DARC Virtual



Technical Manual 5

August 3, 2026

Dante® ASIO

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Introduction

Thank you for purchasing the DARC Virtual by Arrakis Systems. Our company has provided professional audio equipment to the broadcast, commercial audio, and consumer audio markets for more than 30 years. Our products are sold worldwide and are well known for leading edge technology, quality, and reliability.

How to contact Arrakis Systems

Arrakis Systems Inc. is located at:

Arrakis Systems
6604 Powell Street
Loveland, Colorado
80538

Business Hours: 8:00am - 4:30pm mountain time

Voice: 970-461-0730 x316

Fax: 970-663-1010

Email: darcsupport@arrakis-systems.com

Having difficulty contacting Arrakis?
Refer to the website (www.arrakis-systems.com) for current contact information

Product Description

DARC Virtual AoIP Software Console

- 4, 8, 12 or 16 input channels.
- Multi-fader control via touchscreen. Up to 10 faders at one time. (touchscreen required)
- Inputs - software selectable.
- Outputs - software selectable.
- 3 Stereo Outputs – Program, Audition & Utility.
- Connects and controls Simple-IP 8A audio inputs & outputs.
- Monitor, Headphone, and Cue system with external input for off-air monitoring.
- Cue system autocues (with Program dimming) into the Monitor & Headphone systems.
- 1-8 Mix Minus telephone interface.
- Touchscreen compatible.
- 8 programmable buttons for controlling software, changing assignments, etc.
- Dante AoIP interstudio ethernet connectivity.
- AES67 AoIP support.
- Supports other ASIO soundcards.

The DARC Virtual Software console is a powerful mixing console that runs on a Windows PC. In AoIP mode, it will mix any Dante enabled audio source on your network. You can then send the mixes to any output on your Dante network. In ASIO mode, it will mix sources from your ASIO enabled soundcard.

DARC Virtual AoIP mode requires two components:

1) It must have the Dante Virtual Soundcard installed and operating on the PC that is being used for the DARC Virtual.
2) You must have Dante enabled audio sources. This can be the Simple IP nodes by Arrakis, or any other Dante enabled audio equipment on your network, such as the Dante AVIO nodes.

OPTIONAL – DARC Surface

The DARC Virtual can be used by itself, or if you want a physical interface, you can also elect to use any of the DARC Surface Digital consoles. These interfaces will operate and control the DARC Virtual, using physical faders and buttons.

Touchscreen Compatible

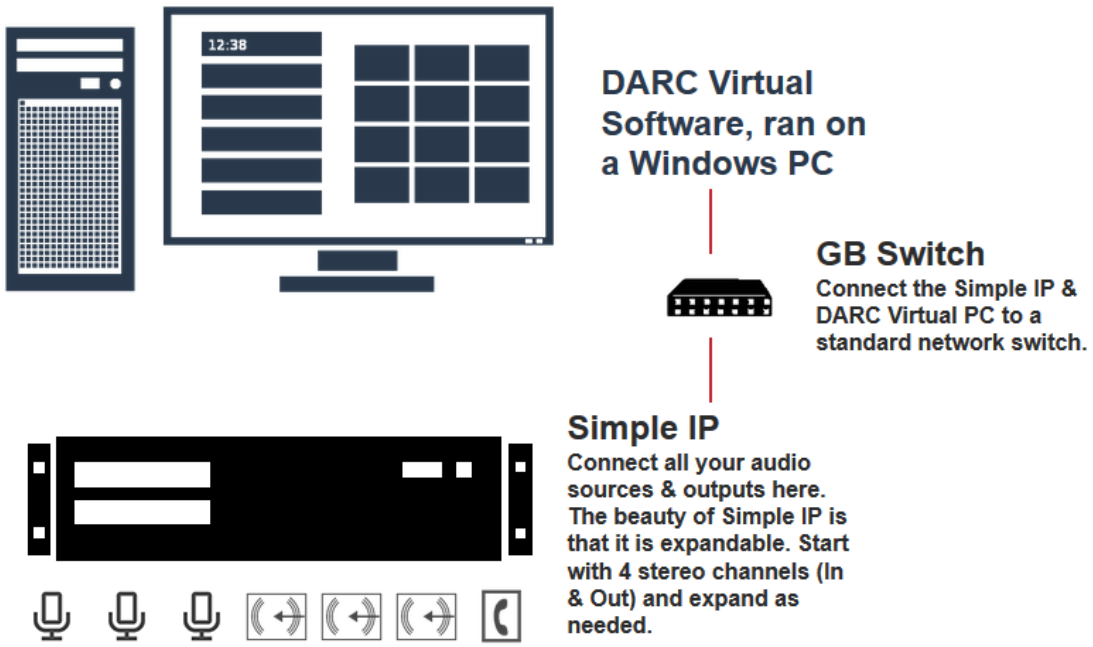
DARC Virtual is compatible with most Windows enabled touchscreens. With a touchscreen, you can control multiple faders at the same time (up to 10). This allows you to do crossfades, or bring multiple channel levels up or down at the same time.

The DARC Virtual Console software and Simple IP, can be run either in a standalone or AoIP multi-studio configuration. The backbone of DARC is that it is expandable for any user's needs.

Standalone Configuration

In a standalone configuration you would have a Windows PC running the DARC Virtual Software, a network switch and then a Simple IP unit (or any other Dante node) with your audio inputs & outputs.

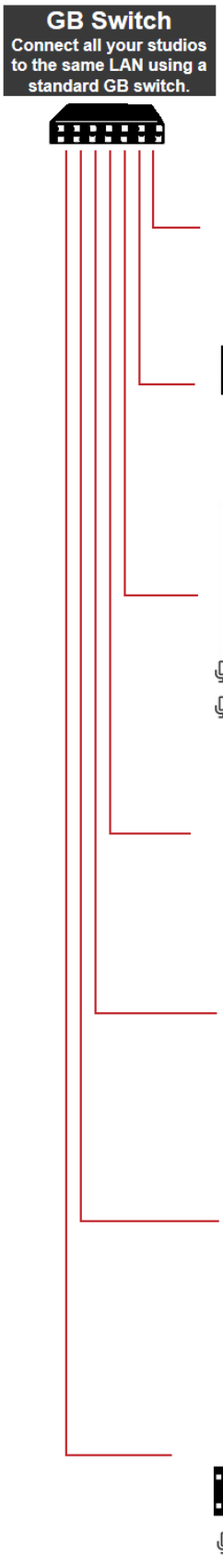
In this configuration, you do not need a large complex AoIP network, and it can be run as a single unit. In time, if you wish, you may expand your network with additional Simple IP units along with control software and hardware.



<u>BASIC CONNECTION STEPS:</u>

1) **Connect your PC to your GB network** switch. Ideally this is a switch that is dedicated to your audio network, and is not connected to the network used by your office PC's.
2) **Connect all of your audio inputs and outputs** to your Simple IP units (or any Dante audio device). Connect the Simple IP units to your audio network.
3) **Use the Dante Controller to route audio** to your DARC Virtual Console software.

AoIP Configuration



As a digital console with AoIP capabilities, you can expand your operation at any time.

DARC Virtual Software
Controls any audio source on your Dante network.

Simple IP
Connect all your audio inputs and outputs here. Such as microphones, automation, MP3 players, phone systems, etc...

Rack Room
If you prefer your equipment centralized, you may bring your audio inputs and outputs to a rack room. All I/O will be accessible anywhere on your Dante network.

