



ATHENS 2

Twin RIAA Turntable Preamplifier with Network Audio Outputs

PRODUCT DETAILS



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Glensound Electronics Ltd

Thank you for choosing a new Glensound product.

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Information contained in this manual is subject to change without notice, if in doubt please contact us for the latest product information.

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PRODUCT WARRANTY:

All equipment is fully tested before dispatch and carefully designed to provide you with trouble free use for many years.

We have a policy of supporting products for as long as possible and guarantee to be able to support your product for a minimum of 10 years.

For a period of one year after the goods have been despatched the Company will guarantee the goods against any defect developing after proper use providing such defects arise solely from faulty materials or workmanship and that the Customer shall return the goods to the Company's works or their local dealer.

All non-wear parts are guaranteed for 2 years after despatch and any defect developing after proper use from faulty materials or workmanship will be repaired under this warranty providing the Customer returns the goods to the Company's works or their local dealer.

CE

EU DECLARATION OF CONFORMITY FOR:

ATHENS 2

Twin RIAA Preamp with Dante/ AES67 outputs

This declaration of conformity is issued under the sole responsibility of the manufacturer.

This equipment is manufactured by Glensound Electronics Ltd of Brooks Place Maidstone Kent ME14 1HE is **€** marked and conforms to the following Union harmonisation legislation:

Low Voltage Directive: Emissions: Immunity: EN60065 and EN62368-1:2014 BS EN55032:2015 BS EN55035:2017

Signed for and on behalf of Glensound Electronics Ltd.

Gavin Davis, Managing Director Maidstone, Kent, England Date: 15/01/2019

RoHS DIRECTIVE

RoHS 2 Directive 2011/65/EU restricts the use of the hazardous substances listed below in electrical and electronic equipment.

This product conforms to the above directive and for these purposes, the maximum concentration values of the restricted substances by weight in homogenous materials are:

Lead	0.1%
Mercury	0.1%
Hexavalent Chromium	0.1%
Polybrominated Biphenyls	0.1%
Polybrominated Diphenyl Ethers	0.1%
Cadmium	0.01%

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT REGULATIONS 2006 (WEEE)

Glensound Electronics Ltd is registered for business to business sales of WEEE in the UK our registration number is:

WEE/JJ0074UR

GLENSOUND ATHENS 2

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OVERVIEW

Athens 2 is twin RIAA phono preamplifier with Dante® and AES67 network audio outputs.

It is a mains powered device with two high quality stereo turntable preamplifiers inputs. Each preamplifier has its own set of preset controls to allow accurate matching of the Athens 2 input circuitary to the turntable's cartridge. Input gain, input impedance and input capacitance can all be set for each of the two stereo inputs.

The Athens 2 is suitable for use with both moving coil and moving magnet cartridges.

To provide the best possible equalisation of the RIAA curve the preamps feature high quality high tolerance analogue circuitary followed by a high quality analogue to digital converter and DSP. The combination of the analogue circuitary and DSP provides a very good quality RIAA equalisation resulting in a very flat output.

For reliability, redundant network audio outputs are provided on two copper Neutrik Ethercon Ethernet ports and also on two SFP slots for fibre Ethernet connectivity.

The name Athens a was chosen for our RIAA preamp as Dante Alighieri cites the city of Athens as a place of good governance and mentions its contribution and commitment to civil law. It is of course very important that a good RIAA preamplifier provides perfect governance of the audio and follows the RIAA equalisation law perfectly.

ATHENS 2 PANEL LAYOUT

Front Panel



Front Panel Features

1. Input 1 Left Channel Controls

These 12 preset dip switches provide controls to adjust the input gain, the input impedance and the input capacitance for the left channel input of input 1.

Please see the cartridge setup section of this handbook for detailed information.

2. Input 1 Right Channel Controls

These 12 preset dip switches provide controls to adjust the input gain, the input impedance and the input capacitance for the right channel input of input 1.

Please see the cartridge setup section of this handbook for detailed information.

3. Input 1 PPM

This 4 LED per channel PPM provides indication of the output level of input 1 of the Athens 2 preamplifier. The marked scale is in dBu and digital network output levels are set such that 0dBu = -18dBFs.

If the gain is set correctly during normal use you would expect the +6 LED to illuminate occasionally

4. Input 2 Left Channel Controls

These 12 preset dip switches provide controls to adjust the input gain, the input impedance and the input capacitance for the left channel input of input 2.

