apollo | twin



Apollo Twin Hardware Manual

Manual Version v140114

UNIVERSAL AUDIO

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A Letter from Bill Putnam Jr.

Thank you for deciding to make the Apollo Twin High-Resolution Interface part of your music making experience. We know that any new piece of gear requires an investment of time and money — and our goal is to make your investment pay off. The fact that we get to play a part in your creative process is what makes our efforts meaningful, and we thank you for this.

In many ways, Apollo, Apollo 16, and Apollo Twin represent the best examples of what Universal Audio has stood for over its long history; from UA's original founding in the 1950s by my father, through our current vision of delivering the best of both analog and digital audio technologies.

Starting with its high-quality analog I/O, Apollo Twin's superior sonic performance serves as its foundation. This is just the beginning however, as Apollo Twin is the only desktop audio interface that allows you to run UAD plug-ins in real time. Want to monitor yourself through a Neve® console channel strip while tracking bass through a classic Fairchild or LA-2A compressor? Or how about tracking vocals through a Studer® tape machine with some added Lexicon® reverb?* With our growing library of more than 90 UAD plug-ins, the choices are limitless.

At UA, we are dedicated to the idea that this powerful technology should ultimately serve the creative process — not be a barrier. These are the very ideals my father embodied as he invented audio equipment to solve problems in the studio. So as you begin to incorporate Apollo Twin into your creative process, we hope that the excitement and pride that we've built into it comes through. We believe Apollo Twin will earn its way into your creative workflow by providing stunning fidelity, great ease-of-use, and rock-solid reliability for years to come.

As always, please feel free to reach out to us via our website www.uaudio.com, and via our social media channels. We look forward to hearing from you, and thank you once again for choosing Universal Audio.

Sincerely,



Bill Putnam Jr.

**All trademarks are recognized as property of their respective owners.*
Individual UAD Powered Plug-Ins sold separately.

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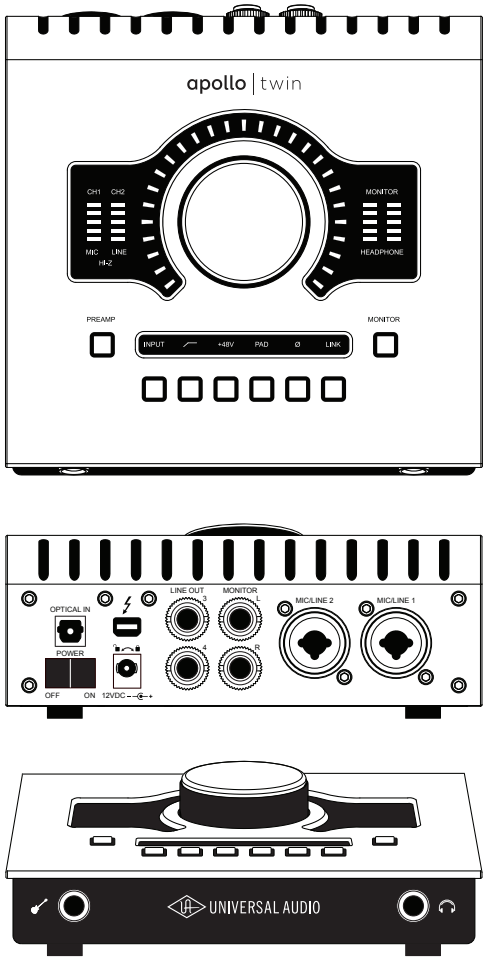
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Chapter 1: Introduction

Welcome to Apollo Twin

High-Resolution Desktop Music Production with Classic Analog Sound



Apollo Twin reinvents desktop recording by delivering legendary analog studio sound, feel, and flow to music creators everywhere. This 2x6 Thunderbolt audio interface for Mac combines the same impeccable 24/192 kHz audio conversion of Universal Audio's acclaimed Apollo series with onboard Realtime UAD SOLO or DUO Processing. Plus it introduces new Unison™ technology, a breakthrough in classic mic preamp emulation. Record your music in real time (at near-zero latency) through the full range of UAD plug-ins — from Neve, Studer, Manley, Lexicon, API and more* — putting racks of vintage EQs, compressors, mic preamps, tape machines, reverbs, and guitar amps at your fingertips.

A Universal Audio breakthrough, Apollo Twin's Unison technology gives you the tone of the world's most sought-after tube and solid state mic preamps — including their all-important impedance, gain stage "sweet spots," and component-level circuit behaviors. Based on unprecedented hardware-software integration between Apollo's mic preamps and its onboard UAD plug-in processing, Unison lets you record through stunning emulations like the bundled UA 610-B Tube Preamp plug-in.

> ***Note:*** *For complete Unison details, see the Apollo Software Manual.*

Apollo Twin's smart feature set includes two class-leading mic/line preamps, two analog line outputs, two digitally controlled analog monitor outputs for full resolution at all listening levels, and up to eight additional channels of digital input via Optical connection. Onboard UAD SOLO or DUO Processing lets you use UAD plug-ins both during realtime tracking and for mixing within Pro Tools, Cubase, Logic, Ableton Live, and more.

With its ergonomic desktop design, rugged aluminum construction, and front panel headphone and instrument connections, Apollo Twin has all the right tools, all in the right place.

*Apollo Twin includes the "Realtime Analog Classics" UAD plug-in bundle. All other plug-ins are sold separately at www.uaudio.com. All trademarks are property of their respective owners.

Apollo Twin Features

Key Features

- Desktop 2x6 Thunderbolt audio interface with world-class 24-bit/192 kHz audio conversion
- Realtime UAD Processing for tracking through vintage Compressors, EQs, Tape Machines, Mic Preamps, and Guitar Amp plug-ins with near-zero (sub-2ms) latency
- Thunderbolt connection for blazing-fast PCIe speed and rock-solid performance on modern Macs
- Unison™ technology offers stunning models of classic tube and transformer-based mic preamps
- Two premium mic/line preamps; Two line outputs; front-panel Hi-Z instrument input and headphones output
- Two digitally controlled analog monitor outputs for full resolution at all listening levels
- Up to eight channels of additional digital input via Optical connection
- Uncompromising analog design, superior components, and premium build quality
- Runs UAD Powered Plug-Ins via Audio Units, VST, RTAS & AAX64 in all major DAWs

All Features

Audio Interface

- Sample rates up to 192 kHz* at 24-bit word length
- Up to 10 x 6 simultaneous input/output channels
  - Two channels of analog-to-digital conversion via:
    - Two balanced mic/line inputs
    - One Hi-Z instrument input
  - Six channels of digital-to-analog conversion via:
    - Digitally-controlled stereo monitor outputs
    - Stereo headphone outputs
    - Line outputs 3-4
  - Up to eight channels of digital inputs via:
    - Eight channels ADAT optical with S/MUX for high sample rates, or
    - Two channels S/PDIF optical with sample rate conversion
- 64-bit device drivers
- PCIe audio drivers

**96 kHz maximum on S/PDIF digital inputs*

Microphone Preamplifiers

- Two high-resolution, ultra-transparent, digitally-controlled analog mic preamps
- Front panel and software control of all preamp parameters
- Low cut filter, 48V phantom power, 20 dB pad, polarity inversion, and stereo linking

Monitoring

- Digitally-controlled analog monitor outputs maintains highest fidelity
- Independently-addressable stereo headphone outputs
- Independently-addressable line outputs 3-4 can be used for additional cue mix
- Front panel control of monitor levels and muting

UAD-2 Inside

- One (SOLO) or two (DUO) SHARC DSP processors
- Realtime UAD Processing on all analog and digital inputs
- Same features and functionality as other UAD-2 devices when used with DAW
- Includes UAD Powered Plug-Ins "Realtime Analog Classics" bundle
- Complete UAD Powered Plug-Ins library is available online

Software

Console application:

- Enables tracking and/or monitoring with Realtime UAD Processing
- Remote control of Apollo Twin features and functionality
- Virtual I/O for routing DAW tracks through Console
- Two independent stereo Auxiliary busses

Console Recall plug-in:

- Saves Apollo Twin configurations inside DAW sessions for easy recall
- Facilitates control of Apollo Twin monitoring features from within the DAW
- VST, RTAS, AAX 64, and Audio Units plug-in formats

UAD Meter & Control Panel application:

- Configures global UAD settings and monitors system usage

Other

- Attractive and durable desktop form factor
- Locking power supply prevents accidental disconnection
- Easily updateable firmware
- One year warranty includes parts and labor

System Requirements

- Apple Mac computer with available Thunderbolt port
- Mac OS X 10.8 Mountain Lion or 10.9 Mavericks
- Internet connection to download software and authorize UAD plug-ins
- Compatible VST, Audio Units, RTAS, or AAX 64 plug-in host application software
- 2 gigabytes available disk space
- Thunderbolt cable *(sold separately)*

Package Contents

- Apollo Twin unit
- Power supply with (4) AC connectors
  (Changeable AC connectors for USA, Europe, UK, Australia, and China)
- URL card

Installation Software

For installation software, quick start videos, and other info, visit:

- www.uaudio.com/twin/start

Operational Overview

Audio Interface

First and foremost, Apollo Twin is a premium 2x6 Thunderbolt audio interface with world-class 24-bit/192 kHz audio conversion. Apollo Twin connects to the outputs and inputs of other audio gear, and performs analog-to-digital (A/D) and digital-to-analog (D/A) audio conversions on the gear's signals. The digital audio signals are routed into and out of the host computer via the high-speed PCIe protocol, which is carried on a single Thunderbolt cable.

Apollo Twin leverages Universal Audio's expertise in DSP acceleration, UAD Powered Plug-Ins, and analog hardware design by integrating the latest cutting edge technologies in high-performance A/D-D/A conversion, DSP signal reconstruction, and host connectivity. Apollo Twin acts as both an audio interface with integrated DSP effects for tracking and monitoring as well as a fully integrated UAD-2 DSP accelerator for mixing and mastering.

About Realtime UAD Processing

Apollo Twin has the ability to run UAD Powered Plug-Ins in realtime. Apollo Twin's groundbreaking DSP + FPGA technology enable UAD plug-ins to run with latencies in the sub-2ms range, and multiple plug-ins can be stacked in series without additional latency.

Realtime UAD Processing facilitates the ultimate sonic experience while monitoring and/or tracking.

> ***Note:*** *Apollo Twin, like other UAD-2 devices, can only load UAD Powered Plug-Ins, which are specifically designed to run on UAD-2 DSP accelerators. Native (host-based) plug-ins cannot run on the UAD-2 DSP.*

Console Software

The Console software application runs on the host computer and is used to control Apollo Twin mixing and monitoring with Realtime UAD Processing, access the audio interface I/O settings, and more. Console's analog-style workflow is designed to provide quick access to the most commonly needed features in a familiar, easy-to-use mixer interface.

Realtime UAD Processing is a special function that is available only within Console. All of Apollo Twin's analog and digital inputs can perform Realtime UAD processing simultaneously, and Console inputs with (or without) Realtime UAD Processing can be routed into the DAW for recording.

Console controls Apollo Twin's digital mixer so you can monitor Apollo Twin's inputs (with or without Realtime UAD Processing) without using any other audio software such as a DAW.

Console is integral to unleashing the power of Apollo Twin. For complete details about how to use Console and Realtime UAD Processing, refer to the Apollo Software Manual.

UAD Powered Plug-Ins in a DAW

Apollo Twin and UAD plug-ins can also be used within a DAW without the use of Console. UAD plug-ins loaded within the DAW operate like other (non-UAD) plug-ins, except the processing occurs on the Apollo Twin DSP instead of the host computer's processor. In this scenario, UAD plug-ins are subject to the latencies incurred by I/O buffering.

For details about using UAD Powered Plug-Ins in a DAW, see the UAD System Manual.

Standalone Use

Although the Console application is required to utilize all Apollo Twin features, the hardware unit can be used as a digital mixer with limited functionality without a Thunderbolt connection to a host computer.

All currently active I/O assignments, signal routings, and monitor settings are saved to internal firmware when Apollo Twin is powered down and persist when power is re-applied. Therefore the last-used settings are always available even when a host computer is not connected.

Note that UAD plug-in instantiations are not retained on power down, because the plug-in files reside on the host computer. However, if UAD plug-ins are active when Apollo Twin's connection to the host system is lost (if the Thunderbolt cable is unplugged), the current UAD plug-in configurations remain active for processing until Apollo Twin is powered down.

About Apollo Twin Documentation

Documentation for all Apollo components is extensive, so instructions are separated by areas of functionality, as detailed below. All documentation is copied to the computer during software installation (documentation can also be downloaded from our website).