DARC Surface
Console control surface that utilizes DARC Virtual to control audio sources on your Dante network.

AES67 Studio
Connect any of your existing AoIP studios that are using AES67 compliant equipment, such as Wheatstone, Telos, or Lawo.

Auxiliary Studio
Connect any of your existing studios to the Dante network, either using Simple IP, or a Dante AVIO device.

Analog Source
Connect any of your existing consoles to the Dante network, either using Simple IP, or a Dante AVIO device.

DARC Virtual Software Authorization

STEP 1 - Download and install DARC Virtual from the Arrakis Website.

STEP 2 - Open DARC Virtual, select **File**, then choose **Authorization**.

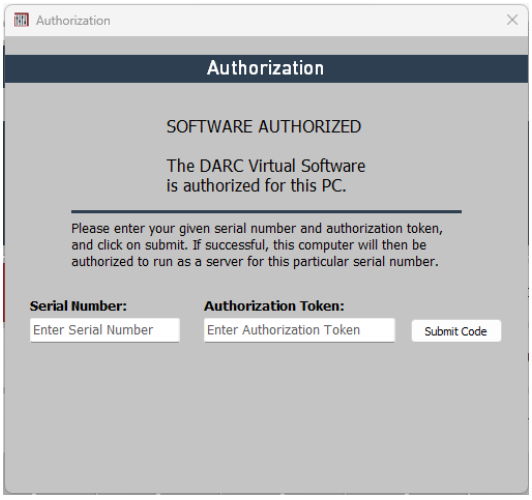
STEP 3 - After purchase, you will receive an email containing your Serial Number and associated Authorization Token.

IMPORTANT NOTE - Do not share this token with anyone, as it authorizes your software license.

STEP 4 - Enter the Serial Number and Authorization Token into the appropriate fields, then click **Submit Code**.

STEP 5 - Restart the DARC Virtual software.

Your software is now enabled and may be used by this specific PC.



TO SWAP COMPUTERS

To move your license to another computer, enter your Serial Number and Authorization Token on the new machine. If your Authorization Token has been compromised or misused, please contact support at darcsupport@arrakis-systems.com.

DEMO MODE

To request a full demo of the software, please contact our sales team at sales@arrakis-systems.com.

AoIP Installation Instructions

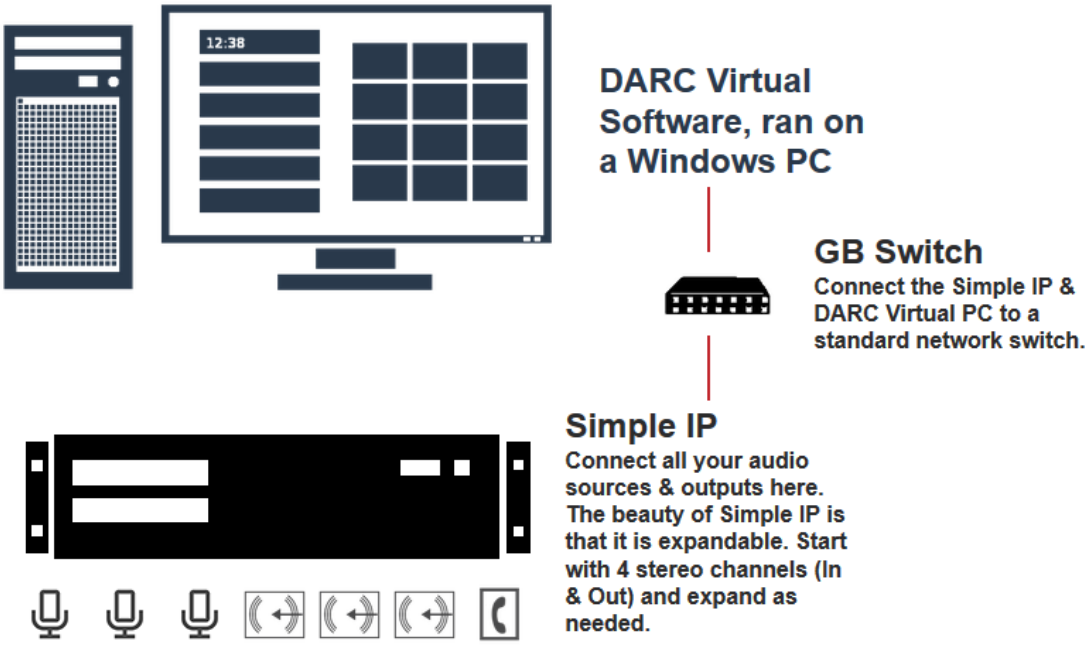
There are 4 major components to the DARC Virtual AoIP system:

ON YOUR WINDOWS PC:

1) **DARC Virtual software** – Ran on a Windows PC, this software is where audio is received, mixed and then sent out.

2) **Dante Virtual Soundcard** - DARC Virtual requires the installation and use of the Dante Virtual Soundcard. DVS may be purchased and downloaded from the Audinate website.

3) **LOCAL AREA NETWORK** **Your PC** & Dante audio sources will all connect on the network, using a standard wired ethernet switch.



WHERE AUDIO SOURCES ARE CONNECTED

4) **Dante audio sources** – This can be Simple IP nodes, Dante AVIO adapters, or any other Dante enabled audio source. This is where you connect your physical equipment, such as microphones, headphones, automation systems, CD players, studio monitor, studio transmitter link, etc...

Routing for these sources are then managed using the Dante Controller software.

This next section will explain the basics of installing these components to get you started with DARC Virtual.

PC Minimum Specifications

Make sure that your PC specs will meet these minimum requirements:

A) Windows 10 Pro or newer
B) 8GB of RAM or more.
C) CPU with a benchmark of 12,000 or greater. A great site that gives accurate CPU benchmarks can be found at this link here: cpubenchmark.net/cpu_list.php
D) SSD - A solid state drive is not required, but highly recommended. This allows quicker restart times, and better performance.

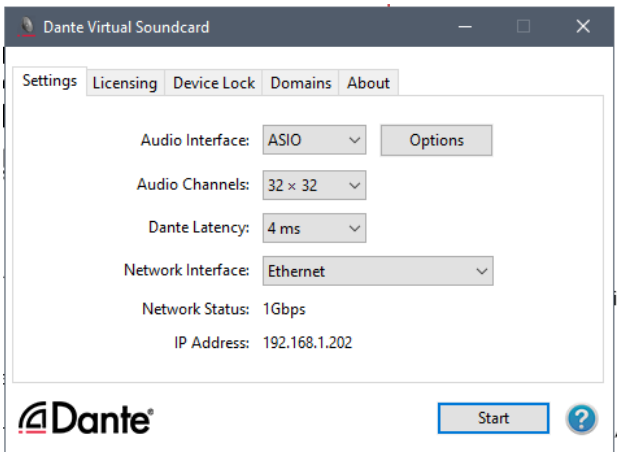
IMPORTANT NOTE – The DARC Virtual software must be ran in Administrator mode.
IMPORTANT NOTE - Steps to configure the PC for optimal performance are listed at the end of this manual. Updates to these instructions may be found on the Arrakis website.

Dante Virtual Soundcard

STEP 1 – Purchase, download and install the Dante Virtual Sound Card from the Audinate website.