Please see the cartridge setup section of this handbook for detailed information.

5. Input 2 Right Channel Controls

These 12 preset dip switches provide controls to adjust the input gain, the input impedance and the input capacitance for the right channel input of input 2.

Please see the cartridge setup section of this handbook for detailed information.

6. Anti-Tamper Screw

The clear plastic anti-tamper shield is fitted to prevent un-authorised changes of the Athens 2 input parameters. To gain access to the dip switches then the Anti-Tamper screw must first be removed to allow removal of the anti-tamper shield.

7. Input 2 PPM

This 4 LED per channel PPM provides indication of the output level of input 1 of the Athens 2 preamplifier.

The marked scale is in dBu and is digitally referenced such that on the network outputs 0dBu = -18dBFs.

If the gain is set correctly during normal use you would expect the +6 LED to illuminate occasionally.

If however you are using the -24dBFs output circuits then the front panel PPM will read 6dB too high and the -6dB LED should become your lineup position.

Rear Panel



Rear Panel Features

8. Identify Button

This is used in combination with the reset button during software updates.....see updating firmware for further details.

9. Reset Button

This is used in combination with the Identify button during software updates....see updating firmware for further details.

10. Copper Ethernet Ports

These 2 copper RJ45 Ethernet ports can accept standard RJ45 cables or Neutrik Ethercons. Only one port is required to be connected to your network to correctly pass Dante®/ AES67 network audio, however both the primary and secondary ports can be used if a redundant network topology is in use.

Both ports are gigabit Ethernet and the LEDs flash to indicate data is being correctly communicated with a switch.

11. Input 2 Connectors

These 3 connectors are the audio input circuits from the turntable. Two of the connectors are the left/ right audio circuits and these are standard RCA (sometimes called phono) connectors.

The third connector is a 4mm screw terminal used for an audio ground circuit. If the attached turntable has an equivalent ground/ earth connector then the two should be connected.

12. IEC Mains

The standard IEC mains plug accepts external AC voltages of 100 -240 VAC +/- 10%.

There is an internal fuse and maximum current consumption is 10 Watts.

13. USB Connector

This Mini USB connector is used for attaching the Athens 2 to a PC for updating its firmware.see updating firmware for further details.

14. SFP Ethernet Slots

These 2 SFP Ethernet slots can accept most standard SFP (GBIC) modules. Only one port is required to be connected to your network to correctly pass Dante®/ AES67 network audio, however both the primary and secondary ports can be used if a redundant network topology is in use.

Both ports are gigabit Ethernet and the LEDs flash to indicate data is being correctly communicated with a switch.

15. Input 1 Connectors

These 3 connectors are the audio input circuits from the turntable. Two of the connectors are the left/ right audio circuits and these are standard RCA (sometimes called phono) connectors.

The third connector is a 4mm screw terminal used for an audio ground circuit. If the attached turntable has an equivalent ground/ earth connector then the two should be connected.

CARTRIDGE SETUP

For best results it is important to carefully setup the front panel dip switch (input channel controls) for both channels of both inputs.

Most cartridge manufacturers supply information such as the recommended load impedance and the recommended load capacitance. The Athens 2's input should be set to match these recommended figures.

IMPORTANT NOTE: Input 1's left and right channels should be setup identically and input 2's left and right channels should also be setup identically.

Available Controls

Each input has 3 sets of controls.

- 1) G...Gain....this adjust the gain of the preamplifier
- 2) Z...Impedance....this sets the input impedance
- 3) C...Capacitance....this sets the input capacitance

First Remove The Anti-Tamper Screen

Before adjusting the setup dip switches the Anti-Tamper screen must be removed by unscrewing the Anti-Tamper screw (this has a standard pozi drive head).



Gain Settings

NOTE: Please set input impedance and input capacitance prior to setting the gain.

NOTE: Only 1 gain dip switch should be on at any time for gain settings.

The quick and simple way of setting the gain is to connect your turntable and play a record then adjust the gain dip switches such that the PPM only ever occasionally peaks at +6.

Cartridge manufacturers usually provide output level information by describing the output voltage (i.e. 3.5mV (@1 kHz, 5 cm/sec)).