All manuals are in PDF format. PDF files require a free PDF reader application such as Preview (included with Mac OS X). After software installation, all documentation can be found on the startup drive at the following location:

- Macintosh HD/Applications/Universal Audio

Tip: *Documentation can also be accessed by clicking the "View Documentation" button in the Help panel within the UAD Meter & Control Panel application.*

Apollo Twin Hardware Manual

The Apollo Twin Hardware Manual contains complete information about the audio interface hardware. Included are detailed descriptions for all Apollo Twin hardware features, control functions, and connections. Refer to this hardware manual to learn about interfacing the hardware with other devices, operating the panel controls, specifications, and related information.

Apollo Software Manual

The Apollo Software Manual is the companion guide to the Apollo Twin Hardware manual. It contains detailed information about how to configure and control Apollo's software features using the Console application and Console Recall plug-in. Refer to the Apollo Software Manual to learn how to operate these software tools and integrate Apollo's audio interface functionality into the DAW environment.

UAD System Manual

The UAD System Manual is the complete operation manual for Apollo's UAD-2 functionality and applies to the entire UAD product line. It contains detailed information about installing and configuring UAD devices, the UAD Meter & Control Panel application, how to use UAD plug-ins within a DAW, obtaining optional plug-in licenses at the UA online store, and more. It includes everything about UAD except Apollo Twin-specific information and individual UAD Powered Plug-In descriptions.

UAD Plug-Ins Manual

The features and functionality of all the individual UAD Powered Plug-Ins is detailed in the UAD Plug-Ins Manual. Refer to that document to learn about the operation, controls, and user interface of each plug-in that is developed by Universal Audio.

Direct Developer Plug-Ins

UAD Powered Plug-Ins includes plug-ins from our Direct Developer partners. Documentation for these 3rd-party plug-ins are separate files that are written and provided by the plug-in developers themselves. The filenames for these plug-ins are the same as the plug-in title names.

Host DAW Documentation

Each host DAW application has its own particular methods for configuring audio interfaces and using plug-ins. Refer to the host DAW's documentation for specific instructions about using audio interface and plug-in features within the DAW.

Hyperlinks

Links to other manual sections and web pages are highlighted in blue text. Click any hyperlink to jump directly to the linked topic.

> ***Tip:*** *The PDF reader's "back" function can be used to return to the previously-viewed page.*

Glossary

This manual uses technical terms and acronyms that may be unfamiliar. Refer to the Glossary in the Apollo Software Manual for the definitions of many of these terms.

Support Web Pages

The latest technical information about Apollo Twin is posted on our website. Our support pages contain updated, late-breaking information that may not be available in other publications. To access the main Apollo Twin support page, go to:

- www.uaudio.com/support/twin

Technical Support

Universal Audio provides free customer support to all registered Apollo Twin users. Our support specialists are available to assist you via email and telephone during our normal business hours, which are from 9am to 5pm, Monday through Friday, Pacific Standard Time.

Telephone Support

USA toll-free: +1-877-698-2834

International: +1-831-440-1176

Email Support

To request online support via email, click the URL below:

- www.uaudio.com/my/support/index.php?pg=request

Alternately, visit our main support page at the URL below, then click the “Submit Support Ticket” button on the right side of the loaded page to create a help ticket.

- www.uaudio.com/support

Chapter 2: Quick Start

Quick Start Overview

Apollo Twin hardware and software installation and setup consists of the main steps below. These steps are detailed in this chapter.

1. Connect and power the Apollo Twin hardware
2. Download and install the Apollo Twin software
3. Update the Apollo Twin firmware (if prompted)
4. Register the hardware and authorize UAD plug-ins
5. Learn how to adjust Apollo Twin's input and output levels

System Requirements

All system requirements must be met for the Apollo Twin system to operate properly. Before proceeding with installation and authorization, see the System Requirements.

Getting Started Videos

Helpful videos are available to assist you with installation and setup. Visit the Apollo Twin start page to view the videos online:

- www.uaudio.com/twin/thanks

About Registration and Authorization

The Apollo Twin hardware must be registered and authorized at my.uaudio.com to unlock UAD Powered Plug-Ins that are bundled with the product. Registration only needs to be completed once, however authorization should be completed each time the Apollo Twin software is updated.

The Apollo Twin hardware stores its authorization and UAD licenses in the device itself, so the unit can be connected to a different computer without repeating the authorization process. UAD plug-ins that were not bundled with the product can be evaluated without functional restriction during a demonstration mode that expires after 14 days.

Hardware Setup

Select a Suitable Location

- Locate Apollo Twin on a flat surface so its feet will maintain airflow beneath the unit.
- The location should be sturdy enough to securely hold its weight and withstand the pressure of operating the top panel controls.
- Leave enough room behind the unit for connected cabling.
- Do not block the cooling vents on the bottom or sides of the unit.

Connect to Computer and Power

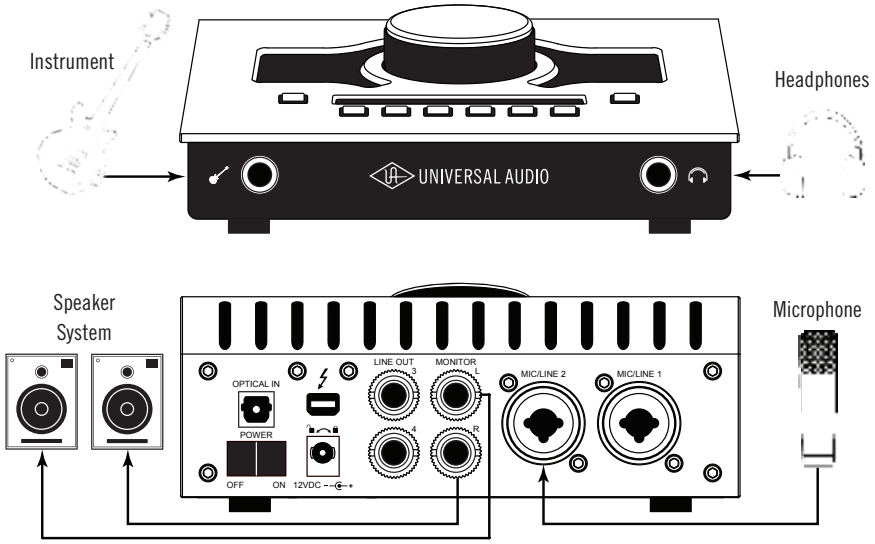
Caution: *Before powering Apollo Twin, lower the volume of the monitor speakers and remove headphones from your ears.*

1. Connect a Thunderbolt cable (not included) between Apollo Twin and the host computer.
2. Connect the included power supply to an AC outlet (Apollo Twin cannot be bus powered).
3. Connect the locking power supply to the rear panel of Apollo. Align the two tabs on the power cable's connector to the notches on the input, then rotate the barrel to prevent accidental disconnection.*
4. Apply power to Apollo Twin using the rear panel's power switch.

Important: **After ensuring the locking barrel tabs are aligned with the chassis slots and the barrel is fully inserted, rotate the barrel to secure the connector.*

Connect to Input Sources and Monitor System

One typical setup is illustrated below. For complete details about all of Apollo Twin's connectors and controls, see Chapter 3.



Typical setup connections

Software Installation

Preparation

- Close all open files and applications before starting the software installation procedure (the installer requires a restart after installation).
- If you are updating to a newer version of Apollo Twin software, it is not necessary to remove the previous Apollo Twin software or hardware from the system before installing the newer software.

Software Updates

The latest Apollo Twin software version is always recommended. Please check our website for the latest software:

- www.uaudio.com/twin/start

Installation Procedure

Note: *Before proceeding, verify the Apollo Twin hardware unit is powered and connected to the host computer via Thunderbolt (see Hardware Setup for details).*

To install the Apollo Twin software:



1. With an Internet web browser, go to www.uaudio.com/twin/start and download the software installer. The installer file is downloaded to the disk location specified in the web browser's preferences.
2. Launch the installer. The application will guide you through the process.
3. If prompted to update the Apollo Twin firmware, click "OK" then wait for confirmation that the update is complete (see below for more firmware update details).
4. Proceed to Registration & Authorization in the next section to complete the setup process.

About Firmware Updates

- Firmware updates for the Apollo Twin hardware unit may occasionally be included within the software to enhance system functionality.
- For optimum results, always update the firmware by clicking "OK" if prompted by the software.
- A confirmation dialog will appear after the firmware update. After this notification, power down the Apollo Twin hardware. The first time after power is reapplied, the hardware will take an extra 20–30 seconds to initialize, after which the firmware update process is complete.
- The Apollo Twin software only prompts for firmware updates (if available) during software installation and/or when the UAD Meter & Control Panel application is launched. Firmware prompts will only appear if the hardware unit is connected and powered.

Important: *Do not interrupt system power during any firmware update routines.*

Registration & Authorization

Before proceeding, confirm that the Apollo Twin software is already installed, the computer was restarted after installation, and the Apollo Twin hardware is powered and connected to the computer via Thunderbolt (the hardware and software systems must be communicating properly).

> ***Important:*** *The following procedure requires the computer to be connected to the Internet. To authorize a system that is not connected to the Internet, see "Offline Authorization" in the UAD System Manual.*

Registration & Authorization Procedure

To register and authorize Apollo Twin, follow the steps below.

> ***Note:*** *Registration is not a separate procedure; it's part of the initial authorization process and only occurs once.*

1. Launch the UAD Meter & Control Panel

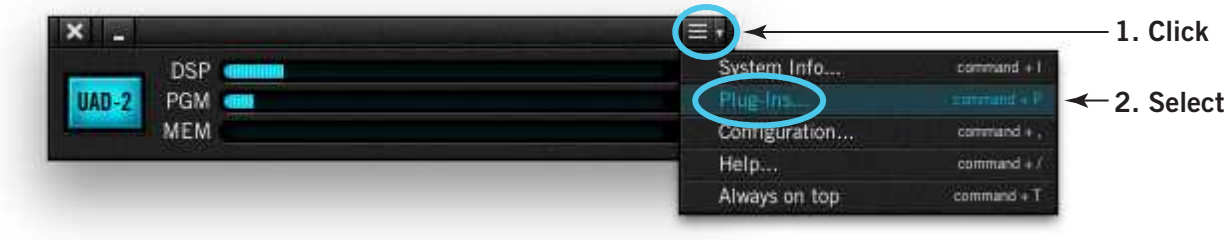
To open the application, click its icon in the Mac OS X Dock.



Launching the UAD Meter & Control Panel

2. Open the UAD Meter's Plug-Ins Panel

To access the panel, first click the menu button in the UAD Meter window (1), then select “Plug-Ins...” from the drop menu (2).



Accessing the Plug-Ins panel within the UAD Meter & Control Panel application

3. Click the “Authorize Plug-Ins” Button

The button is located in the Plug-Ins panel (see #2 above).



Clicking the Authorize Plug-Ins button in the UAD Meter & Control Panel

Your web browser will connect to the UA online store and our web pages will guide you through the process of process of creating an account, registering your hardware, and claiming bundled UAD Powered Plug-Ins.

4. Download the Authorization File

Click the blue “Download Authorizations” button on the final registration page if file does not download automatically. The file is downloaded to the disk location specified in the web browser's preferences.



Click web page button

5. Load the Authorization File

Double-click the downloaded auth.uad2 file. After a few moments the Authorization Status window appears and Apollo Twin is ready for use!



Double-click disk file



The Authorization Status window. Click OK to complete the process.

What next?

Hardware and software setup is complete. To learn how to adjust input and output levels, proceed to the next section.

Setting Hardware I/O Levels

This section explains how to set input gain levels for the hardware inputs (mic, line, and Hi-Z) and adjust volume levels for the hardware outputs (monitors and headphones). Refer to the top panel illustration for control names and numbers mentioned below.

> ***Important:*** *Before proceeding, lower the volume of the monitor speakers and remove headphones from your ears.*

Set Input Gains

1. Select the input channel to be adjusted by pressing the Preamp button (9) until the Channel Selection Indicator (3) displays the channel (CH1 or CH2).
2. Select the input type (mic or line) by pressing the Input Select button (11a) until the Input Type indicator (5) displays the desired input jack* (see note below).
3. Adjust the channel's gain by increasing the Level knob (1) until the input meter for the channel (4) approaches maximum, but does not reach the red clip LED when the input signal is present. If the level is too high to avoid clipping (when the red "C" LED illuminates), enable the pad (11).
4. To set the input gain for the other input channel, repeat steps 1 – 3.