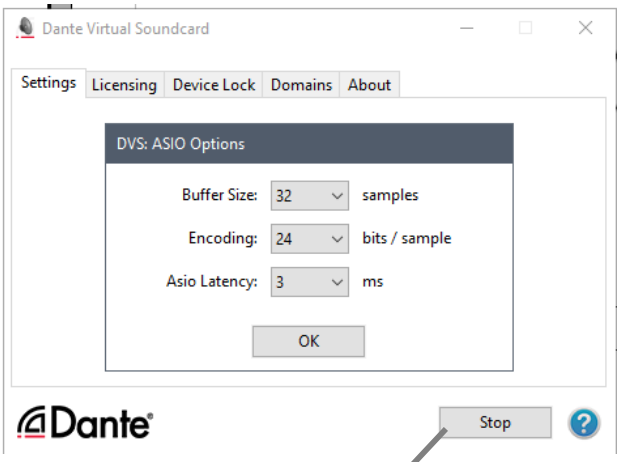
STEP 2 - Turn on Dante Virtual Sound Card and set the settings to:

Audio Interface: ASIO
Audio Channels: 64x64
Dante Latency: 4ms
Network Interface: Ethernet



STEP 3 - Click on **Options** in the Dante Virtual Sound Card. You will need to **Stop** the service, if it has already been started. Change the **ASIO Options** to:

Buffer Size: 32 samples
Encoding: 24 bits/sample
Asio Latency: 3ms



IMPORTANT NOTE - The Dante Virtual Soundcard needs to be on and running at all times. If the **Start** button is visible, you must press it to start the DVS. It should also be enabled in startup for Windows.

Hardware Installation

The next step is to connect your hardware and get it onto the Dante local area network. This is achieved either by using Simple IP nodes, Dante AVIO adapters, or other Dante enabled hardware. Detailed information on how to install the hardware may be found in the specific hardware manual. Here are some basic steps:

STEP 1 – Connect auxiliary equipment, such as microphones, automation systems, phone systems, to the inputs. Then the headphone, studio monitor, studio transmitter link to your outputs.

STEP 2 – Connect the Dante device, or node to the network switch.

STEP 3 – Power up the Dante device.

STEP 4 – Open the Dante Controller software. This software can be found on the Audinate website.

STEP 5 – Route the inputs and outputs appropriately.

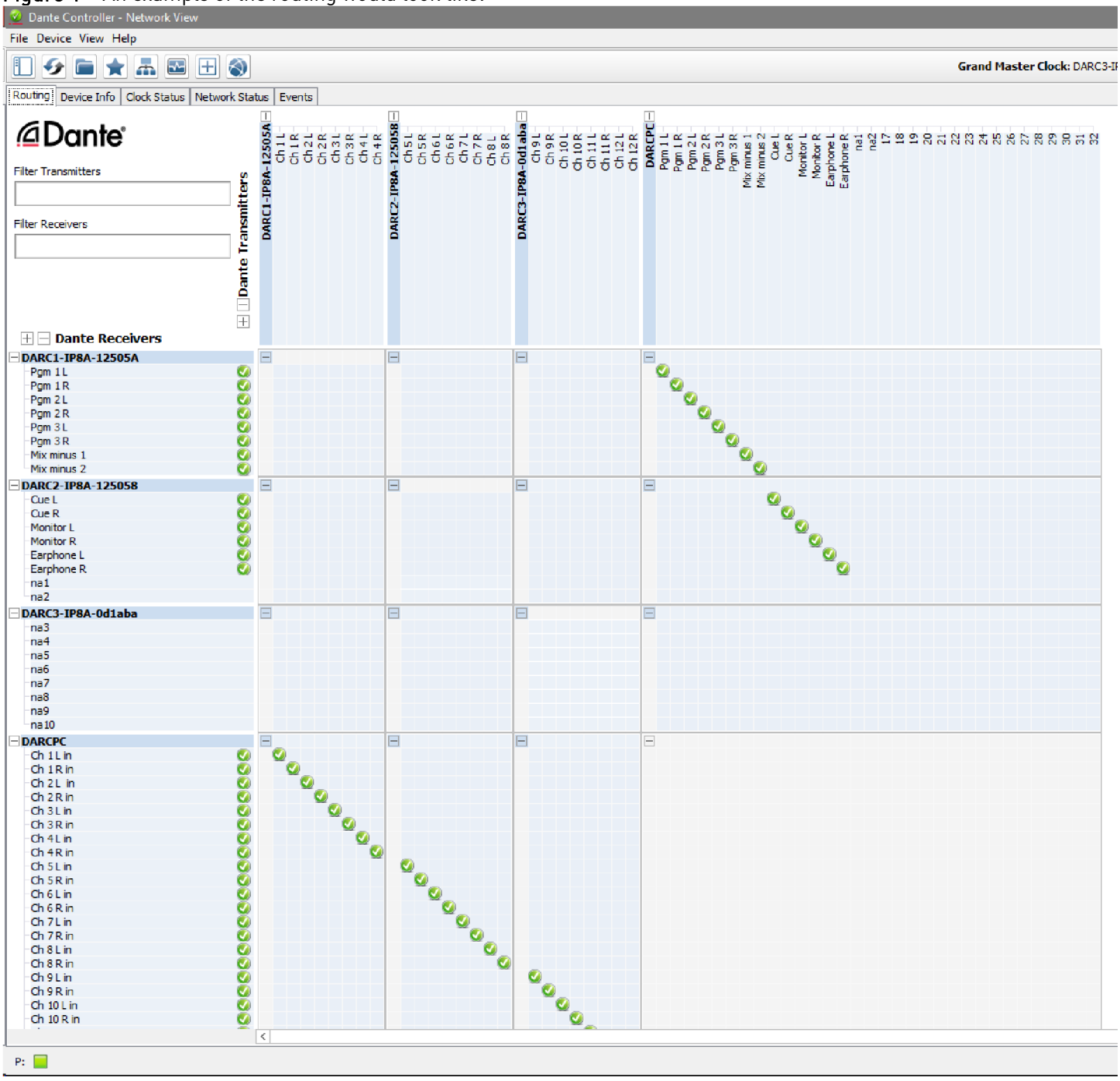
IMPORTANT NOTE – Be sure to wire the entire system, including nodes, speakers, headphone amp, etc... to the same surge protected power strip (battery backup if available). This will help eliminate ground loops and audio feedback.

Dante Controller

All audio routing is handled digitally via the Dante Controller software. This software may be downloaded and installed from the Audinate website.

Once you have audio sources on your Dante network, you can now path any input to the DARC Virtual PC, and then route the outputs to any Dante output device.

Figure 1 - An example of the routing would look like:



Key Concepts for Dante Controller:

Dante Receivers

These are the INPUTS for the DARC Virtual console. The Dante Virtual Soundcard will give you up to 64 input sources to map. Each of the 64 inputs are mono inputs, and can also be Left / Right for each channel, giving you 32 stereo inputs. You can find your Dante Virtual Soundcard by looking for your PC name listed in the Dante Receivers column.