The table below shows average gain settings in dB required on the Athens 2 for cartridge output level in mV. This table should be used as guidance only.

Cartridge Output level @ 5 cm/sec	Gain Setting Of Athens 2
< 1 mV	60 dB
1 to 2 mV	55 dB
2 to 3 mV	50 dB
3 to 4.5 mV	45 dB
> 3.5mV	40 dB

The picture below shows the position of the gain dip switches (marked as 'G' on the panels) required to achieve specific gain levels.



Input Impedance Settings

Most cartridge manufacturers provide the recommended load impedance for their cartridges. The Athens 2's inputs should be set to match this recommended figure as closely as possible.

4 dip switches adjust the input impedance and more than one dip switch can be turned on at the same time.

The 4 dip switches that adjust the input impedance are marked on the panel as 'Z'.

The picture below shows the required position of the Z dip switches for specific input impedances.

LEFT CHANNEL Z DIP SWITCHES

RIGHT CHANNEL Z DIP SWITCHES





Input Capacitance Settings

If you're using a Moving Magnet cartridge then the manufacturer will provide the recommended load capacitance. The Athens 2's inputs should be set to match this recommended figure as closely as possible.

If you're using a Moving Coil cartridge then the input capacitance should be set to minimum (15 pF (all capacitance dipswitches off))

4 dip switches adjust the input capacitance and more than one dip switch can be turned on at the same time.

The 4 dip switches that adjust the input capacitance are marked on the panel as 'C'.

The picture below shows the required position of the C dip switches for specific input capacitances.





RIGHT CHANNEL C DIP SWITCHES

NETWORK dBFs LEVELS

The Athens 2 provides 2 separate stereo network audio outputs for each of the 2 input preamplifiers.

One of these stereo outputs references 0dBu = - 18dBFs

The other of these stereo outputs references 0dBu = -24dBFs

Please note the front panel PPM is set for 0dBu = -18dBFs and if you are working in an environment utilising 0dBu = -24dBFs then the PPM will read too high and the -6dB LED will actually represent 0dB.

CONNECTING THE ATHENS 2 TO A DANTE® NETWORK

The Athens 2 is a network audio devices utilizing the reliable and versatile Dante® audio over IP protocol. Dante® is a proprietary system (although very widely used) the originators of which are Audinate.

The information below is only meant as a very basic guide. Full details of the power of Dante network audio and instructions for using it can be found at www.audinate.com

Getting Dante Controller

If you are connecting the Athens 2 to a new Dante network the first thing you will need to do is to get the free Dante controller software from Audinate. This can be downloaded by visiting Audinate's web site at <u>www.audinate.com</u>

Connecting Athens 2 To The Network

Athens 2s can be connected to the network that you are going to use for your audio distribution simply by plugging in either, and, or any of the network connections on the rear. Once connected to the network it will be possible to see the Athens 2 from within the Dante controller and route its' audio circuits.

Audio Over IP Network

We strongly recommend that you consider your network topology carefully and would not recommend sharing broadcast audio and general data on the same network.

For more details of audio over IP network structure please visit www.audinate.com

Running Dante Controller

At the time of writing this manual the Dante Controller looks as per the screenshot below:

<u>@</u>	Dante	e Controller - Network View	- 🗆 ×
File Device View Help			
5 🖬 ★ 🚠 🖬 🗄		Master Clock: 001DC10B7A64	0
Routing Device Info Clock Status Netwo	k Status Events		
Filter Transmitters	To ante Transmitters BK1YN-IT-0b7a64 Inferno-no-103-BK1YN-IT-0b7a2c Talback 1 Talback 2 Talback 2 Talback 3 Talback 4 Talback 6 Talback 7 ON AIR ON AIR		
			•
Inferno-no-103-BKLYN-II-0b7a2c 01 02 03 04 05 06 07 08			
	4		, v
P: S:		Multicast Bandwidth: 0 bps Event Log:	Clock Status Monitor:

The Athens 2 will have been named at the factory during test to allow them to be identified by the Dante controller.

The format used for the factory name is:

'Athens2-snXXX'

The '-snXXX' refers to the serial number of the Athens 2 unit which can be found printed on the rear of the unit.

Note if you upload a new DNT file or clear the devices config then the name will change to Athens 2XX-xxXxXx whereby the 'X's refer to the devices MAC address.