Adjust Output Volumes

1. Select the output volume to be adjusted (monitor or headphone) by pressing the Monitor button (10) until the Monitor Selected (6) or Headphone Selected (8) indicator is lit.
2. Set the volume level by carefully increasing the Level knob until the desired volume is reached (you may need to adjust the volume of the speakers).
3. To set the other output volume (monitor or headphone), repeat steps 1 – 2.

Mute (and Unmute) Monitor Outputs

1. Select the Monitor outputs by pressing the Monitor button (10) until the Monitor Selected (6) indicator is lit.
2. Press the Level knob (1) to mute the monitor outputs. The Volume Level Indicator LEDs (2) are red when the monitors are muted and Monitor is selected (6).
3. To toggle the monitor mute state, press the Level knob (1) whenever Monitor (6) is selected.

Notes:

- *Hi-Z input is automatically selected, overriding the channel 1 Mic and Line inputs, when a ¼" mono TS (tip-sleeve) plug is connected to the Hi-Z Instrument jack (12) on the front panel.
- To control both channels simultaneously when a stereo source is connected, press the Link button (11) when an input is selected (9).
- Line outputs 3 & 4 are accessed and controlled via software only (Console or DAW).

What Next?

Refer to the Apollo Software Manual to learn how to configure the audio interface settings, use the Console application and Realtime UAD Processing, and more.

Chapter 3: Controls & Connectors

Complete details about the Apollo Twin hardware controls and all connector jacks on the front and rear panels are provided in this chapter.

> ***Note:*** *To set input gain levels (mic, line, and Hi-Z) and output volumes (monitors and headphones), see Setting Hardware I/O Levels in the Quick Start chapter.*

Controls Overview

Some Apollo Twin controls have multiple functions. The function of each control depends on the current operating mode and the current settings within that mode. To control a particular setting, the control must be activated for the function.

Operating Modes

Apollo Twin's top panel has two operating modes: *Preamp* and *Monitor*. The function and availability of the top panel controls vary depending on the active operating mode. The active mode is selected with the PREAMP and MONITOR buttons. Press the button to activate the mode. Each mode is explained in greater detail below.

> ***Note:*** *All top panel functions can be operated concurrently (without switching modes) from within the companion Console software application. See the Apollo Software Manual for details.*

PREAMP Mode

When Apollo Twin is in Preamp mode, all top panel controls are related to the input functions only. To adjust any input function, press the PREAMP button to enter Preamp mode and activate the input channel controls.



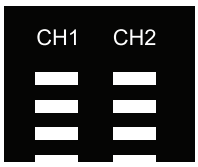
> ***Note:*** *Monitor and headphone functions cannot be performed in Preamp mode.*

Preamp Channels

Apollo Twin has two analog input channels and one set of input channel controls. The channel controls adjust all channel functions for the currently selected channel. After switching the selected channel, the other channel can be adjusted.

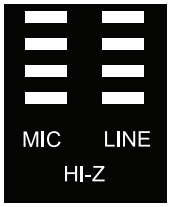
Channel Selection

The currently selected channel is shown by the CH1 and CH2 indicators at the upper left of the main display panel, above the input meters. The top panel controls only adjust the functions for the currently selected channel.



When in Preamp mode, press the PREAMP button or the LEVEL knob to change the selected channel. Press again to switch back to the other channel.

Input Type



Each input channel has one preamplifier. The input source used by the preamp can be the mic input or the line input. The input source is determined by the pressing the INPUT button when the channel is selected. The input type is shown by the indicators below the input meters.

On channel 1 only, the Hi-Z instrument can be used as the input type. The Hi-Z input is selected automatically when an instrument cable is plugged into the front panel Hi-Z input.

Preamp Options



The two input channels each have a set of various preamp options that can be activated for the input withe the row of six buttons at the bottom of the top panel.

The current state of the preamp options are indicated in the display panel above the preamp option buttons. Available options are dim when inactive and bright when enabled.

Not all preamp options are available with all input types. For specific details, see the Top Panel Controls section later in this chapter.

MONITOR Mode



When Apollo Twin is in Monitor mode, all top panel controls are related to output functions only. To adjust any output function, press the MONITOR button to enter Monitor mode and activate the monitor controls.

> ***Note:*** *Input functions cannot be performed in Monitor mode.*

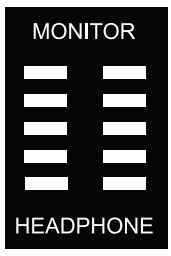
> ***Important:*** *Apollo Twin must be in Monitor mode to change the volume of the monitor or headphone outputs.*

Output Types

Apollo Twin has two main* stereo output types: Monitor and Headphone. The Level knob is used to set the volume level for both output types. The Level knob adjusts the volume for the currently selected output. After switching the selected output, the other output volume can be adjusted.

> ***Note:*** **Line outputs 3 and 4 are controlled with software only.*

Monitor Selection



The currently selected output type is shown by the MONITOR and HEADPHONE indicators at the right of the main display, above and below the output meters. The Level knob adjusts volume for the currently selected output.

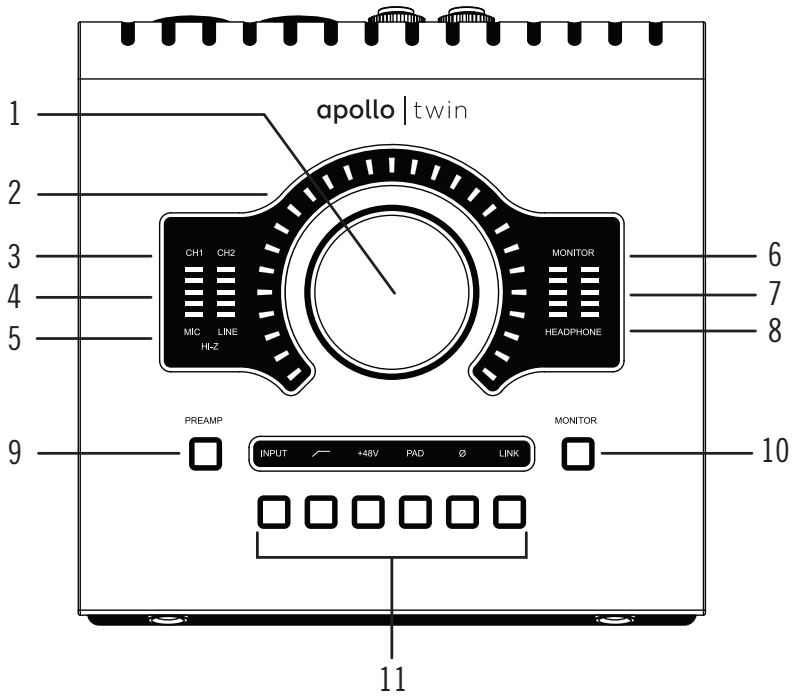
When in Monitor mode, press the MONITOR button to change the selected output. Press again to switch to the other output.

Monitor Mute

When MONITOR is selected, press the Level knob to mute (silence) the stereo monitor outputs. The green Level indicators (the ring of LEDs around the knob) are RED when the monitor outputs are muted. Press again to unmute the monitor outputs.

Top Panel

Refer to the illustration below for control descriptions in this section.



Apollo Twin's top panel elements

(1) Level Knob & Switch

The Level knob & switch controls multiple functions. The knob's current function is selected with the Preamp (9) and Monitor (10) buttons.

Rotate clockwise to increase level of the selected function. When Monitor is selected (6), press to mute/unmute the monitor outputs. When Preamp is selected (3), press to alternate between channels 1 & 2.

> ***Unison Integration:*** *The Level knob can also be used to control Unison-enabled UAD preamp plug-ins. See the Apollo Software Manual for complete Unison details.*

(2) Preamp Gain & Volume Level Indicator LEDs

The LEDs around the Level knob indicate the relative level of the selected function (input preamp gain or monitor/headphone volume).

> ***Note:*** *The indicator LEDs are red when Monitor (10) is selected and the monitor outputs are muted.*

(3) Channel Selection Indicators

The currently selected input channel is indicated by the lit channel name above its input meter (CH1 or CH2). Press the Preamp button (9) to switch between channels 1 & 2.

> ***Tip:*** *You can also switch between channels 1 & 2 by pressing the Level knob (1), but only when in Preamp Mode (when the input controls are active).*

(4) Input Meters

These meters display the incoming signal level for input channels 1 & 2. Reduce the channel's preamp gain (see Setting Levels) if its red clip LED illuminates.

(5) Input Type Indicators

These indicators show which input type (mic, line, or Hi-Z) is active for the selected channel. Use the Input Select button (11a) to change the input type.

> ***Note:*** *Hi-Z input is available for channel 1 only.*

(6) Monitor Selected Indicator

When lit, the Level knob (1) controls volume and muting of the monitor outputs (15). Press the Monitor button (10) to activate the monitor controls.

(7) Stereo Output Meters

These meters display the main stereo signal output levels.* Main output levels are independent of monitor and headphone volume levels. Reduce levels feeding the output(s) if a red "C" (clip) LED at the top of the Output Meters illuminates.

> ****Exception:*** *If HEADPHONES is currently selected on Apollo Twin and the Headphone Source in Console is set to HP, these output meters indicate the level being sent to the headphone bus via Console's headphone sends and/or the DAW.*

(8) Headphone Selected Indicator

When lit, the Level knob (1) controls the volume of the headphones output (13). Press the Monitor button (9) to activate the headphones controls (you may need to push it twice).

(9) Preamp Button

Press PREAMP to activate the input channel controls. Press again to alternate between channels 1 & 2.

> ***Tip:*** *You can also switch between channels 1 & 2 by pressing the Level knob (1), but only when in Preamp Mode (when the input controls are active).*

(10) Monitor Button

Press MONITOR to activate the control of volume levels with the Level knob (1). Press again to alternate between control of the monitor and headphone volumes.

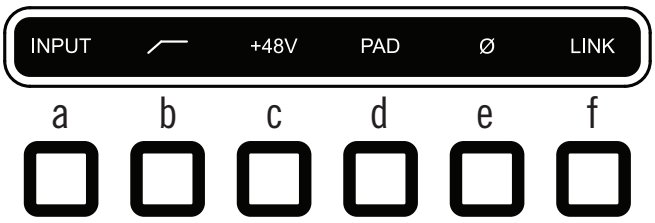
> ***Tip:*** *Indicators (6) and (8) determine which volume (monitor or headphone) is being controlled with the Level knob (1).*

(11) Preamp Option Buttons

These six buttons control the preamp options (a – f below) when the input channel is selected (3). The preamp option is active when its indicator is lit. When Monitor (6) or Headphone (8) is selected, the preamp options cannot be modified and this portion of the display is unlit.

> ***Unison Integration:*** *The Preamp Options can also be used to control Unison-enabled UAD preamp plug-ins. See the Apollo Software Manual for complete Unison details.*

Refer to the illustration below for control descriptions in this section.



Apollo Twin's preamp option buttons

(a) Input Select

Selects the active input jack for the channel. Press to alternate between the mic & line inputs. The current selection is displayed by the input type indicators (5).

The Hi-Z input is selected automatically whenever a ¼" mono (tip-sleeve) plug is connected to the front panel's Hi-Z Instrument jack (12).

> ***Note:*** *Hi-Z input is available for channel 1 only.*

(b) Low Cut Filter

Enables a low cut (high pass) rumble filter with a cutoff frequency of 75 Hz.

(c) +48V

Enables 48-volt phantom power for the mic input. Phantom power is typically needed for condenser microphones. +48 is available for the microphone inputs only.

> ***Caution:*** *To avoid potential microphone damage, do not enable phantom power unless it is required by the mic.*

(d) Pad

Attenuates (lowers) the input signal level by 20 dB. Pad is unavailable for the line inputs and the Hi-Z instrument input.

(e) Polarity Ø

Inverts the polarity (aka "phase") of the input signal.

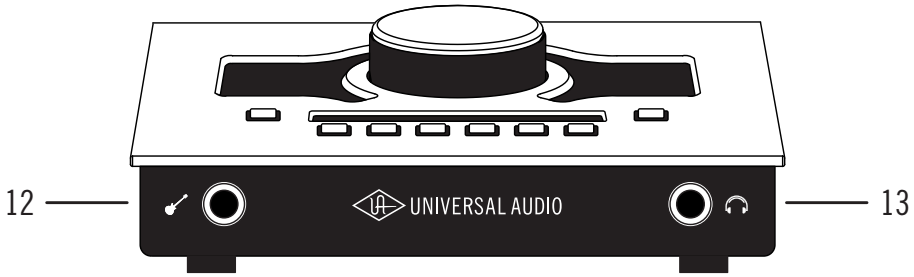
(f) Link

Links inputs 1 & 2 so both channels are adjusted simultaneously as a stereo pair.