Figure 1 shows an example where the PC is labeled **DARCPC**. This name can be changed within the Dante Controller software. You will path **Dante Transmitters** to the inputs for your PC Dante Virtual Soundcard inputs. These transmitters can be Simple IP nodes (or any Dante device) where your microphones, CD players, automation systems are connected. On each source input, it displays the channel it is assigned to. These source input names can be changed within the Dante Controller. These are automatically assigned within the DARC Virtual software to specific channels:

Dante Controller Receivers #	DARC Virtual Channel Assignments in All Stereo Setup
01	Channel 1 Left
02	Channel 1 Right
03	Channel 2 Left
04	Channel 2 Right
05	Channel 3 Left
06	Channel 3 Right
07	Channel 4 Left
08	Channel 4 Right
09	Channel 5 Left
10	Channel 5 Right
11	Channel 6 Left
12	Channel 6 Right
13	Channel 7 Left
14	Channel 7 Right
15	Channel 8 Left
16	Channel 8 Right
17	Channel 9 Left
18	Channel 9 Right
19	Channel 10 Left
20	Channel 10 Right
21	Channel 11 Left
22	Channel 11 Right
23	Channel 12 Left
24	Channel 12 Right
25	Channel 13 Left
26	Channel 13 Right
27	Channel 14 Left
28	Channel 14 Right
29	Channel 15 Left
30	Channel 15 Right
31	Channel 16 Left
32	Channel 16 Right
etc ...	

Dante Transmitters

These are the OUTPUTS for your Dante Devices, including the DARC Virtual Console. The Dante Virtual Soundcard PC outputs will be routed to devices such as your STL, headphones, phone hybrid, etc...
The DARC Virtual software console auto-configures its outputs to specific DVS outputs. These are:

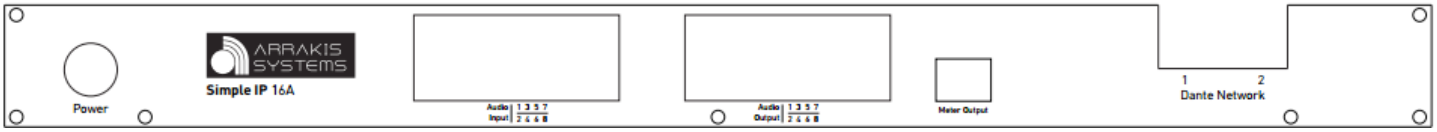
Dante Controller Transmitters #	DARC Virtual Channel Assignments		Simple IP 16
01	Program Left		Output 1 (pin 1 & 2)
02	Program Right		Output 1 (pin 3 & 6)
03	Audition Left		Output 2 (pin 1 & 2)
04	Audition Right		Output 2 (pin 3 & 6)
05	Utility Left		Output 3 (pin 1 & 2)
06	Utility Right		Output 3 (pin 3 & 6)
07	Mix Minus 1 (to go to your phone hybrid input)		Output 4 (pin 1 & 2)
08	Mix Minus 2 (to go to your phone hybrid input)		Output 4 (pin 3 & 6)
09	Cue Left		Output 5 (pin 1 & 2)
10	Cue Right		Output 5 (pin 3 & 6)
11	Monitor Left		Output 6 (pin 1 & 2)
12	Monitor Right		Output 6 (pin 3 & 6)
13	Headphone Left	(For Control Room)	Output 7 (pin 1 & 2)
14	Headphone Right	(For Control Room)	Output 7 (pin 3 & 6)
15	Headphone	(For Host)	Output 8 (pin 1 & 2)
16	Headphone	(For Guest 1)	Output 8 (pin 3 & 6)
			Simple IP 16 #2
17	Mix Minus 3 (to go to your phone hybrid input)		Output 1 (pin 1 & 2)
18	Mix Minus 4 (to go to your phone hybrid input)		Output 1 (pin 3 & 6)
19	Mix Minus 5 (to go to your phone hybrid input)		Output 2 (pin 1 & 2)
20	Mix Minus 6 (to go to your phone hybrid input)		Output 2 (pin 3 & 6)
21	Mix Minus 7 (to go to your phone hybrid input)		Output 3 (pin 1 & 2)
22	Mix Minus 8 (to go to your phone hybrid input)		Output 3 (pin 3 & 6)
	SINGLE CHANNEL PLAYBACK (Must be enabled)		
23/24	Channel 1 Left / Channel 1 Right		Output 4 (pin 1 & 2 / pin 3 & 6)
25/26	Channel 2 Left / Channel 2 Right		Output 5 (pin 1 & 2 / pin 3 & 6)
27/28	Channel 3 Left / Channel 3 Right		Output 6 (pin 1 & 2 / pin 3 & 6)
29/30	Channel 4 Left / Channel 4 Right		Output 7 (pin 1 & 2 / pin 3 & 6)
31	Headphone	(For Guest 2)	Output 8 (pin 1 & 2)
32	Headphone	(For Guest 3)	Output 8 (pin 3 & 6)

These outputs can be mapped to devices such as Simple IP nodes, which can then be physically connected to your devices, such as STL, headphone amp, phone hybrid, streaming PC, etc...

DARC Virtual & Simple IP Bundle Setup

If you have purchased a DARC Virtual bundle with the Simple IP nodes, you may use these steps to help with installation. Additional installation steps will be found in your Simple IP manual.

Simple IP & Dante Audio Sources. All of your audio inputs and outputs will be run to the Simple IP nodes. Other Dante audio sources on your audio network will be available as well. Connect the Simple IP units using the Simple IP manual for reference.



If you purchased the DARC Virtual 8 bundle, you will have received a Simple IP 16 unit.

The **Simple IP 16** has a **Meter** output that connects to the optional DARC Surface **Meter** input. Ignore this output if you are not using the DARC Surface.

If you have purchased a larger bundle, you will receive an additional Simple IP 16 with more I/O.

IMPORTANT NOTE: All units on the Dante network should be set to a 48k sample rate. Simple IP is set to 48k by default.

STEP 2 - Power Supply Installation. It is highly recommended to have all of your studio equipment in your main studio on the same Surge Protector, on the same outlet. This will eliminate the possibility of adding noise to your audio chain.

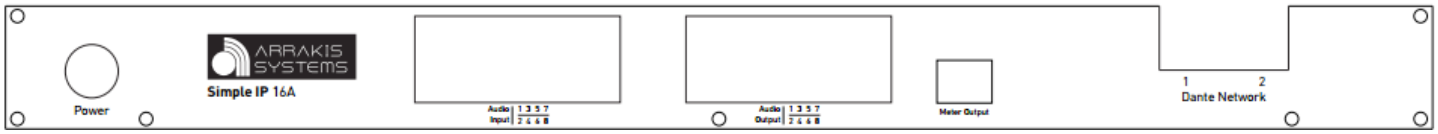
IMPORTANT NOTE – Be certain to ground the chassis of each Simple IP unit to eliminate damage from static discharge.

STEP 3 – Assign audio to one of the audio input channels on the DARC Virtual.

Be sure to have an audio source playing audio on your Dante network. This can be through one of our Simple IP devices, and then assigned via the Dante Controller software.

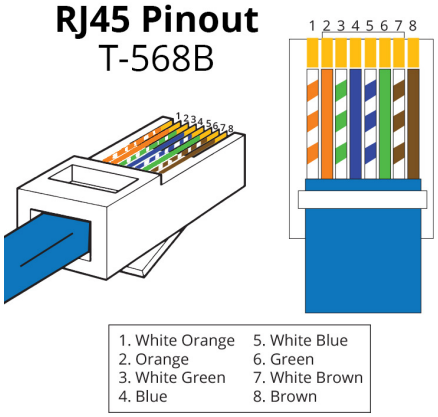
Once a source has been assigned to a channel on the DARC Virtual, place that channel on Program and Audition by pressing the applicable PGM & AUD channel buttons.
Test – You should now see audio levels playing on the VU meters for both Program & Audition.