Dante Controller TIP

If you have never run Dante controller before then make sure that on the bottom left of the Dante controllers' screen 'P' or 'S' is next to a green square as this indicates that it is connected to a network. By clicking 'P' or 'S' a pop up box opens to allow you to set what network interface the controller is using.

Device Not Showing Up In Dante Controller

If your Dante[®] device does not show up in Dante[®] Controller then the most likely issue is that the device's IP Address is not appropriate for your network.

- A) It maybe that the device is set to obtain an IP address automatically using DHCP (this is the default configuration) and your network is setup for fixed IP addresses only and does not have a DHCP server.
- B) It maybe that the device has had a fixed IP address assigned but that this address is not suitable for your network.

The solution to both scenarios is basically the same.

- 1) You must connect your Dante[®] device directly to the Ethernet port of your computer using an Ethernet cable.
- 2) Make sure that your computer is set to 'Obtain an IP address automatically'
- After a few minutes the Dante[®] device should now appear in Dante[®] Controller.
- 4) Double click the device name to open up device view.
- 5) Open up the 'Network Config' tab
- 6) Either turn on 'Obtain an IP Address Automatically' or correctly configure the 'Manually configure an IP Address' options for your network.
- 7) Click on 'Apply' to confirm the new settings, then disconnect the computer and reconnect the Dante[®] device to your network.

	GS-DARK1616-AES67-Test 🗸	
Receive Transmit Status Latency	Device Config Network Config AES67 Config	
	Dante Redundancy	
	Current: Switched New: Switched	
	Addresses	
	Ohtain an TD Address Automatically (default)	
	Manually configure an IP Address	
	Netmask:	
	DNS Server:	
	Gateway:	
	Apply Revert	
	Reset Device	

AES67 MODE

The Athens 2 uses a Brooklyn 2 module from Audinate for its network audio interface. Audinate are the company behind Dante[®] and as such the module's primary network audio protocol is Dante, however Audinate have enabled their module to comply with AES67 and therefore the Athens 2 can be set to AES67 mode for interaction with other AES67 devices.

Please note however that Glensound are relying on Audinate's AES67 interface and are unfortunately not able to provide full AES67 support for the unit. AES67 support should be sought directly from Audinate.

1. Turning On AES67 Mode

If you want to use your Athens 2 on an AES67 network and it has not been set to AES67 mode then this can be set in Dante controller by double clicking the Athens 2 to open the Device View window where you will find an AES67 tab to enable AES67 support.

Dante Controller - Device Vie le Davice View Help	ew (GS-DARK1616-AES67-Test-1)	- 🗆	\times
	GS-DARK1616-AES67-Test 🗸		2
teceive Transmit Status Laten	cy Device Config Network Config AES67 Config		
1	AES67 Mode		
	Current: Enabled		
	New: Enabled V		
[Tx Multicast Address Prefix		
	Current Prefix: 239.168.XXX.XXX		
	New Address Prefix: Set		
]	Reset Device		
l	Kebuut Cieai Curing		

Once the AES67 drop down box has been enabled you'll have to reboot the Athens 2 for the change to take effect. After the reboot go back to the AES67 tab and set the multicast prefix address to one that is suitable for your newtork.

2. Sending AES67 Audio

To transmit AES67 audio to the network a multicast flow must first be setup.

This is done by selecting the 'Create New Multicast Flow' Icon in the Device View.

Create Multicast Flow GS-DARK1616-AES67-1 to 8 channels p Select one or more transmit channels	Fest-2 supports up her flow. to be placed in multicast flow
AES67	Flow
Channel Name	Add to New Flow
01	
02	
03	
04	
05	
06	
07	
08	\checkmark
09	
10	
11	
12	
13	
14	
15	
16	
Create	Cancel

Tick the AES67 Flow check box, then select up to 4 channels to be included in the flow then click 'Create'

Once set the flows can be seen in the transmit tab of the device view.