> ***Note:*** *Link cannot be activated when a plug is inserted in the Hi-Z jack (12).*

Front Panel

Refer to the illustration below for control descriptions in this section.



Apollo Twin's front panel elements

(12) Hi-Z Instrument Input

Connect any guitar, bass, or other high impedance instrument here. This jack automatically overrides the channel 1 mic and line inputs.

Levels for the Hi-Z input are set using the same method as the mic and line inputs.

Note: *This jack accepts a ¼" mono (tip-sleeve) plug only.*

(13) Headphone Output

Connect ¼" stereo headphones here. Volume is set with the Level knob (1) when Headphone (8) is selected with the Monitor button (10).

Side Panel

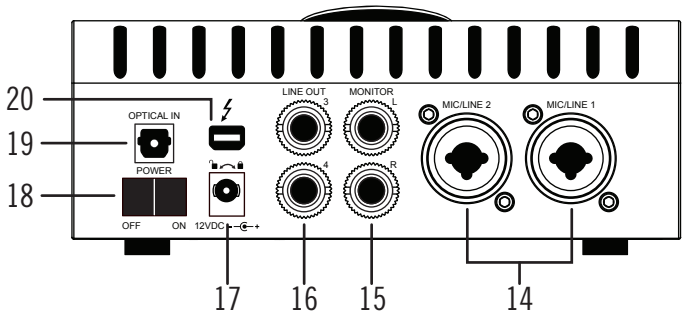
Kensington Security Slot (not shown)

The anti-theft security slot on the side panel connects to any standard Kensington lock.

Rear Panel

Refer to the illustration below for control descriptions in this section.

> ***Note:*** *All rear panel ¼" jacks can accept unbalanced TS (tip-sleeve) or balanced TRS (tip-ring-sleeve) connections.*



Apollo Twin's rear panel elements

(14) Mic/Line Inputs 1 & 2

The jacks for channels 1 & 2 accept either a male XLR plug for connecting to the mic input, or a ¼" phone plug for connecting to the line input.

The input that is used for the channel (mic or line) is specified with the Input Type button (11a).

(15) Monitor Outputs

Connect the powered monitor speakers (or speaker amplifiers) here. Volume is set with the Level knob (1) when Monitor is selected (6) with the Monitor button (10).

(16) Line Outputs 3 & 4

These ¼" phone outputs are accessed via software (Console or DAW). Line outputs 3 & 4 are used to send audio to other equipment.

(17) Power Supply Input

The included power supply must be connected here (Apollo Twin cannot be bus powered). Rotate locking connector to prevent accidental disconnection.

> ***Important:*** *After ensuring the locking barrel tabs are aligned with the chassis slots and the barrel is fully inserted, rotate the barrel to secure the connector to the chassis.*

(18) Power Switch

This rocker switch applies power to Apollo Twin. Switch to OFF when not in use.

> ***Caution:*** *Before powering Apollo Twin, lower the volume of the monitor speakers and remove headphones from your ears.*

(19) Optical In

This is a TOSLINK input for connection to other gear with an optical ADAT or S/PDIF output.

> ***Note:*** *The protocol to be used (ADAT or S/PDIF) is specified in the Interface panel of the Console Settings window.*

(20) Thunderbolt Port

Connect the Thunderbolt cable (not included) here. A Thunderbolt connection to the host computer is required to use all Apollo Twin features and UAD Powered Plug-Ins.

Chapter 4: Specifications

Specification Tables

All audio specifications are typical performance unless otherwise noted, tested under the following conditions: 48 kHz internal sample rate, 24-bit sample depth, 20 kHz measurement bandwidth, with balanced inputs and outputs.

SYSTEM	
I/O Complement	
Microphone Inputs	Two
Analog Line Inputs	Two
Hi-Z Instrument Inputs	One
Analog Line Outputs	Two (independent mix buses)
Analog Monitor Outputs	Two (one stereo pair, independent L/R mix buses)
Headphone Outputs	One stereo pair (independent L/R mix buses)
Digital Input Port (TOSLINK optical)	One (ADAT or S/PDIF, selectable)
Thunderbolt Port	One (Thunderbolt 2 compatible)
A/D – D/A Conversion	
Supported Sample Rates (kHz)	44.1, 48, 88.2, 96, 176.4, 192
Bit Depth Per Sample	24
Simultaneous A/D conversion	Two channels
Simultaneous D/A conversion	Six channels
Analog Round-Trip Latency	1.1 milliseconds @ 96 kHz sample rate
Analog Round-Trip Latency with up to four serial UAD Powered Plug-Ins via Console application	1.1 milliseconds @ 96 kHz sample rate

(continued)

ANALOG I/O	
Line Inputs 1 & 2	
Jack Type (combo mic/line balanced inputs)	Female ¼" TRS Balanced
Dynamic Range (A–weighting)	117.5 dB
Signal-to-Noise Ratio (A–weighting)	117.5 dB
Total Harmonic Distortion + Noise	–108 dBFS
Common-Mode Rejection Ratio (CMRR)	Greater than 60 dB (10' cable)
Frequency Response	20 Hz – 20 kHz, ±0.1 dB
Input Impedance	10K Ohms
Gain Range	+10 dB to +65 dB
Minimum Input Level (@ Minimum Gain)	18 dBV
Maximum Input Level (@ Maximum Gain)	–37 dBV
Stereo Level Balance	±0.05 dB
Microphone Inputs 1 & 2	
Jack Type (combo mic/line balanced inputs)	Female XLR Balanced (pin 2 positive)
Phantom Power (switchable per input)	+48V
Dynamic Range (A–weighting)	118 dB
Signal-to-Noise Ratio (A–weighting)	118 dB
Total Harmonic Distortion + Noise	–110 dBFS
Equivalent Input Noise	–127 dB
Frequency Response	20 Hz – 20 kHz, ±0.1 dB
Common-Mode Rejection Ratio (CMRR)	Greater than 70 dB (10' cable)
Default Input Impedance	5.4K Ohms (variable via Unison preamp model)
Gain Range	+10 dB to +65 dB
Pad Attenuation (switchable per input)	20 dB (variable via Unison preamp model)
Maximum Input Level (@ Minimum Gain, with Pad)	23.8 dBV
Maximum Input Level (@ Maximum Gain, with Pad)	–31.2 dBV
Hi-Z Input	
Jack Type	Female ¼" TS Unbalanced
Dynamic Range (A–weighting)	117 dB
Signal-to-Noise Ratio (A–weighting)	117 dB
Total Harmonic Distortion + Noise	–101 dBFS
Frequency Response	20 Hz – 20 kHz, ±0.1 dB
Input Impedance	1M Ohms
Maximum Input Level (@ Minimum Gain)	10 dBV
Maximum Input Level (@ Maximum Gain)	–45 dBV

(continued)

ANALOG I/O	
Line Outputs 3 & 4	
Jack Type	¼" Female TRS Balanced
Dynamic Range (A–weighting)	118 dB
Signal-to-Noise Ratio (A–weighting)	118 dB
Total Harmonic Distortion + Noise	–107 dBFS
Frequency Response	20 Hz – 20 kHz, ±0.1 dB
Stereo Level Balance	±0.05 dB
Channel Separation	Greater than 120 dB
Output Impedance	600 Ohms
Maximum Output Level	18 dBV
Monitor Outputs 1 & 2	
Jack Type	¼" Female TRS Balanced
Frequency Response	20 Hz – 20 kHz, ±0.1 dB
Dynamic Range (A–weighting)	115 dB
Signal-to-Noise Ratio (A–weighting)	115 dB
Total Harmonic Distortion + Noise	–105 dBFS
Channel Separation	Greater than 118 dB
Stereo Level Balance	±0.05 dB
Output Impedance	600 Ohms
Output Gain Range	–96 dB to 0 dB
Maximum Output Level	18 dBV
Operating Reference Level	+14 dBu, +20 dBu (selectable)
Stereo Headphones Output	
Jack Type	¼" Female TRS Stereo (unbalanced)
Frequency Response	20 Hz – 20 kHz, ±0.1 dB
Dynamic Range (A–weighting)	113 dB
Signal-to-Noise Ratio (A–weighting)	113 dB
Channel Separation	Greater than 110 dB
Total Harmonic Distortion + Noise	–101 dBFS
Stereo Level Balance	±0.11 dB
Output Impedance	10 Ohms
Output Gain Range	–INF to 0 dB
Maximum Output Power	80 milliwatts into 600 Ohms

(continued)

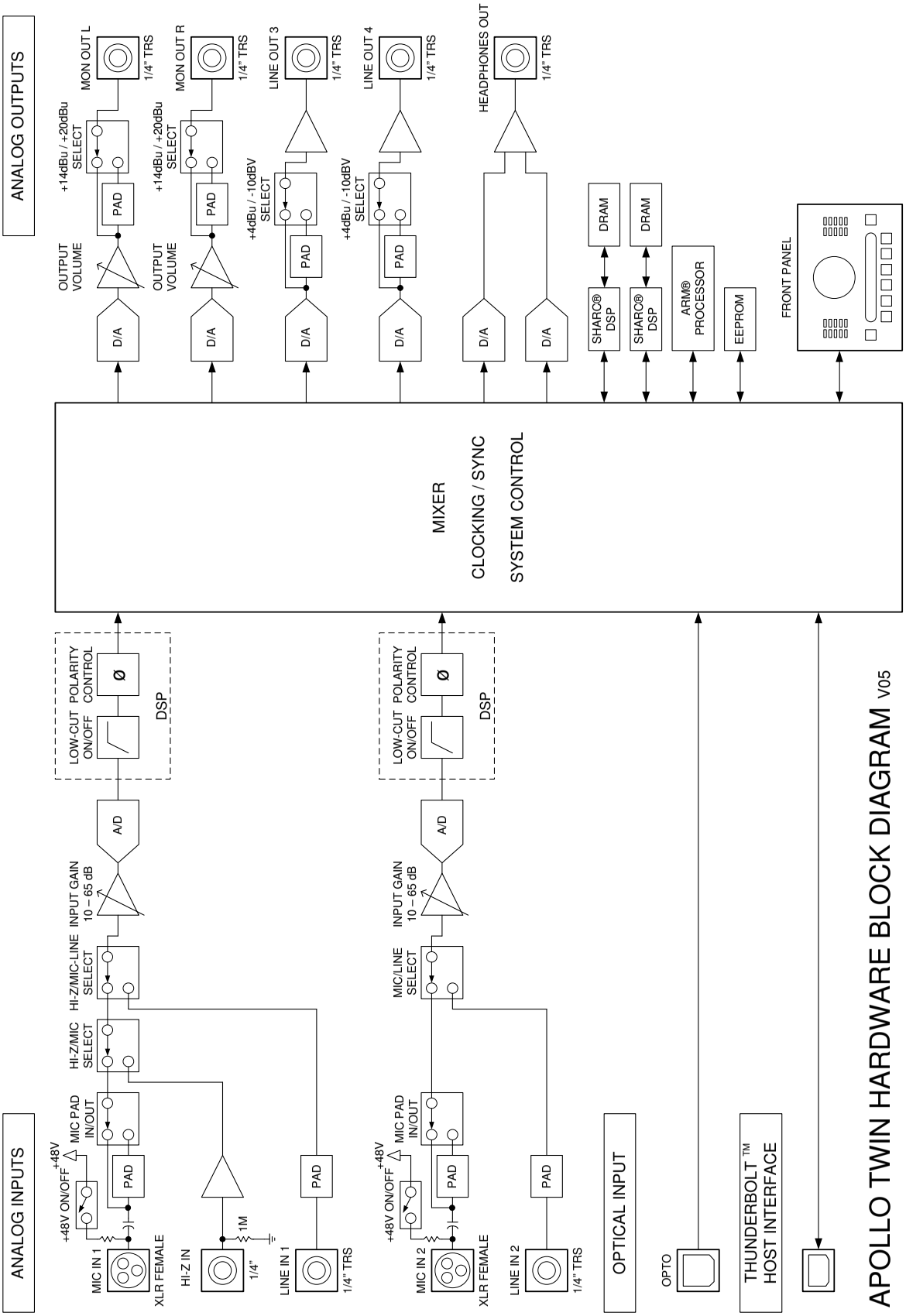
DIGITAL INPUTS	
S/PDIF	
Connector Type	Optical TOSLINK JIS F05 (shared with ADAT)
Format	IEC958
Supported Sample Rates (kHz)	44.1, 48, 88.2, 96
S/PDIF Input Channels	Two (Stereo L/R)
ADAT	
Connector Type	Optical TOSLINK JIS F05 (shared with S/PDIF)
Format	ADAT Digital Lightpipe with S/MUX
Supported Sample Rates (kHz)	44.1, 48, 88.2, 96, 172.4, 192
ADAT Input Channels @ 44.1 kHz, 48 kHz	1 – 8
ADAT Input Channels @ 88.2 kHz, 96 kHz	1 – 4 (S/MUX)
ADAT Input Channels @ 176.4 kHz, 192 kHz	1 – 2 (S/MUX)
Clock Synchronization Sources	
Internal, S/PDIF, ADAT (digital clock sync source conditional per selected digital input type)	