STEP 4 – Listen to audio on the headphones. Headphones can directly connect to the Simple IP output, or you may use an external amplifier as well. If the suggested pattern for the Dante Controller matrix above was followed, then this would be Output 7 on the Simple IP 16.



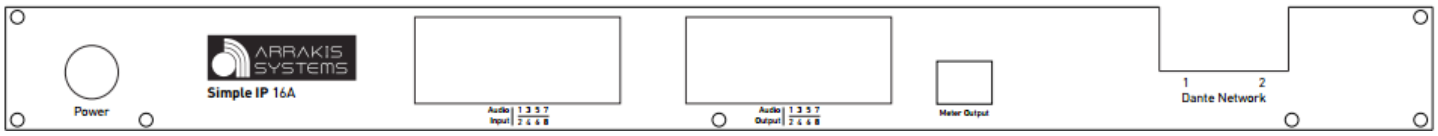
Headphone Out Pinout

Pin 1 – Left (+)
Pin 2 – Left (-)
Pin 3 – Right (+)
Pin 4 – Ground
Pin 5 – NC
Pin 6 – Right (-)
Pin 7 – NC
Pin 8 – NC



Test – Turn on an audio channel in DARC Virtual that has audio playing through it. You should hear the audio on the channel clearly. If you notice distortion, you should first check the audio quality at the audio source equipment (such as CD player, Mic, etc...), and then the input to the Dante network (such as a Simple IP 8A). Audio is not passed through the DARC Virtual, and therefore will not be a possible source to any audio issues.

STEP 5 – Monitor Speaker Connection. The Simple IP unit has a low level monitor audio output that is designed to connect to an external audio power amplifier. The Simple IP output will not directly drive speakers. Connect the audio amplifier input to the chosen output on the Simple IP for the Monitor. This would typically be output 6 if the recommended Dante Controller matrix pattern was followed. Follow the amplifier's instructions and connect speakers to the amplifier.

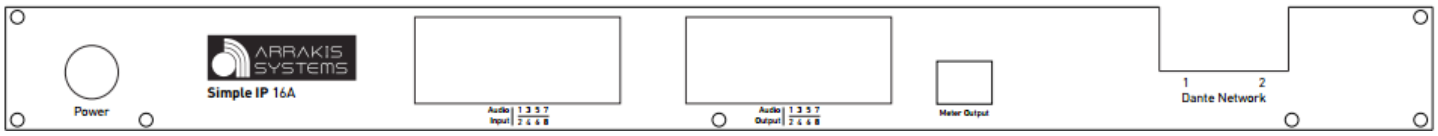


On the DARC Virtual console, select PGM on the Monitor Selector switch and increase the Monitor Volume control to 1/2. Set the audio power amplifier level and front panel switches per the amplifier instruction manual.

WARNING- do NOT have all level controls at maximum. Too much audio level through your speakers can damage the speakers.

There should be an audio source (such as MP3 player) connected to a Dante input source, as described in Steps 1-3. Turn the console source channel on and play a song. The VU meters should move with the audio and audio should be present at the headphone jack. Be certain that any mic channel is turned off because it will mute the audio out of the speakers so that there is no feedback. Audio should now be audible through the monitor speakers.

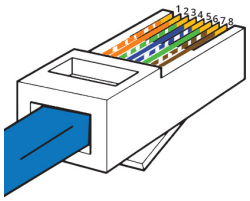
TEST- The audio through the monitor speakers should be clear and without significant noise or hum.

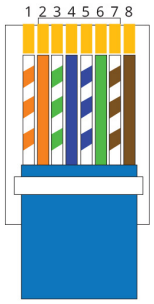


Monitor Out Pinout

Pin 1 – Left (+)
Pin 2 – Left (-)
Pin 3 – Right (+)
Pin 4 – Ground
Pin 5 – NC
Pin 6 – Right (-)
Pin 7 – NC
Pin 8 – NC

RJ45 Pinout
T-568B

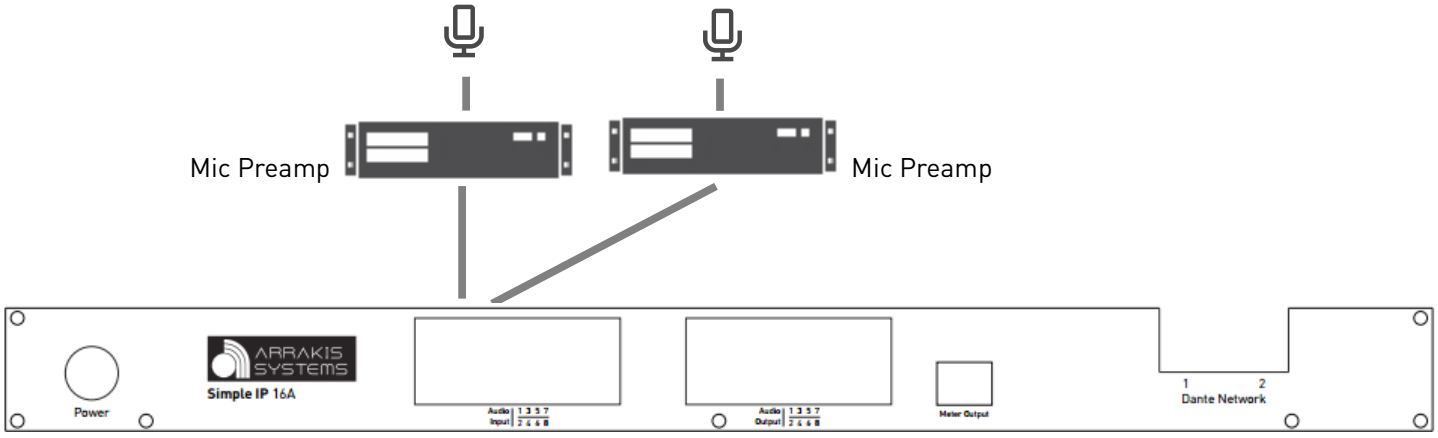




1. White Orange	5. White Blue
2. Orange	6. Green
3. White Green	7. White Brown
4. Blue	8. Brown



STEP 6 – Connect a mic to the Simple IP unit. The Simple IP units have Line Level inputs built in. Connect your microphone to your 3rd party mic preamp. The mic preamp output then connects to a Simple IP input.



Change channel 1 in your DARC Virtual Console software to Mic. It is necessary to change the channel to a mic input in the DARC Virtual software so that it will automatically mute the monitor speakers. Instructions on how to do this can be found later in this manual. Path the Mic input on your Simple IP to play out channel 1 in the Dante Controller software.

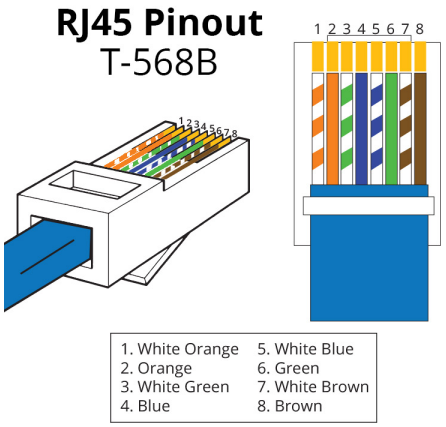
Turn Channel One on and set the channel one fader to the in hand position (middle).

If the mic itself has an on/off switch, then turn it on. Select PGM on Channel 1 of the DARC Virtual.