Dante Controlle File Device View	er - Device View (Help	GS-DARK1616-AES6	7-Test-2) — 🗆	×
	·< 🕀 🔒		GS-DARK1616-AES67-Test 🗸	0
Receive Transmit	Status Latency Transmit Chan	Device Config Netwo nels	rk Config AES67 Config Transmit Flows	
Channel 01 02	Signal	Channel Label	Unicast: 1 Multicast: 2 Total: 3 of 32 Multicast Flow 31: 09,10,11,12,13,14,15,16 (239.168.222	2. 10)
03 04 05 06	440 440 440		AES67 Session Id=2011634783 Multicast Flow 32: 01,02,03,04,05,06,07,08 (239.168.238 AES67 Session Id=2015673848	.252)
07 08 09 10	ସାଏ ସାଏ ସାଏ			
11 12 13	य[य य[य य[य			
14 15 16	বাব বাব বাব			
			Delete	

UPDATING FIRMWARE

The Athens 2 units are a digital audio system comprising of a Micro Controller and ADC and DSP. These items run software and may need to be occasionally updated.

Equipment needed

- A windows based PC
- USB Type A to Micro B cable
- A copy of 'DfuSe Demo' software
- The latest firmware from Glensound
- The Athens 2 unit to update

Instructions

1. <u>Download and install DfuSE Demo</u>

'DfuSE Demo' is a firmware updating tool that is required for loading new firmware on to the Athens 2.

It can be downloaded from the S®icroelectronics website found here: <u>https://goo.gl/AbzhsA</u>. It is the file named "STSW-S®32080".

Once you have downloaded this file you will need to extract the .exe "DfuSe_Demo_V3.0.5_Setup.exe", then run and install it.

2. Download firmware

The latest firmware for the Athens 2 can be found on the Glensound website, under the product page for Athens 2 device. Once you have downloaded the file, place it in a folder or location of your choice.

Name	Date	Туре	Size	•
Dark1616S1.1.1.dfu	21/03/2018 11:18	DFU File	47 KB	

Figure 1 Example filename

3. Connect To A PC

Connect the Athens 2 to the PC via the USB cable. The Micro USB connector is located on the rear panel of the unit.

4. Firmware update preperation

To prepare the Athens 2 for a firmware update;

- 1. Press and hold down the Enter Setup button
- 2. Power on the unit
- 3. Release the Enter Setup button

Your PC should make an audible sound when this process is successful as windows is detecting a new USB device.

5. Loading the firmware

Now open DfuSe Demo.

If the Athens 2 successfully entered DFU mode then it will appear as 'S® Device in DFU Mode' under the 'Available DFU Devices tab'.

STM Device in DF	FU Mode			plication Mode:	DFU Mode:
Supports Uplo	ad	Manifestation tolera	nt Ver	ndor ID:	Vendor ID: 0483
Supports Download Accelerate		Accelerated Uploa	i(ST) Pro	cuct ID:	Procuct ID: DF11
Enter DELL mode	/HID detach	Leave DELL mor	le V	/ersion:	Version: 2200
Actions	1110 3013011	Forte pro more			
Select <u>T</u> arget(s):	Target Id	Name		Available Sectors	(Double Click for mor
		Internal Flash		24 sectors	
	01	Option Bytes		2 sectors	
	02	OTP Memory		2 sectors	
	03	Device Feature		1 sectors	
Upload Action		Upgra	le or Verifv A	Action	
File:		File:			
		Vendo	r ID:	Targets in fi	ile:
<u>C</u> hoose	<u>U</u>	pload Procur			
- Transferred data	0170				
		Ver	ion:		
U KB(U Bytes) of	U KB(U Bytes	l 🗌 Ve	ify after dow	vnload	
		Op	timize Upgra	ade duration (Remo	ve some FFs)
Uperation duratio	n 	Ch		Upgrada	Moritu
L L	00:00:00	Lr	jose	opgrade	veniy

Figure 2 Device successfully recognised

Now the .dfu file needs to be selected so that DfuSe Demo knows the correct firmware to put on to the Athens 2.

02 03	UTH Men Device Fe	ioiy eature	∠ si 1 si	ectors ectors
:ize	<u>U</u> pload	Upgrade or Ver File: Vendor ID: Procuct ID: Version:	ify Action	Targets in file:
I KB(0 B)	vtes)	Verify after	download ograde du] µration (Remove some FFs
)):00:00		Ch <u>o</u> ose]	Upgrade
		5		

Figure 3 Choose .dfu file

Click choose and then select the .dfu file that you downloaded from the Glensound website. This will be located in your downloads folder by default.

If the file loads successfully then it will read along the bottom 'File correctly loaded'.