ELECTRICAL	
Power Supply	External AC to DC
AC Connector Type	Changable blades (UL, VDE, UK, SSA, CCC)
AC Requirements	100V – 240V AC, 50 – 60 Hz
DC Connector Type	Male plug, 2.1 mm x 5.5 mm, center positive
DC Requirements	12 VDC, ±5%
Maximum Power Consumption	12 Watts

ENVIRONMENTAL	
Operating Temperature Range	32º to 95º Farenheit (0º to 35º Celcius)
Storage Temperature Range	–40º to 176º Farenheit (–40 to 80º Celcius)
Operating Humidity Range	20% to 80%

MECHANICAL	
Dimensions	
Width	6.31”
Height	2.60”
Depth, Chassis Only	5.86”
Depth, Including Knob & Jack Protrusions	6.20”
Shipping Box (Length x Width x Height)	8” x 8” x 5.5” (20.32cm x 20.32cm x 13.97cm)
Weight	
Shipping Weight (with box & accessories)	3.85 pounds
Weight (bare unit)	2.35 pounds
Package Contents	
Apollo Twin Unit (SOLO or DUO)	
External Power Supply with (4) changeable AC connectors supporting USA, Europe, UK, Australia, China	
URL Card	

Hardware Block Diagram



Chapter 5: Notices

Important Safety Information

Before using this unit, be sure to carefully read the applicable items of these operating instructions and the safety suggestions. Afterwards, keep them handy for future reference. Take special care to follow the warnings indicated on the unit, as well as in the operating instructions.

Water and Moisture – Do not use the unit near any source of water or in excessively moist environments.

Object and Liquid Entry – Care should be taken so that objects do not fall, and liquids are not spilled, into the enclosure through openings.

Ventilation – When installing the unit in a rack or any other location, be sure there is adequate ventilation. Improper ventilation will cause overheating, and can damage the unit.

Heat – The unit should be situated away from heat sources, or other equipment that produces excessive heat.

Power Sources – The unit should be connected to a power supply only of the type described in the operating instructions, or as marked on the unit.

Power Cord Protection – AC 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. Pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the unit. Never take hold of the plug or cord if your hand is wet. Always grasp the plug body when connecting or disconnecting it.

Cleaning – Follow these general rules when cleaning the outside of the unit:
a. Turn the power off and unplug the unit
b. Gently wipe with a clean lint-free cloth
c. Do not use aerosol sprays, solvents, or abrasives

Nonuse Periods – The AC power supply cord of the unit should be unplugged from the AC outlet when left unused for a long period of time.

Damage Requiring Service – The unit should be serviced by a qualified service personnel when:
a. The AC power supply unit has been damaged; or
b. Objects have fallen or liquid has been spilled into the unit; or
c. The unit has been exposed to rain; or
d. The unit does not operate normally or exhibits a marked change in performance; or
e. The unit has been dropped, or the enclosure damaged.

Servicing – The user should not attempt to service the unit beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

Maintenance

Apollo Twin does not contain a fuse or any other user-replaceable parts. The unit is internally calibrated at the factory and recalibration should never be required. No internal user adjustments are available.

Warranty

UNIVERSAL AUDIO HARDWARE LIMITED WARRANTY

Universal Audio warrants that its hardware will be free from defects in materials and workmanship for one (1) year after it has been acquired by the original end-user purchaser, subject to normal use.

This warranty applies only to genuine Universal Audio products when sold by Universal Audio or a Universal Audio authorized reseller, distributor, or dealer.

This warranty does not cover claims for damage due to abuse, neglect, alteration, or attempted repair by un- authorized personnel and is limited to failures arising during normal use that are due to defects in material or workmanship in the product.

To see the full terms of the Universal Audio Hardware Limited Warranty, which contains additional information and exclusions, or to process a warranty claim, please visit www.uaudio.com/support/warranty.html or call 877-698-2834. This limited warranty gives you specific legal rights. You may also have other rights which vary by state or country.

Repair Service

If you are having trouble with Apollo Twin, the first step check all system setups, connections, and software installations. If that doesn't help, contact our Technical Support team. Customers outside the United States should contact your local distributor. When calling for help, please have the product serial number available and have your unit set up in front of you, powered, up, and exhibiting the issue.

If your hardware is not working properly, our goal here at UA is to get you up and running again as soon as possible. If it is determined your product requires repair, you will be informed about where to ship it and a Return Merchandise Authorization number (RMA) will be issued to you.

The RMA number MUST be displayed on the outside of your shipping box (please use the original factory packing materials if at all possible). We will match the shipping method you use to get it to us (i.e., if you ship it to us via UPS ground, we will ship it back to you UPS ground; if you overnight it to us, we will ship it back to you overnight). You'll pay the shipping costs to us (including warranty repairs); we ship it back to you free of charge.

Qualified repair service under warranty is, of course, also free of charge. For gear no longer under warranty, ask your technical support representative about the current bench repair costs. Non-warranty repairs are charged an hourly labor rate plus parts. We'll do our best to service your unit as quickly as possible.

FCC Compliance

Federal Communications Commission
United States Class B Manual Statement

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures: -Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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1. Limited Warranty. Subject to the terms and conditions contained in these Hardware Terms (including, without limitation, the "Exclusions" set forth in Section 2 below), UA warrants that the UA Hardware Device will be free from defects in materials and workmanship for one (1) year after the original end user acquired it from UA or an Authorized UA Distributor; provided, however, that if you or, alternatively, your Designated Entity ("Customer"), are not the original end user, then the foregoing warranty shall not transfer to Customer if: (a) Customer (i) is a citizen of, or located within, an Embargoed Country, (ii) Customer will use the UA Hardware Device for a Prohibited Use or (iii) Customer is a Sanctioned Party (as such terms are defined in Section 7 below) or (b) Customer fails to comply with the conditions of transfer set forth at http://www.uaudio.com/support/uad/transfer-faq. For purposes of this Agreement, "Authorized UA Distributor" means a third party who was expressly authorized by UA to sell the UA Hardware Device as of the time it was sold to the original end user.

2. Exclusions. The foregoing warranty shall not apply to any expendable components within the UA Hardware Device. Nor shall the warranty apply to any UA Hardware Device that: (a) has been modified by anyone other than UA or a third party whom UA has authorized in writing to modify such UA Hardware Device, (b) has been subjected to unusual physical or electrical stress, excessive heat, moisture, misuse or abuse or (c) does not bear the original serial number applied to such UA Hardware Device by UA. The warranty, as limited by this Section 2, is hereinafter referred to as the "Limited Warranty".

3. Exclusive Remedy for Breach of Limited Warranty. UA will repair or replace any UA Hardware Device (or a non-expendable component thereof) that is covered by the Limited Warranty provided that Customer returns it to UA within the one-year warranty term along with Customer's proof-of-purchase from UA or an Authorized UA Distributor (the "Proof of Purchase"), as further described in section 4 (Warranty Procedures). If UA cannot repair or replace such covered UA Hardware Device (or non-expendable component thereof) (each, a "Covered Device"), UA will refund the amount shown for the Covered Device on Customer's Proof of Purchase. Customer must uninstall the Covered Device and return any media and other associated materials (including without limitation the UA Software) to UA along with the Proof of Purchase to obtain the refund. These are Customer's only remedies for breach of the Limited Warranty.

4. Warranty Procedures. To process a warranty claim made in accordance with Section 3 above (a "Warranty Claim"), please visit www.uaudio.com/support. Please note that registration may be required in order to process the Warranty Claim or to activate the UA Software or other complimentary support packages included with some UA Hardware Devices. Pre-registering Customer's UA Hardware Device will help expedite any Warranty Claim. UA Hardware Devices can be registered at www.uaudio.com/support. This Limited Warranty is return-to-factory, and Customer is responsible for properly packing and labeling the Covered Device (or non-expendable component thereof) for shipment to UA. Customer is required to pay shipping/handling one way for warranty returns.

5. Disclaimer. EXCEPT AS EXRESSLY SPECIFIED IN THESE HARDWARE TERMS, UA AND THE UA AUTHORIZED DISTRIBUTORS MAKE NO WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED, REGARDING THE UA HARDWARE DEVICE AND HEREBY EXPRESSLY DISCLAIM THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. FURTHERMORE, NEITHER UA NOR ANY UA AUTHORIZED DISTRIBUTOR WARRANTS OR MAKES ANY REPRESENTATIONS REGARDING THE USE OR THE RESULTS OF THE USE OF THE UA HARDWARE DEVICE IN TERMS OF THEIR CORRECTNESS, ACCURACY, RELIABILITY, OR OTHERWISE. NO ORAL OR WRITTEN INFORMATION OR ADVICE GIVEN BY UA OR ANYONE PURPORTING TO SPEAK ON BEHALF OF UA SHALL CREATE A WARRANTY OR IN ANY WAY INCREASE THE SCOPE OF THIS WARRANTY. EXCEPT AS EXPRESSLY SET FORTH IN THESE HARDWARE TERMS, SHOULD THE UA HARDWARE DEVICE PROVE DEFECTIVE, CUSTOMER (AND NOT UA OR

ANY UA AUTHORIZED DISTRIBUTOR) SHALL ASSUME THE ENTIRE COST OF ALL NECESSARY SERVICING, REPAIR, OR CORRECTION. THIS DISCLAIMER OF WARRANTY MAY NOT BE VALID IN SOME JURISDICTIONS. CUSTOMER MAY HAVE ADDITIONAL WARRANTY RIGHTS UNDER CONSUMER PROTECTION AND OTHER LAWS WHICH MAY NOT BE WAIVED OR DISCLAIMED. FOR EXAMPLE, CONSUMERS IN THE EUROPEAN UNION MAY BE ENTITLED TO A LIMITED WARRANTY OF TWO YEARS. AND, IN AUSTRALIA: (A) OUR GOODS COME WITH GUARANTEES THAT CANNOT BE EXCLUDED UNDER THE AUSTRALIAN CONSUMER LAW, (B) YOU ARE ENTITLED TO A REPLACEMENT OR REFUND FOR A MAJOR FAILURE AND FOR COMPENSATION FOR ANY OTHER REASONABLY FORESEEABLE LOSS OR DAMAGE AND (C) YOU ARE ALSO ENTITLED TO HAVE THE GOODS REPAIRED OR REPLACED IF THE GOODS FAIL TO BE OF ACCEPTABLE QUALITY AND THE FAILURE DOES NOT AMOUNT TO A MAJOR FAILURE. UA DOES NOT SEEK TO LIMIT CUSTOMER'S WARRANTY RIGHTS TO ANY EXTENT NOT PERMITTED BY LAW. FOR MORE INFORMATION ABOUT YOUR RIGHTS, PLEASE CONTACT YOUR LOCAL AUTHORITY, TRADING STANDARDS DEPARTMENT, CITIZEN'S ADVICE BUREAU OR LOCAL EQUIVALENT.

6. Limitation of Liability. NEITHER UA NOR ANY UA AUTHORIZED DISTRIBUTOR SHALL BE LIABLE TO CUSTOMER, WHETHER IN CONTRACT, TORT, NEGLIGENCE OR PRODUCTS LIABILITY, FOR ANY CLAIM, LOSS, OR DAMAGE, INCLUDING BUT NOT LIMITED TO LOST PROFITS, LOSS OF USE, BUSINESS INTERRUPTION, LOST DATA, OR LOST FILES, OR FOR ANY INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND OR NATURE WHATSOEVER ARISING OUT OF OR IN CONNECTION WITH THE USE OF OR INABILITY TO USE THE UA HARDWARE DEVICE, OR THE PERFORMANCE OR OPERATION OF THE UA HARDWARE DEVICE, EVEN IF UA AND THE UA AUTHORIZED DISTRIBUTOR (AS APPLICABLE) HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL UA OR A UA AUTHORIZED DISTRIBUTOR'S TOTAL LIABILITY TO CUSTOMER FOR ALL DAMAGES, LOSSES, AND CAUSES OF ACTION WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE) OR OTHERWISE EXCEED THE AMOUNT PAID BY CUSTOMER FOR THE UA HARDWARE DEVICE. THE FOREGOING LIMITATIONS AND EXCLUSIONS APPLY TO THE EXTENT PERMITTED BY APPLICABLE LAW IN CUSTOMER'S JURISDICTION. THIS LIMITATION OF LIABILITY MAY NOT BE VALID IN SOME JURISDICTIONS. CUSTOMER MAY HAVE RIGHTS THAT CANNOT BE WAIVED UNDER CONSUMER PROTECTION AND OTHER LAWS. UA DOES NOT SEEK TO LIMIT ITS WARRANTY OR REMEDIES TO THE EXTENT NOT PERMITTED BY LAW. FOR MORE INFORMATION ABOUT YOUR RIGHTS, PLEASE CONTACT YOUR LOCAL AUTHORITY, TRADING STANDARDS DEPARTMENT, CITIZEN'S ADVICE BUREAU OR LOCAL EQUIVALENT.