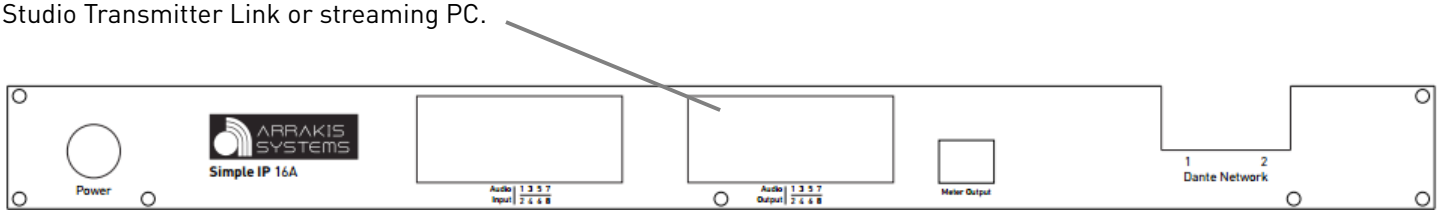
TEST- Speak into the microphone and the console VU meters should follow your voice. There should be no audio out of the monitor speakers (they are muted to eliminate feedback) but there should be audio in the Headphones.
If mic level is low, refer to "Calibration" later in this section.

Mic 1 Input (Simple IP 8A) Pinout
Pin 1 – Mic 1 (+)
Pin 2 – Mic 1 (-)
Pin 3 – NC
Pin 4 – Ground
Pin 5 – NC
Pin 6 – NC
Pin 7 – NC
Pin 8 – NC

Mic 2 Output (Simple IP 8A) Pinout
Pin 1 – Mic 2 (+)
Pin 2 – Mic 2 (-)
Pin 3 – NC
Pin 4 – Ground
Pin 5 – NC
Pin 6 – NC
Pin 7 – NC
Pin 8 – NC



STEP 7 – Connect the Simple IP Program (PGM) output. The Simple IP unit has a balanced RJ45 Program output. It is located on the back panel, and is calibrated to +4dBu. Connect this output to your signal chain, such as your Studio Transmitter Link or streaming PC.

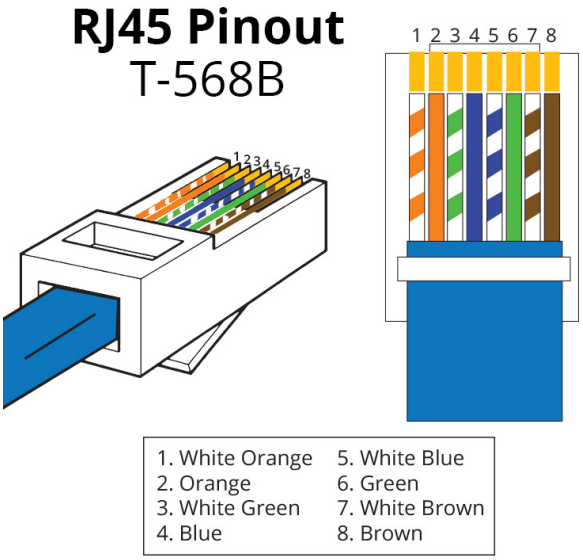


The DARC Virtual software can play out any assigned Dante output, but the default will be this PGM output on the rear of the Simple IP unit.

TEST- The Program output of the Simple IP is connected to additional equipment (processor, distribution amp, etc) to form a signal chain. Check for presence and quality of audio at each point along the signal chain.

Program & Audition Pinout

Pin 1 – Left (+)
Pin 2 – Left (-)
Pin 3 – Right (+)
Pin 4 – Ground
Pin 5 – NC
Pin 6 – Right (-)
Pin 7 – NC
Pin 8 – NC



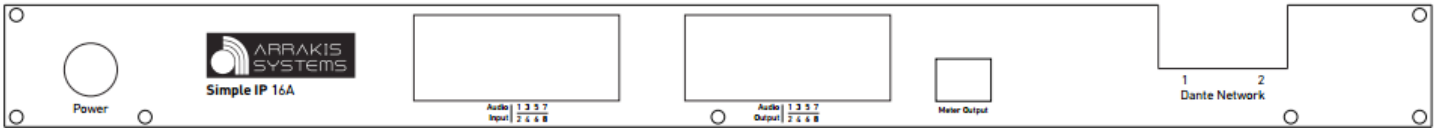
STEP 8 – Connect the console Audition (AUD) & Utility (UTL) outputs. You may also connect the Audition and Utility outputs using the same steps.

STEP 9 - Connect a Telephone Hybrid

Your phone hybrid will be connected to hardware on the Dante network, such as one of our Simple IP nodes.

1) CONSOLE PHONE INPUT- A telephone hybrid has an audio input and an audio output. The hybrid audio output is the callers voice and is connected to a source input on the Simple IP unit. More details will be found in the Simple IP manual.

2) CONSOLE MIX MINUS OUTPUTS - The input to the hybrid will connect to the Simple IP output connector on the back. A mix minus bus is a special audio mixing bus that contains all audio on the console program bus MINUS the callers voice. In this way the caller hears everything except himself. If he was not "minused" from the mix, then the caller would feed back to himself. You may connect up to 8 phone hybrids to the unit.



3) CONTROL LOGIC- The hybrid has two ways to "answer" the caller and pick up the telephone line: front panel manual control of the hybrid itself and remote control. For manual control, an On and Off button will be located on the front panel of the hybrid. For remote control, you will need the optional USB logic relay. This relay can be purchased on our website. Instructions for setup may be found later in this manual.

⚠ NEVER DIRECTLY CONNECT ANY PHONE LANDLINE TO THE SIMPLE IP CONNECTORS. THIS WILL LIKELY DAMAGE BOTH THE SIMPLE IP AS WELL AS THE PHONE HYBRID.

4) CALIBRATION- The Simple IP input and output connectors are set for +4dBu levels. These connectors have jumpers next to their respective connectors that give you the option of using -10dBu. Instructions on calibrating the Simple IP units will be included in the Simple IP manuals.

5) FACTORY CABLES AND RELAYS- Arrakis has prebuilt relays & cables for audio and logic available for a variety of source equipment. Refer to the Arrakis website for more details and pricing (www.arrakis-systems.com)

6) The desired channel needs to then be changed to a 'Phone' channel within the DARC Virtual Console software. These steps can be found in the DARC Virtual manual.

Talk to Studio Setup

The DARC Virtual allows operation in a Control Room with a separate networked Studio for a Host and Guests. The "Talk to Studio" function enables the Control Room operator to communicate with the Host and/or Guests pre-fader and off-air.

The typical setup would be:
CONTROL ROOM Headphone Output (13 &14) – This should be mapped to the Control Room operator.
The headphone output selection can be controlled using the monitor control buttons, so that the Control Room Operator can listen to either AIR, PGM, AUD or UTL.



When the **Talk to Host** soft key is activated, the Host and Control Room mics will be sent to each other at a pre-fader level to the Headphone output. The Studio Guests will not be able to hear this conversation. The Control Room may also talk to any or all of the guests.

HOST Headphone Output (15) – This should be mapped to the Host.

Guest Headphone Outputs (Guest 1 – 16, Guest 2 – 31, Guest 3 - 32) – This should be mapped to the Guests in the Studio. The output will receive the Program feed, or the Control Room mic when the **Talk to Guest** soft key is activated. This soft key will also send the Guest Mic audio back to the Control Room's headphone output.