6. Upgrading the Athens 2 firmware

🧼 DfuSe Demo (v3.0.5)							_		×
- Available DFU Devid	ces								
STM Device in DFL	STM Device in DFU Mode 🗸 🗸					_	DFU Mode:		
Supports Upload Manifesta Supports Download Accelerat Can Detach			ion tolerant ed Upload (ST)	Vendor ID:			Vendor I Procuct	D: 0483 ID: DF11	
Enter <u>D</u> FU mode/H	HD detach	Leave	DFU mode				VEISIO	. 2200	
Actions									
Select <u>T</u> arget(s):	Select Target(s): Target Id Name 00 Internal F				Available Sec 24 sectors 2 sectors	tors (I	Double Cli	ck for more	3)
	02 03	OTP Memory Device Feature		2 sectors 2 sectors 1 sectors					
Upload Action File: <u>Choose</u> <u>Upload</u> Transferred data size 0 KB(0 Bytes) of 0 KB(0 Bytes)			Upgrade of Verile: Vendor ID.	erify A Dark1)483)0000)0000 r dow Jpgrad	ction 61651.1.1.dfu Targets 00 nload de duration (Re	in file: ST	some FF	5]	
	00:00:00				Upgra	de		⊻erify	
		Fil	e correctly l	oad	ea.				
Abort				/				<u>Q</u> ui	t

Figure 4 .dfu successfully loaded

The firmware is now ready to be put on to the Athens 2. Tick the 'Verify after download' box first and then click 'Upgrade'.

	-Upgrade or \	/erify Action			
	File:	Dark1616S1.1.1.dfu			
	Vendor ID:	0483 Targets in file:			
	Product ID:	0000	00 51		
	Version: 0000 Verify after download Optimize Upgrade duration (Remove some FFs)				
<					
	Ch <u>o</u> ose.		Upgrade	⊻erify	
	le correctly loaded.				
			\bigtriangledown		

Figure 5 Upgrade

Click yes to proceed.

DfuSeDen	DfuSeDemo			
?	Your device was plugged in DFU mode. So it is impossible to make sure this file is correct fo device.	r this		
	Continue however ?			
	Yes	No		
Figure (6 Start upgrade	ograde		

The progress bar along the bottom will show the status of the operation. If the operation was successful, DfuSe Demo will report that "Target 00: Verify Successful!".

Bytes)	✓ veniy arter download				
Operation duration 00:00:02	Choose Upgrade				
Target 00: Upgrading - Download Phase (19%)					
Abort	Quit				

Figure 7 Upgrade status

You may also see that it will report how much data was successfully transferred.

🧼 DfuSe Demo (v3.0).5)					_		×
Available DFU Device	ailable DFU Devices							
STM Device in DFU	STM Device in DFU Mode 🛛 🗸 🗸 🗸 🗸 🗸 🗸 🗸 🗸 🗸			Application Mode: Vendor ID:		DFU M	ode:	
Supports Upload Manifestal Supports Download Accelerate Can Detach		ion tolerant ed Upload (ST)	Vendor ID: 0483 Procuct ID: DF11 Version: 2200					
Enter <u>D</u> FU mode/HI	Enter DFU mode/HID detach		DFU mode				2200	
Actions								
Select <u>T</u> arget(s):	Select <u>T</u> arget(s): Target Id Nam		ne Available Sector		(Double C	lick for more	3)	
1	00	Internal Fla	sh		24 sectors			
1	01	Option Byte	tes 2 sectors ory 2 sectors					
1	02	OTP Memo						
1	03 Device Fe		ature 1 sectors					
Upload Action File: ChooseUpload Transferred data size 46 KB(47412 Bytes) of 46 KB(47412 Bytes) Operation duration 00:00:05			Upgrade or Ve File: Vendor ID: [Procuct ID: [Version: [Verify afte Optimize I Ch <u>o</u> ose	erify Ac Dark1 0483 0000 0000 er dowr Jpgrac	stion 616S1.1.1.dfu Targets in fil 00 ST. 00 ST. nload de duration (Remov	le: ve some FF	∵s) ⊻erify	
Target 00: Verify successful !								
Abort							<u>Q</u> ui	t

Figure 8 Successful upgrade!

7. Final steps

Now click "Leave DFU mode" to finish the procedure.