7. Export Rules. Customer acknowledges that the UA Hardware Device is subject to the U.S. Export Administration Regulations and other export laws, restrictions, and regulations (collectively, the "Export Laws") and that Customer will comply with the Export Laws. Customer will not ship, transfer, export, or re-export the UA Hardware Device, directly or indirectly, to: (a) any countries that are subject to US export restrictions (currently including, but not necessarily limited to, Cuba, Iran, North Korea, Sudan, and Syria) (each, an "Embargoed Country"); (b) any end user whom Customer knows or has reason to know will utilize them in the design, development, or production of nuclear, chemical or biological weapons, or rocket systems, space launch vehicles, and sounding rockets, or unmanned air vehicle systems (each, a "Prohibited Use"); (c) or any end user who has been prohibited from participating in the U.S. export transactions by any federal agency ofthe U.S. government (each, a "Sanctioned Party"). In addition, Customer is responsible for complying with any local laws in Customer's jurisdiction which may impact Customer's right to import, export or use the UA Hardware Device. Customer represents and warrants that Customer: (x) is not a citizen of, or located within, an Embargoed Country; (y) will not use the UA Hardware Devicefor a Prohibited Use; and (z) is not a Sanctioned Party. All rights to use the UA Hardware Device are granted on condition that such rights are forfeited if Customer fails to comply with the foregoing provisions.

8. Governing Law. Except as prohibited by law, these Hardware Terms shall be governed by and construed in accordance with the laws of the State of California, as applied to agreements entered into and to be performed entirely within California by California residents. These Hardware Terms shall not be governed by the following, the application of which is hereby expressly excluded: (a) the United Nations Convention on Contracts for the International Sale of Goods, and (b) the Uniform Computer Information Transactions Act, as enacted in any jurisdiction.

9. Miscellaneous. If for any reason a court of competent jurisdiction finds any provision of these Hardware Terms or portion thereof to be unenforceable, that provision or part thereof shall be enforced to the maximum extent permissible so as to fulfill the intent of the parties, and the remainder of these Hardware Terms shall continue in full force and effect. These Hardware Terms constitute the entire agreement between the parties with respect to the use of the UA Hardware Device, and supersede all prior or contemporaneous understandings or agreements, written or oral, regarding such subject matter. No amendment to, or modification, of these Hardware Terms will be binding unless in writing and signed by a duly authorized representative of UA.

Should you have any questions concerning these Hardware Terms, please contact UA at 4585 Scotts Valley Drive, Scotts Valley, CA, 95066 USA or at +1-831-440-1176 or at www.uaudio.com.

UA reserves the right to change its warranty terms and procedures from time to time.

Last Updated January 7, 2014.

End User License Agreement

UNIVERSAL AUDIO, INC. END USER LICENSE AGREEMENT

PLEASE READ THIS UNIVERSAL AUDIO, INC. END USER LICENSE AGREEMENT (THE "AGREEMENT") CAREFULLY BEFORE INSTALLING THE SOFTWARE THAT IS GOVERNED BY THE AGREEMENT (THE "SOFTWARE").

THE SOFTWARE IS LICENSED NOT SOLD. IF (A) YOU OBTAINED A COPY OF THE SOFTWARE FROM UNIVERSAL AUDIO, INC. ("UA"), AN AUTHORIZED UA DISTRIBUTOR (AS DEFINED IN SECTION 1(a)(i) BELOW) OR A PERMITTED TRANSFEROR (AS DEFINED IN SECTION 2(a)(iv) BELOW) AND (B) THE TERMS AND CONDITIONS CONTAINED IN THIS AGREEMENT ARE ACCEPTABLE TO YOU, YOU MAY USE THE SOFTWARE AS PROVIDED IN SECTION 1 BELOW. YOU, PERSONALLY, SHALL BE BOUND BY THE TERMS AND CONDITIONS CONTAINED IN THIS AGREEMENT IN THE SAME MANNER AS IF YOU HAD SIGNED A WRITTEN AGREEMENT WITH UA; PROVIDED, HOWEVER, THAT IF YOU NOTIFY UA WHEN YOU CREATE YOUR ACCOUNT THAT YOU OBTAINED YOUR COPY OF THE SOFTWARE ON BEHALF OF AN ENTITY, THEN THAT ENTITY (THE "DESIGNATED ENTITY"), AND NOT YOU PERSONALLY, SHALL BE BOUND BY SUCH TERMS AND CONDITIONS. IN SUCH EVENT, YOU REPRESENT AND WARRANT THAT YOU HAVE THE AUTHORITY TO BIND YOUR DESIGNATED ENTITY IN CONNECTION WITH THE TRANSACTIONS CONTEMPLATED BY THIS AGREEMENT.

IF (A) YOU DID NOT OBTAIN YOUR COPY OF THE SOFTWARE FROM UA, AN AUTHORIZED UA DISTRIBUTOR OR A PERMITTED TRANSFEROR OR (B) THE TERMS AND CONDITIONS CONTAINED IN THIS AGREEMENT ARE NOT ACCEPTABLE TO YOU, NEITHER YOU NOR YOUR DESIGNATED ENTITY MAY USE THE SOFTWARE.

1. Licenses.

(a) Standard End User Licenses.

(i) Licenses for Included Plug-Ins and Enabling Software. The Software consists of a number of components that, collectively, allow an end user to process sound through a hardware device developed by UA (each, a "UA Hardware Device"), including individual software components that produce a specific effect or effects (each, a "Plug-In"), as well as drivers and other enabling software (together, the "Enabling Software"). If you or, alternatively, your Designated Entity (the "Customer"), have acquired a UA Hardware Device from: (A) UA, (B) a third party distributor who was at the time of acquisition, expressly authorized by UA to sell the UA Hardware Device (each, an "Authorized UA Distributor") or (C) a Permitted Transferor (as defined in Section 2(a)(iv)), UA hereby grants Customer a worldwide (subject to Section 10 below), perpetual (subject to Sections 1(b) and 4 below), non-exclusive, non-sublicensable license to use all Plug-Ins that are designated as "Included Plug-Ins" on UA's website located at http://uaudio.com (the "UA Website"), as of the day on which the original Customer obtains a copy of the Included Plug-In (the "Receipt Date"), all related Enabling Software that exists on the Receipt Date and all Updates to such Included Plug-Ins and Enabling Software, in each case solely for personal use (if Customer is a person) or internal business purposes (if Customer is an entity), solely in object code form and solely in connection with no more than four (4) UAD Hardware Devices (the "Permitted UA Hardware Devices") (whether or not all, some or none of such Permitted Hardware Devices connect to a computer). For purposes of this Agreement, "Updates" means a bug fix, upgrade, or other modification to the Included Plug-Ins and Enabling Software that UA makes generally available to end users of such Software during the period in which Customer has a valid license for such Software.

UA also grants Customer a non-exclusive, non-sublicenseable license to reproduce and display the written or electronic materials containing instructions and/or other information on the use of the applicable Software that UA makes generally available to end users of such Software during the period in which Customer has a valid license for such Software (the "Documentation").

The foregoing licenses may be transferred only to a Permitted Transferee (as defined in Section 2(a)(iv) below).

(ii) Licenses for Demo Plug-Ins.

(A) Time-Limited License. In addition to the licenses described above, UA hereby grants Customer a worldwide (subject to Section 10 below), non-exclusive, non-sublicensable license to use all Plug-Ins that are, as of the Receipt Date, accessible in demonstration mode (each, a "Demo Plug-In"), all Updates to such Demo Plug-Ins and all Documentation related to such Demo Plug-Ins, in each case solely for personal use (if Customer is a person) or internal business purposes (if Customer is an entity), solely in object code form and solely in connection with the Permitted UA Hardware Devices (whether or not all, some or none of the Permitted UA Hardware Devices connect to a computer). Such licenses shall terminate as to each Demo Plug-In at the end of the "Demo Term" for such Demo Plug-In (as defined in the applicable Documentation) (subject to earlier termination as provided in Section 4 below), except as set forth in Section 1(a)(ii)(B) below.

The foregoing licenses may be transferred only to a Permitted Transferee (as defined in Section 2(a)(iv) below).

(B) Full License. Upon expiration of the Demo Term for a particular Demo Plug-In, Customer's right to use such Demo Plug-In shall automatically terminate, except as set forth below:

(1) Bundles. When Customer acquires a UA Hardware Device from UA or an Authorized UA Distributor, Customer may be given the opportunity to license a bundle of Demo Plug-Ins (each, a "Bundle") for an incremental fee. Typically, these Bundles are made available at a price that is lower than if the Demo Plug-Ins contained in the Bundle had been licensed separately. To the extent that a Demo Plug-In is designated as part of a Bundle and Customer pays the associated fees for the Bundle, Customer's license rights as set forth in Section 1(a)(ii)(A) above shall not terminate at the

end of the DemoTerm for such Non-Included Plug-In, but instead shall continue in perpetuity (subject to earlier termination as provided in Section 4 below).

The foregoing licenses may be transferred only to a Permitted Transferee (as defined in Section 2(a)(iv) below).

(2) Individual Demo Plug-Ins. From time to time, Customer may wish to use one or more UA software components that Customer does not have license rights to (either because the software component was neither an Included Plug-In nor contained within a Bundle that Customer had previously licensed or because UA first released the software component after the Receipt Date). In such event, Customer shall pay the applicable incremental fee for such Demo Plug-In and download the license authorization key file for such Demo Plug-In and UA shall grant Customer a worldwide (subject to Section 10 below), perpetual (subject to Section 4 below), non-exclusive, non-sublicensable license to use such Demo Plug-in, all Updates thereto and all Documentation related thereto, solely for personal use (if Customer is a person) or internal business purposes (if Customer is an entity), solely in object code form and solely in connection with the Permitted UA Hardware Devices (whether or not all, some or none of the Permitted UA Hardware Devices connect to a computer).

The foregoing licenses may be transferred only to a Permitted Transferee (as defined in Section 2(a)(iv) below).

(b) "Not-for-Resale" End User Licenses. UA typically makes a small number of copies of the Plug-Ins and Enabling Software available for free for promotional or educational purposes. Notwithstanding anything to the contrary contained in Section 1(a) above, these copies (together, "Not-for-Resale Copies") can only be activated by a dedicated UA employee (the "NFR Coordinator") to be valid, can only be used for a limited time as specified by the NFR Coordinator (the "Not-For-Resale Term") and are subject to special license terms as set forth in this Section 1(b) below (instead of the license terms set forth in Section 1(a) above). If the NFR Coordinator has authorized Customer to use a Not-For-Resale Copy of a Plug-In or Enabling Software, UA hereby grants Customer a worldwide (subject to Section 10 below), non-exclusive, non-sublicensable license to: Use the applicable Plug-In and Enabling Software and all Updates to the applicable Plug-In and Enabling Software, solely for personal use (if Customer is a person) or internal business purposes(if Customer is an entity), solely in object code form, solely in connection with the Permitted UA Hardware Devices (whether or not all, some or none of the Permitted UA Hardware Devices connect to a computer) and solely during the Not-For-Resale Term (subject to earlier termination as set forth in Section 4 below).

The foregoing licenses may not be transferred.