Mic Assignments - Microphone channel assignments are handled through the Setup Screen, which is explained in further detail later in this manual.

GPI16 Closure Control – You may wire a relay control box for the Host and Guests to the GPI16 relay input box so that either the Host or the Guests can trigger the Talk to Host or Talk to Guest functions. Steps to setup the GPI 16 are found later in this manual.

Turret Control – You may purchase turrets for the Host and Guests. This gives them the ability to control their headphone levels, cough functionality, etc.

Soft Key Setup – Soft key assignments for the **Talk to Host** and **Talk to Guest** functions need to be setup in the **External Hardware Setup** screen. Information about this screen can be found later in this manual.
On-Air Light Setup – When the Talk to Host or Guest mics are set up, the On-Air light, controlled by the KMTronic devices, will activate if either the Host's or the Guests' mics are turned on. Ensure that both the Host and Guest mics are set up as **Mono**, not as **Microphone** in the Source Setup screen.

ASIO Soundcard Setup

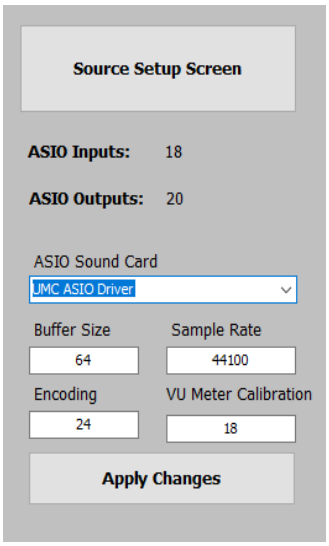
DARC Virtual 4.0 and newer allows you to connect to most ASIO enabled soundcards, such as the Behringer UMC 1820. To select the desired ASIO soundcard, go to **File** and choose **Setup Screen**. Choose your desired ASIO soundcard under the **ASIO Sound Card** drop down list. Click on **Apply Changes** and then restart the software. Once restarted, the DARC Virtual Setup Screen will display the number of ASIO Inputs and Outputs that are available for the DARC Virtual. You will typically want at least 8 mono inputs and outputs on your soundcard.

A couple important notes are:

1. Be sure that your USB audio interface / soundcard has an ASIO driver associated. For example, the Behringer UMC1820 requires you to download an ASIO driver from the Behringer website. Otherwise, the DARC Virtual software will not be able to see the soundcard.

   If your soundcard doesn't supply an ASIO driver, you may possibly use the ASIO4ALL driver. Download and operations instructions can be found by Google searching for **ASIO4ALL**.

2. Be sure that your ASIO soundcard driver settings are set to the same **Buffer Size**, **Sample Rate**, and **Encoding** as your DARC Virtual settings. You may find the DARC Virtual settings by going to **File**, and choosing **Setup Screen**. On the left side it will list the DARC Virtual settings. Make sure that these match your ASIO soundcard settings. Not all setting options may be listed by your ASIO soundcard driver.



3. Use a signal generator to get the correct audio levels on your soundcard. With a constant tone playing on your input, move your DARC Virtual fader to the 'at hand' position. Ideally the input source should be at 0dB on your DARC Virtual output meters. Adjust the gain on your soundcard to the desired level. Make sure that your input audio does not clip. Most USB audio interface soundcards have a clipping LED to help with this.

   All inputs should typically be set as a **Line** input, not instrument. And a **Pad** should typically be turned off. On the UMC 1820, you will want to move the **Mix** knob all the way over to **PB.** And choose **B** as your Monitor output. Choose the **STEREO** option next to the **MIX** knob. This will be in the out position.



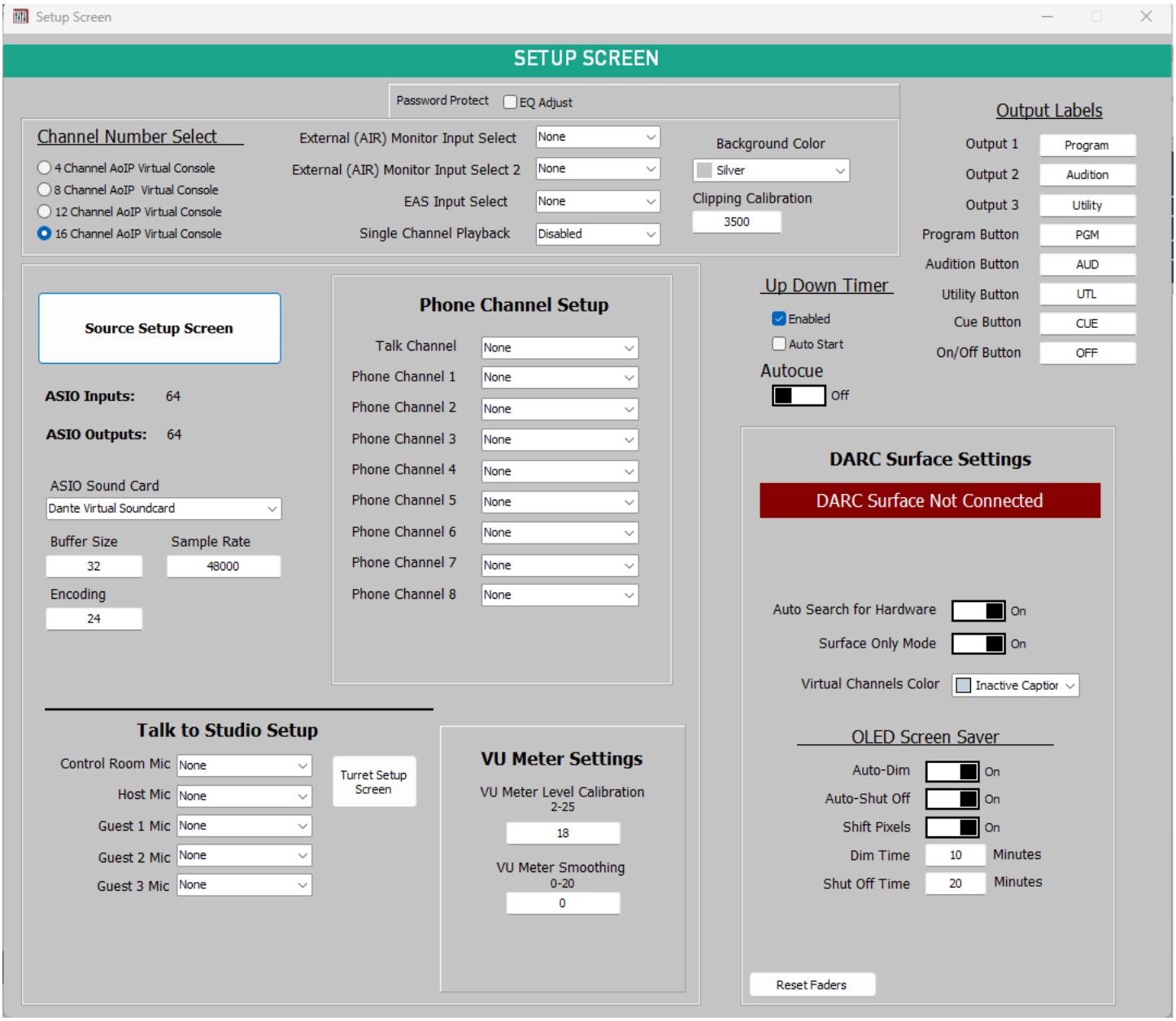
Inputs & Outputs

The DARC Virtual allows you to have up to 32 inputs and outputs. This number is only limited to your physical hardware. For example, the UMC1820 has 8 mono inputs & outputs. That means you can have up to 8 mono inputs, such as mic inputs, or a max of 4 stereo inputs. You can configure the inputs for the DARC Virtual from the **Source Setup Screen.**