OfuSe Demo (v3.0.5) Available DFU Devices STM Device in DFU Mode Supports Upload Manifestation tolerant	Application Mode: DFU Mode: Vendor ID: Uendor ID: 0483				
Supports Download Accelerated Upload (ST)	Procuct ID: Procuct ID: DF11				
Enter DFU mode/HID detach	Version: Version: 2200				
Actions L	5				
Figure 9 Final step					

You may now disconnect the USB cable and continue to use the Athens 2 with the freshly updated firmware!

UPDATING THE BROOKLYN CHIPSET

The Brooklyn module is a device supplied by Audinate that does most of the processing for the actual Dante/ AES67 network audio streams. There is one Brooklyn module in each Athens 2. We supply special code (a .dnt file) that sets up/ initiates the Brooklyn module and makes it work in particular way that is compatible to the Athens 2.

1. Finding Out Current Installed Version

Using Dante[®] controller double click on the Athens 2 device name in the routing tab to open the Device View box.

In the Device View box open the Status Tab.

The 'Product Version:' shows the currently installed version of Brooklyn module dnt code.

2. Finding Out What The Latest Available Version Is

Go the Athens 2's web and open the 'Firmware Latest Version' Tab. This will give both the latest version numbers/ file names and also the location to download the file from.

3. Updating the Brooklyn module

The firmware that runs in the Brooklyn module is updated using Audinate's Firmware updating tool. The updating tool and a user guide can be downloaded from Audinate's website:

https://www.audinate.com/products/firmware-update-manager

NOTE:

Please note we strongly advise that when you do the update that only your PC and the Athens 2 that you want to update are on the network to save accidently updating the wrong Dante device.

SPECIFICATIONS

RIAA EQUALISATION

The Athens 2 uses a hybrid of Analogue & DSP circuits to perform its RIAA equalisation.

In the below graph two horizontal light blue/ purple lines show the frequency output of the two channels of the amplifier after the RIAA equalisation. The level reference is the right Y axis (right hand scale) and the frequency range is the X (bottom) axis.

As can be seen RIAA equalisation is within -0.2dB and +0.1dB between 5Hz and 20kHz

The interwined pink/ purple lines from top left to bottom right show the frequency response output of the appplifier prior to RIAA equalisation with level reference to the left hand Y axis.



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SPECIFICATIONS

NETWORK/ Dante®

Physical Interface

2 off Rj45 2 off SFP slots **Audio Sample Frequency** 48kS/s **Transfer Rate**

1000 Mbps

Dante[™] Chipset

Brooklyn II Note: suitable for acting as master clock for a network incorporating many Ultimo chipsets AES67 Compliant

AES67 compliant

PHYSICAL

Mechanics

All aluminium, extruded sides & panels black anodised with laser etching

Size

275 x 225 x 45mm (w x d x h)

Weight 1.25Kg 2.75lb

Shipping Weight 2.75Kg

Shipping Size

62 x 42 x 12 cms

Shipping Carton Rugged export quality cardboard

POWER

Mains Voltage 100 - 240 VAC +/-10% Mains Frequency 50 to 60 Hz

Consumption

10 Watts

AUDIO

Input Gain Range 60 to 40dB Input Impedance (Ohms) 47000, 1000, 470, 320, 220, 180, 150, 130, 100, 90, 80, 76, 68, 60, 56 Input Capacitance (pF) 22605, 22505, 22385, 22285, 22235, 22115, 22015, 605, 505, 385, 335, 285, 235, 115, 15 **RIAA Equalisation** Output <-0.2/+0.1dB 5Hz to 20kHz **Distortion THD** <0.005% @1k ref +8dBu Noise @ 40dB gain -87.5dBu (residual) 100r termination min gain **Equivalent input noise** -127.5dBu 100r (22Hz - 22kHz) **Crosstalk between inputs** >-91dBu @ lineup @ 1kHz Maximum input before distortion -22dBu @ 1kHz (min gain) Headroom +24dB for -24dBFs Fs Network outputs for both: 0dBu = -18dBFs0dBu = -24dBFs **PPM** 4 LEDs -12, -6, 0, +6 dB 0dB = -18dBFs

INCLUDED ITEMS

Handbook Physical A5 (download also available)

Rj45 Network Cable 2 metre Cat5 Rj45plug /Rj45plug cable Mains Cable

2 metre IEC (UK & EUROPE only)