2. Restrictions.

(a) General. As between UA and Customer, UA retains all right, title and interest in: (i) the Software and the Updates and Documentation related thereto (together, the "Licensed Materials"), (ii) all Derivative Works of the Licensed Materials (and components thereof) and (iii) all Intellectual Property Rights in the items listed in (i) and (ii), subject only to the limited licenses expressly set forth in this Agreement. For purposes of this Agreement, "Derivative Work" means any revisions, modifications, translations, abridgment or compilation. "Intellectual Property Rights" means United States and foreign patents, utility models, trademarks, sound marks, copyrights, copyright registrations, mask work rights, trade secrets, moral rights, trade dress, know-how, algorithms, impulse responses and other intellectual property rights, whether currently existing or prospective, and including all applications therefor and reissuances, divisions, re-examinations, renewals, extensions, provisionals, continuations and continuations-in-part thereof, and any similar, corresponding or equivalent rights to any of the foregoing anywhere in the world. The structure, organization and computer code of the Licensed Materials are the valuable trade secrets and confidential information of UA and/or UA's Licensors (as defined in Section 2(b) below) and are protected by the copyright laws of the United States and other countries and by international treaty provisions. This means, among other things, that Customer shall not:

(i) Translate, adapt, reverse engineer, decompile (except as expressly permitted under applicable law), disassemble, create derivative works of, modify or unbundle the Licensed Materials or any portion thereof;

(ii) Attempt to circumvent technical measures in the Licensed Materials or any UA Hardware Device that are intended to detect and/or prevent unlicensed use of the Licensed Materials;

(iii) Copy, rent, sell, sublicense or grant access to the Licensed Materials, except as (A) expressly set forth in this Agreement or (B) expressly authorized by UA, in writing, in advance;

(iv) Transfer any portion of the Licensed Materials to any third party (except as expressly permitted under applicable law); provided, however, that Customer may transfer Licensed Materials that are described as "transferable" under the applicable license grant set forth in Section 1 above if:

A. The transferee registers with UA at http://www.uaudio.com/my and agrees to be bound by the terms and conditions set forth in this Agreement, in each case in advance of the transfer;

B. The transferee (1) is not a citizen of, or located within, an Embargoed Country, (2) will not use the Licensed Materials for a Prohibited Use and (3) is not a Sanctioned Party (as such terms are defined in Section 10 of this Agreement);

C. The transfer is done in connection with the transfer of a Permitted UA Hardware Device, as described at http://www.uaudio.com/support/uad/transfer-faq, except as authorized by UA in writing on a

case-by-case basis, in its sole discretion (UA typically only provides such authorization in with respect to certain educational and multi-room facilities);

D. Customer transfers all of the Licensed Materials to the transferee, without unbundling any component thereof;

E. The Licensed Materials have not previously been transferred; and

F. Customer retains no copies or license authorization keys for any of the Licensed Materials.

A transfer that fulfills the requirements set forth in this Section 2(a)(iv) is hereinafter referred to as a "Permitted Transfer". A Customer who fulfill the requirements set forth in this Section 2(a)(iv) is hereinafter referred to as a "Permitted Transferor". And a transferee who fulfills the requirements set forth in this Section 2(a)(iv) is hereinafter referred to as a "Permitted Transferee".

(b) Special Terms for Third Party Software and Open Source Software. In some cases, the Licensed Materials and copies thereof (if any exist) as well as the intellectual property rights licensed therein are not owned by UA, but instead are licensed from a third party (each, a "UA Licensor") or licensed as "Open Source". Where UA does not own the Licensed Materials, Customer's rights and obligations vis-a-vis the Licensed Materials may be different than would otherwise be the case under this Agreement. UA will list those places in which such rights and obligations are different on a UA Domain (as defined in Section 8 below) to the extent that UA is aware of such differences and may update such list from time to time, in its sole discretion. It is Customer's obligations to familiarize itself with the special terms and conditions that apply to each item on the list and Customer's rights to use the Licensed Materials are qualified in their entirety by such special terms and conditions.

3. Hardware Terms. Unlike the case of the Software itself (which the Customer licenses pursuant to the terms of this Agreement), the Customer must purchase (or otherwise lawfully acquire title to) each Permitted UA Hardware Device (whether directly from UA or through a third party). Customer's rights and obligations with respect to each such Permitted UA Hardware Device and any other UA hardware that Customer acquires in the future, shall not be governed by this Agreement, but instead shall be governed by: (a) the Hardware Terms and Conditions that accompanied such hardware at the time Customer acquired such hardware (the "Accompanying Hardware Terms") or (b), if (i) there were no Accompanying Hardware Terms, or (ii) the Accompanying Hardware Terms were less protective of UA's rights with respect to disclaimer, limitation of liability or ownership of intellectual property than the Hardware Terms of Sale, set forth at http://www.uaudio.com/support/warranty.html (the "Website Hardware Terms"), then by the Website Hardware Terms. The Accompanying Hardware Terms and the Website Hardware Terms (as applicable), as such terms may be amended by UA from time to time, in its sole discretion, are hereinafter referred to as the Hardware Terms. Customer hereby consents to be bound by the applicable Hardware Terms in the same manner as if Customer had signed such Hardware Terms.

4. Term; Termination.

(a) Term. This Agreement shall become effective at the time the Customer clicks the "Agree" button which enables it to proceed with installation of the first Plug-In licensed under this Agreement (the "Effective Date") and shall continue in full force and effect unless and until the Agreement is terminated pursuant to Section 4(b) below (the "Term").

(b) Early Termination. This Agreement will terminate automatically without notice from UA if Customer fails to comply with any term(s) of this Agreement. In addition, UA may terminate this Agreement effective immediately upon notice, if (i) Customer is adjudged as bankrupt or has a petition presented against it in bankruptcy, and such petition is not discharged within sixty (60) days, (ii) Customer ceases to carry on its business in the normal course or disposes of the whole or a substantial part of its property or assets, other than through an acquisition or merger, or has filed for bankruptcy (assuming Customer is an entity) or (iii) Customer's use of any of the Licensed Materials would violate any intellectual property right of any third party or any term of any open source license. UA may also suspend Customer's use of any or all Licensed Materials if UA reasonably believes that Customer's use of any or all of the Licensed Materials is unauthorized until such time as UA verifies Customer's rights to use the Licensed Materials.

(c) Obligations Upon Termination. Upon termination of this Agreement, Customer shall cease using the Licensed Materials and shall destroy all copies of the same.

(d) Survival. Sections 2 (except for the provisions in Section 2(a) authorizing transfer of the Licensed Materials under certain circumstances) and 3-15 shall survive termination of this Agreement.

5. Limited Warranty. UA warrants that the any media on which the Licensed Materials are recorded and delivered by UA (excluding any hardware that the Licensed Materials are bundled with--which is subject to a separate warranty as set forth in the applicable Hardware Terms) shall be free from defects in materials and workmanship under normal use for a period of thirty (30) days from the date on which UA delivered such media to the original Customer. Customer's exclusive remedy under this warranty (at UA's option) is to return and have replaced the defective media or receive a refund of the price paid for the applicable Licensed Materials.

6. Disclaimer. EXCEPT AS EXRESSLY SPECIFIED IN THIS AGREEMENT, NEITHER UA NOR ANY, UA LICENSOR,AUTHORIZED UA DISTRIBUTOR OR AUTHORIZED UA RESELLER MAKE ANY WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED, REGARDING THE LICENSED MATERIALS OR THE MEDIA ON WHICH THEY ARE RECORDED, AND HEREBY EXPRESSLY DISCLAIM (A) THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NONINFRINGEMENT OF THIRD PARTY RIGHTS AND (B) ANY UNDERTAKING TO MAINTAIN ANY VERSION

OF THE SOFTWARE OR PROVIDE SUPPORT WITH RESPECT TO ANY VERSION THEREOF FOR ANY PARTICULAR PERIOD OF TIME. FURTHERMORE, NEITHER UA NOR ANY UA LICENSOR, AUTHORIZED UA DISTRIBUTOR OR AUTHORIZED UA RESELLER WARRANTS OR MAKES ANY REPRESENTATIONS REGARDING THE USE OR THE RESULTS OF THE USE OF THE LICENSED MATERIALS IN TERMS OF THEIR CORRECTNESS, ACCURACY, RELIABILITY, OR OTHERWISE. NO ORAL OR WRITTEN INFORMATION OR ADVICE GIVEN BY UA OR ANYONE PURPORTING TO SPEAK ON BEHALF OF UA SHALL CREATE A WARRANTY OR IN ANY WAY INCREASE THE SCOPE OF THIS WARRANTY. EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, (X) SHOULD THE LICENSED MATERIALS PROVE DEFECTIVE, CUSTOMER (AND NOT UA NOR ANY UA LICENSOR, AUTHORIZED UA DISTRIBUTOR OR AUTHORIZED UA RESELLER) SHALL ASSUME THE ENTIRE COST OF ALL NECESSARY SERVICING, REPAIR, OR CORRECTION AND (Y) IN NO EVENT SHALL CUSTOMER BE ENTITLED TO EXCHANGE THE LICENSED MATERIALS FOR OTHER SOFTWARE OR BE ENTITLED TO A REFUND OF ANY PORTION OF THE FEE PAID FOR THE LICENSED MATERIALS. THIS DISCLAIMER OF WARRANTY MAY NOT BE VALID IN SOME JURISDICTIONS. CUSTOMER MAY HAVE ADDITIONAL WARRANTY RIGHTS UNDER LAW WHICH MAY NOT BE WAIVED OR DISCLAIMED. UA DOES NOT SEEK TO LIMIT CUSTOMER'S WARRANTY RIGHTS TO ANY EXTENT NOT PERMITTED BY LAW. SEE SECTION 13 FOR JURISDICTION-SPECIFIC PROVISIONS. The provisions of this Section 6 will survive the termination of this Agreement, howsoever caused, but this will not imply or create any continued right to use the Licensed Materials after such termination.

7. Limitation of Liability. NEITHER UA NOR ANY UA LICENSOR, AUTHORIZED UA DISTRIBUTOR OR AUTHORIZED UA RESELLER SHALL BE LIABLE TO CUSTOMER, WHETHER IN CONTRACT, TORT, NEGLIGENCE OR PRODUCTS LIABILITY, FOR ANY CLAIM, LOSS, OR DAMAGE, INCLUDING BUT NOT LIMITED TO LOST PROFITS, LOSS OF USE, BUSINESS INTERRUPTION, LOST DATA, OR LOST FILES, OR FOR ANY INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND OR NATURE WHATSOEVER ARISING OUT OF OR IN CONNECTION WITH THE USE OF OR INABILITY TO USE THE LICENSED MATERIALS, OR THE PERFORMANCE OR OPERATION OF THE LICENSED MATERIALS, EVEN IF UA OR THE UA LICENSOR,AUTHORIZED UA DISTRIBUTOR OR AUTHORIZED UA RESELLER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL UA OR A UA LICENSOR,AUTHORIZED UA DISTRIBUTOR'S OR AUTHORIZED UA RESELLER'S TOTAL LIABILITY TO CUSTOMER FOR ALL DAMAGES, LOSSES, AND CAUSES OF ACTION WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE) OR OTHERWISE EXCEED THE AMOUNT PAID BY CUSTOMER FOR THE APPLICABLE LICENSED MATERIALS. THE FOREGOING LIMITATIONS AND EXCLUSIONS APPLY TO THE EXTENT PERMITTED BY APPLICABLE LAW IN CUSTOMER'S JURISDICTION. THIS LIMITATION OF LIABILITY MAY NOT BE VALID IN SOME JURISDICTIONS. CUSTOMER MAY HAVE RIGHTS THAT CANNOT BE WAIVED UNDER CONSUMER PROTECTION AND OTHER LAWS. UA DOES NOT SEEK TO LIMIT ITS WARRANTY OR REMEDIES TO THE EXTENT NOT PERMITTED BY LAW. SEE SECTION 13 FOR JURISDICTION-SPECIFIC STATEMENTS. The provisions of this Section 7 will survive the termination of this Agreement, howsoever, caused, but this will not imply or create any continue right to use the Licensed Materials after such termination.

8. Connection of Licensed Material to UA of Third Party Domain; Privacy Policy.

(a) Connection. From time to time during the Term of this Agreement, Customer may wish to connect with a UA or a third party Internet domain address ("Domain") via the Licensed Materials. In addition, the Licensed Materials may cause Customer's computer, without notice, to automatically connect to a Domain for a variety of purposes, including without limitation, the purposes set forth in this Section 8(a).

(i) Activation; License Validation. Before Customer can register any UAD Hardware Device, Customer will be required to create a user account with UA (the "User Account"), a process that results in the transmission of certain information about the Customer (including without limitation, the Customer's email address, zip code and country of residence and other general information (such as the type of DAW the Customer uses) to a UA Domain. And, if the Customer wishes to license Plug-Ins from the Online Store, the Customer will be required to provide additional information (including without limitation, the Customer's address and credit card information). In addition, the Licensed Materials may cause Customer's computer to connect to a UA Domain without notice on install, on launch, and on a regular or intermittent basis thereafter to detect or prevent fraudulent or unauthorized use of the Licensed Materials and to report on the extent of DSP usage among other things. Failure to activate or register the Licensed Materials or a determination by UA of fraudulent or unauthorized use of the Licensed Materials may result in reduced functionality or inoperability of the Licensed Materials and/or termination of the license.

