Specifications

Connectivity

Video Inputs and Outputs:

(6) HDMI compliant video inputs (3 with full support for 4k UHD HDR video).

(2) HDMI compliant video outputs (1 with full support for 4k UHD HDR video).

Audio Inputs:

(2) Stereo unbalanced analog audio inputs. (1) S/PDIF coaxial digital audio input.

(1) Toslink (optical) digital audio input.

(1) Bluetooth audio input (requires optional IOTAVX Bluetooth dongle).

Audio Outputs:

(1) 7.1 Channel Unbalanced audio outputs (RCA)

(1) 7.1 Channel Balanced XLR outputs.

Other Inputs and Outputs:

(1) IR remote control signal input

(1) IR remote control signal output

(1) RS-232 serial remote-control input

(1) Trigger output (programmable)

(1) Dimmer Control. (10 Levels)

(2) USB data inputs (reserved for firmware updates)

Power Requirements

115 VAC to 230 VAC @ 50 / 60 Hz (automatically detected).

25 Watts Consumption.

Standby Power Consumption 0.5 watt.

Dimensions

Packaging Dimensions	Centimetres	Inches
Height	18.2	7.16
Width	55.4	21.81
Depth	43.8	17.24

Unit Dimensions	Centimetres	Inches
Height	10.8	4.25
Width	43	16.93
Depth (Without Connectors)	32.8	12.91

Weight

Weight	Kilograms	Pounds
Boxed	7	15.43
Unboxed	4.6	10.14

Appendix: RS232 command set

Format:9600/8,N,1/Character		
Function	***Command Data***	***Description***
POWER ON	'@112'	Power On
POWER OFF	'@113'	Power Off
TV (ARC)	'@11B'	Source TV (ARC)
HDMI 1	'@116'	Source HDMI 1
HDMI 2	'@115'	Source HDMI 2
HDMI 3	'@15A'	Source HDMI 3
HDMI 4	'@15B'	Source HDMI 4
HDMI 5	'@15C'	Source HDMI 5
HDMI 6	'@15D'	Source HDMI 6
COAX	'@117'	Source COAX
OPTICAL	'@15E'	Source OPTICAL
ANALOG 1	'@15F'	Source ANALOG 1
ANALOG 2	'@15G'	Source ANALOG 2
BLUETOOTH	'@15H'	Source BLUETOOTH
INPUT DOWN	'@15X'	Source Down
INPUT UP	'@15Y'	Source Up
MODE UP	'@11D'	Next Mode Up ONLY IN ANALOG 1 & 2
MODE DOWN	'@13W'	Next Mode Down ONLY IN ANALOG 1 & 2
STEREO	'@11E'	Mode Stereo
PRO LOGIC IIx	'@11F'	Mode Pro Logic
ALL CHN. STEREO	'@11C'	All Channel Stereo
Neo:6	'@13H'	Mode Neo:6
SOURCE DIRECT	'@13J'	Mode Source Direct
MUTE ON	'@11Q'	Mute On
MUTE OFF	'@11R'	Mute Off
VOLUME Direct	'@11P'+3EXT	Volume Set
VOLUME UP	'@11S'	Volume Up (one increment)
VOLUME DOWN	'@11T'	Volume Down (one increment)

Function	*Command Data*	*Description*
REAR GROUP UP	'@11g'	Surround and Surround Back Trim Up (one increment)
REAR GROUP UP	'@11g'	Surround and Surround Back Trim Up (one increment)
REAR GROUP DOWN	'@11j'	Surround and Surround Back Trim Down (one increment)
CENTER UP	'@11k'	Center Trim Up (one increment)
CENTER DOWN	'@11n'	Center Trim Down (one increment)
SUB UP	'@11p'	Sub Trim Up (one increment)
SUB DOWN	'@11r'	Sub Trim Down (one increment)
DIM	'@12D' +2EXT	VFD Dim (00 full off , 10 full on)
RESET	'@12L'	System Reset, Load default
STATUS	'@12S'	System Status Info
MENU	'@141'	Menu (Brings up menu)
UP ARROW	'@142'	Up Arrow (Same as up arrow on remote)
DOWN ARROW	'@143'	Down Arrow (Same as down arrow on remote)
RIGHT ARROW	'@144'	Right Arrow (Same as right arrow on remote)
LEFT ARROW	'@145'	Left Arrow (Same as left arrow on remote)
ENTER	'@146'	Enter/Select (Same as 'enter' on remote)
EXIT	'@147'	Exit (Exit the on-screen menu)
Return	'@148'	Return the last OSD local

Dear Customer

Should you experience any technical difficulty in setting up or using your new product please feel free to contact our dedicated customer service help desk

Tech Support Number: +44 (0)1642 232188

Tech Support E-Mail Address: help@iotaenterprises.co.uk

Wishing you many years of pure audio-visual pleasure with your new **IOTAVX** equipment