(ii) Bug Reporting. The Licensed Materials may cause Customer's computer, without notice, to automatically connect to a UA Domain to report an error in the functioning of the Licensed Materials.

(iii) Updating. The Licensed Materials may cause Customer's computer, without notice, to automatically connect to a UA Domain (intermittently or on a regular basis) to: (a) check for Updates that are available for download to and installation on the computer and (b) notify UA of the results of installation attempts.

(iv) Delivery of Content. The Licensed Materials may cause Customer's computer to connect to a UA Domain so that UA can deliver content about the Licensed Materials and/or other UA products and services.

(v) Use of Online Services. The Licensed Materials may cause Customer's computer, without notice and on an intermittent or regular basis, to automatically connect to a UA Domain or third party Domain to facilitate Customer's access to content and services that are provided by UA or such third party as further described in Section 13(d) (Online Services Provided by UA) and Section 13(e) (Online Services Provided by Third Parties). In addition, the Licensed Materials may, without notice, automatically connect to the Internet to update downloadable materials from these online services so as to provide

immediate availability of these services even when Customer is offline.

(vi) Deactivation. Customer may deactivate and uninstall the applicable Licensed Materials from one of Customer's computers in order to install and activate the Licensed Materials on another computer. Such deactivation may cause computer to connect to a UA Domain.

(b) Privacy Policy. Whenever a Customer computer connects to a UA Domain (whether as a result of an explicit Customer request or an automatic connection), UA's privacy policy located at http://www.uaudio.com/privacy.html (the "UA Privacy Policy") shall apply.

9. Compliance with Licenses. If Customer is an entity (as opposed to an individual), Customer agrees that UA or its authorized representative have the right, no more than once every twelve (12) months, upon seven (7) business days' prior notice to Customer, to inspect Customer's records, systems, and facilities to verify that its use of the Licensed Materials is in conformity with its valid licenses from UA. Additionally, Customer shall provide UA with all records and information requested by UA in order to verify that its use of the Licensed Materials is in conformity with its valid licenses from UA within thirty (30) days of UA's request. UA's audit rights as set forth in this Section 9 are in addition to any license validation checking that may be performed by the Licensed Materials.

10. Export Rules. Customer acknowledges that the Licensed Materials are subject to the U.S. Export Administration Regulations and other export laws, restrictions, and regulations (collectively, the "Export Laws") and that Customer will comply with the Export Laws. Customer will not ship, transfer, export, or re-export the Licensed Materials, directly or indirectly, to: (a) any countries that are subject to US export restrictions (currently including, but not necessarily limited to, Cuba, Iran, North Korea, Sudan, and Syria) (each, an "Embargoed Country"); (b) any end user whom Customer knows or has reason to know will utilize them in the design, development, or production of nuclear, chemical or biological weapons, or rocket systems, space launch vehicles, and sounding rockets, or unmanned air vehicle systems (each, a "Prohibited Use"); (c) or any end user who has been prohibited from participating in the U.S. export transactions by any federal agency of the U.S. government (each, a "Sanctioned Party"). In addition, Customer is responsible for complying with any local laws in Customer's jurisdiction which may impact Customer's right to import, export or use the Licensed Materials. Customer represents and warrants that Customer: (x) is not a citizen of, or located within, an Embargoed Country; (y) will not use the Licensed Materials for a Prohibited Use; and (z) is not a Sanctioned Party. All rights to use the Licensed Materials are granted on condition that such rights are forfeited if Customer fails to comply with the terms of this Agreement.

11. Notice to U.S. Government End Users.

(a) U.S. Government Licensing of Software. Customer agrees that when licensing the Licensed Materials for acquisition by the U.S. Government, or any contractor therefore, Customer will license consistent with the policies set forth in 48 C.F.R. Section 12.212 (for civilian agencies) and 48 C.F.R. Sections 227.7202-1 and 227.7202-4 (for the Department of Defense). For U.S. Government End Users, UA agrees to comply with all applicable equal opportunity laws including, if appropriate, the provisions of Executive Order 11246, as amended, Section 402 of the Vietnam Era Veterans Readjustment Assistance Act of 1974 (38 USC 4212), and Section 503 of the Rehabilitation Act of 1973, as amended, and the regulations at 41 CFR Parts 60-1 through 60-60, 60-250, and 60-741. The affirmative action clause and regulations contained in the preceding sentence will be incorporated by reference into this Agreement.

(b) Commercial Items. For U.S. Government End Users, the Licensed Materials are a "Commercial Item(s)," as that term is defined at 48 C.F.R. Section 2.101, consisting of "Commercial Computer Software" and "Commercial Computer Software Documentation," as such terms are used in 48 C.F.R. Section 12.212 or 48 C.F.R. Section 227.7202, as applicable. Consistent with 48 C.F.R. Section 12.212 or 48 C.F.R. Sections 227.7202-1 through 227.7202-4, as applicable, the Commercial Computer Software and Commercial Computer Software Documentation are being licensed to U.S. Government end users (i) only as Commercial Items and (ii) with only those rights as are granted to all other end userspursuant to the terms and conditions herein. Unpublished-rights reserved under the copyright laws of the United States.

12. Governing Law. Except as set forth in Section 13 below, this Agreement shall be governed by and construed in accordance with the laws of the State of California, as applied to agreements entered into and to be performed entirely within California by California residents. This Agreement shall not be governed by the following, the application of which is hereby expressly excluded: (x) the United Nations Convention on Contracts for the International Sale of Goods, and(y) the Uniform Computer Information Transactions Act, as enacted in any jurisdiction.

13. Specific Provisions and Exceptions.This Section sets forth specific provisions related to certain products and components of the Licensed Materials as well as limited exceptions to the above terms and conditions. To the extent that any provision in this Section is in conflict with any other term or condition in this Agreement, the terms stated in this Section will supersede such other term or condition.

(a) No Prejudice. This Agreement will not prejudice the statutory rights of any party, including those dealing as consumers. For example, for consumers in New Zealand who obtain the Licensed Materials for personal, domestic, or household use (not business purposes), this Agreement is subject to the Consumer Guarantees Act.

(b) Australia Mandatory Notice Regarding Warranties. If Customer obtains the Licensed Materials in Australia, then the following provision shall apply, notwithstanding anything stated to the contrary in this Agreement:

"NOTICE TO CONSUMERS IN AUSTRALIA:

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. Our software products also come with a 90-day limited warranty given by Universal Audio, Inc., with an address of 4585 Scotts Valley Drive, Scotts Valley, CA 95066 as set out in the Agreement. If your products do not provide the general features and functions described in the User Documentation in the 90-day period after delivery to you, please call the UA Customer Support Department at (877) 698-2834 with details of your product, serial number, and proof of purchase. You may be required to return the software product to the address we provide to you at the time, in which case such return will be at your own cost. The benefits under this warranty are in addition to other rights and remedies that you may have at law."

(c) European Economic Area Warranties.

(i) If Customer obtained the Licensed Materials in the European Economic Area (EEA), Customer usually resides in the EEA and Customer is a consumer (that is its use of the Licensed Materials is for personal, non≠business related purposes), then Section 6 (Limited Warranty) does not apply to Customer's license and use of the Licensed Materials. Instead, UA warrants for a period of 2 years from installation that the Licensed Materials provides the functionalities set forth in the applicable user manual (the "agreed upon functionalities") when used on the applicable UA Hardware Device. Non-substantial variation from the agreed upon functionalities will not establish any warranty rights. THIS WARRANTY DOES NOT APPLY TO NOT-FOR-RESALE COPIES OF ANY SOFTWARE OR TO THE EXTENT THE SOFTWARE FAILS TO PERFORM BECAUSE IT HAS BEEN ALTERED BY CUSTOMER. To make a warranty claim, Customer must notify the UA Customer Support Department during this 2 year period, providing details of proof of purchase of the Licensed Materials.UA will verify with Customer whether there is a defect in the Licensed Materials or advise Customer that the error arises because Customer has not installed or used the Licensed Materials correctly (in which case, UA shall assist Customer). If there is a defect in the Licensed Materials, Customer may request from UA either a refund or a repaired or replacement copy of the Licensed Materials. Requests must be accompanied by proof of purchase. In the event Customer's warranty details are substantiated, UA will meet Customer's request for repaired or replacement Licensed Materials, unless it is not reasonable for UA to do so, in which case UA will provide Customer with a refund. For warranty assistance, please contact the UA Customer Support Department.

(ii) Please note that the provisions of Section 7 (Limitation of Liability) will continue to apply to any damage claims Customer makes in respect of its use of the Licensed Materials. Nonetheless, UA shall be liable for direct losses that are reasonably foreseeable in the event of a breach by UA of this Agreement. Customer is advised to take all reasonable measures to avoid and reduce damages.

(iii) This Agreement, and in particular this Section 13(c), is intended to describe Customer's rights (including its statutory rights) in the event there should be problems with its use of the Licensed Materials. If Customer's statutory rights are greater than this description, its statutory rights shall apply.

(d) Online Services Provided by UA. The Licensed Materials facilitate Customer's access to content and various services that are hosted on websites maintained by UA ("UA Online Services"). Examples of such UA Online Services might include, but are not limited to: the "Downloads", "Online Store", "Support" and "Product" web pages. In some cases, a UA Online Service might appear as a feature or extension within the Licensed Materials even though it is hosted on a website. Access to a UA Online Service may require Customer to activate the Licensed Materials, obtain a UA ID, consent to Additional Terms of Use, or require a separate fee in order to access such UA Online Services. UA Online Services might not be available in all languages or to residents of all countries and UA may, at any time and for any reason, modify or discontinue the availability of any UA Online Service. UA also reserves the right to begin charging a fee for access to or use of a UA Online Service that was previously offered at no charge. Section 8 states important information regarding Internet connectivity and Customer privacy. As stated in Section 8, when the Licensed Materials access a UA Online Service, Customer's use of such UA Online Service is governed by the UA Privacy Policy at http://www.uaudio.com/privacy.html, by the uaudio.com Terms of Use at http://www.uaudio.com/terms.html and by any Additional Terms of Use that might be presented to Customer at that time.

(e) Online Services Provided by Third Parties. The Licensed Materials may facilitate Customer's access to websites maintained by third parties offering goods, information, software, and services ("Third Party Online Services"). Examples of such Third Party Online Services might include, but are not limited to, the YouTube, Soundcloud, Facebook and Paypal services. Customer's access to and use of any Third Party Online Services is governed by the terms, conditions, disclaimers, and notices found on such site or otherwise associated with such Third Party Online Services. UA does not control, endorse, or accept responsibility for Third Party Online Services. Any dealings between Customer and any third party in connection with a Third Party Online Service, including such party's privacy policies and use of Customer's personal information, delivery of and payment for goods and services, and any other terms, conditions, warranties, or representations associated with such dealings, are solely between Customer and such third

party. Third Party Online Services might not be available in all languages or to residents of all countries and UA may, at any time and for any reason, modify or discontinue the availability of any Third Party Online Service.

EXCEPT AS EXPRESSLY AGREED BY UA OR ITS AFFILIATES OR A THIRD PARTY IN A SEPARATE AGREEMENT, CUSTOMER'S USE OF UA'S ONLINE SERVICES AND THIRD PARTY ONLINE SERVICES IS AT ITS OWN RISK UNDER THE WARRANTY DISCLAIMER AND LIABILITY LIMITATIONS OF SECTIONS 6 AND 7.

14. Non-Disparagement. Customer agrees that Customer shall not make any public statement about, nor publish in any chat room, online forum or other media, any content about, UA or any UA Licensor or Authorized UA Distributor that damages (or is intended to damage) that party's reputation.

15. Miscellaneous. If for any reason a court of competent jurisdiction finds any provision of this Agreement or portion thereof to be unenforceable, that provision or part thereof shall be enforced to the maximum extent permissible so as to fulfill the intent of the parties, and the remainder of this Agreement shall continue in full force and effect. This Agreement constitutes the entire agreement between the parties with respect to the use of the Licensed Materials, and supersedes all prior or contemporaneous understandings or agreements, written or oral, regarding such subject matter. No amendment to, or modification, of this Agreement will be binding unless in writing and signed by a duly authorized representative of UA.

Should you have any questions concerning this Agreement, please contact UA at 4585 Scotts Valley Drive, Scotts Valley, CA, 95066 USA or at +1-831-440-1176 or at www.uaudio.com.

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