Outputs are hard configured to specific operations. It is recommended to have at least 14 outputs for proper functionality. If you have 32 outputs, you can use all the outputs, otherwise you may be limited. The output assignments are:

Soundcard Output number	DARC Virtual Channel Assignments in All Stereo Setup	
01	Program Left	
02	Program Right	
03	Audition Left	
04	Audition Right	
05	Utility Left	
06	Utility Right	
07	Mix Minus 1 (to go to your phone hybrid input)	
08	Mix Minus 2 (to go to your phone hybrid input)	
09	Cue Left	
10	Cue Right	
11	Monitor Left	
12	Monitor Right	
13	Headphone Left	(For Control Room)
14	Headphone Right	(For Control Room)
15	Headphone	(For Host)
16	Headphone	(For Guest 1)
17	Mix Minus 3 (to go to your phone hybrid input)	
18	Mix Minus 4 (to go to your phone hybrid input)	
19	Mix Minus 5 (to go to your phone hybrid input)	
20	Mix Minus 6 (to go to your phone hybrid input)	
21	Mix Minus 7 (to go to your phone hybrid input)	
22	Mix Minus 8 (to go to your phone hybrid input)	
	SINGLE CHANNEL PLAYBACK (Must be enabled)	
23/24	Channel 1 Left / Channel 1 Right	
25/26	Channel 2 Left / Channel 2 Right	
27/28	Channel 3 Left / Channel 3 Right	
29/30	Channel 4 Left / Channel 4 Right	
31	Headphone	(For Guest 2)
32	Headphone	(For Guest 3)

Setup Screen



The majority of critical settings may be found in the Setup Screen.

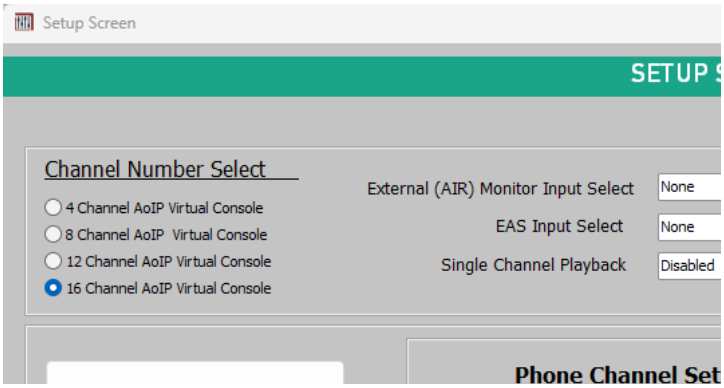
To open the Setup Screen, go to **File** and select **Setup Screen**. Enter the password **darc** and click **Enter**.

EQ Password Protect

This option allows you to password protect the EQ Adjust menu, to protect the user from unwanted changes to the EQ Preset calibration settings. The password is **darc**.

Channel Number Select

This option chooses how many channels the DARC Virtual software will use. Once changed, the setting will be saved, and the software will open with this number of channels every time. Depending on the number of channels selected, the screen will automatically adjust, and possibly shrink, to allow for the use of other software such as the APEX Automation on the same screen.



The software will be limited to the number of channels available based on the number of channels you have purchased. For example, if you purchased the 12 Channel DARC Virtual, it will give you the option to switch between the 4, 8 and 12 channel versions.

External (AIR) Monitor Input Select

This setting allows you to choose which Dante input channel you would like to set for your External Monitor Input. Enter the desired source input channel between 1 to 64. 'None' means that it will not pull any audio for the external input. This source input will be used at a pre-fader level when activated.

Autocue

Autocue enabled - If any Cue button is activated, the DARC Virtual will automatically mute the PGM, AUD and UTL feeds in your Monitor and Headphone outputs. The cue feed will then play out your Monitor, Headphone, and Cue outputs.

Autocue disabled – Activated Cue buttons will not mute the PGM, AUD & UTL feeds for your Monitor output. The Cue feed will also only play out your Headphone & Cue outputs only, and not your Monitor output.

Up Down Timer

Enabled – When checked, it will make the up/down timer visible on the screen. When not checked, it will not be visible or usable.

Auto Start – When checked, it will start the up or down timer whenever a channel is turned on. When not checked, it will only start manually via the Play button on the up/down timer.

Background Color

Select a custom color for your DARC Virtual main screen. Select **Custom** to choose from any possible color. As a note, the fader lines and other items of the screen are dark in nature, and may be tougher to see depending on the background color. The new color is automatically saved when selected. The default color is **Silver**.

EAS Input Select

This feature is only available if a GPI 16 input relay device is connected. When a relay closure from a EAS device is received, it will mute the program audio, and switch to this specified input source. This input source will be your Emergency Alert Audio feed. Choose from source inputs 1-64.

To setup EAS:
STEP 1 – Connect the Broadcast Tools GPI 16 via USB to the DARC Virtual PC. Make sure the GPI 16 is being seen by the DARC Virtual. This can be viewed from the External Device Setup screen.

STEP 2 – Wire the EAS on & off closures to a pin input on the GPI-16 device. Be sure to follow the GPI-16 instructions for setup.

STEP 3 – Go to **File** in the DARC Virtual software, and select **External Device Setup**.

STEP 4 – For the relay input that was wired as the EAS On input, select **EAS On** from the drop down list. Do the same for the EAS Off relay. Click **Apply Changes**.

After this has been setup, when the GPI 16 receives a relay on the EAS 'On' channel, it will switch to the specific input channel that is selected on the Setup Screen. Same with the EAS Off closure. Once received, it will switch off the EAS feed and go back to the previous programming.

Single Channel Playback

This feature allows you to play a post fader single channel input to a stereo output. This is useful for Podcasts, where a user may want to record an individual channel post fader.

To activate this feature:

STEP 1 – Go to **File** and select **Setup**.

STEP 2 – Under **Single Channel Playback** choose **Enabled** to enable the feature.

STEP 3 – In the Dante Controller software, route the output to the desired location.

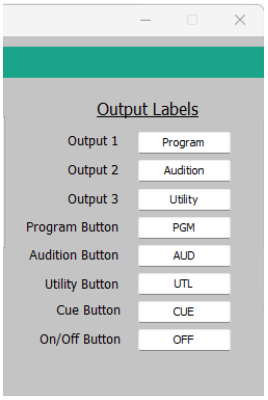
Dante Controller Transmitters #	DARC Virtual Channel Assignments
23/24	Channel 1 Left / Channel 1 Right
25/26	Channel 2 Left / Channel 2 Right
27/28	Channel 3 Left / Channel 3 Right
29/30	Channel 4 Left / Channel 4 Right

Whenever a specific channel is turned **On** it will play the audio out the designated output channel. For example, if **Channel 2** on the DARC Virtual console is turned on, it will play the Channel 2 audio out outputs 25 & 26.

Clipping Calibration

Each channel has a clipping indicator above the channel label. This will go red when a typical clipping level is reached. You may calibrate this trigger level. The default is 3500. You may choose between a value 1 – 40,000. The higher the number, the higher the level to trigger the clipping indicators.

Output and Button Labels



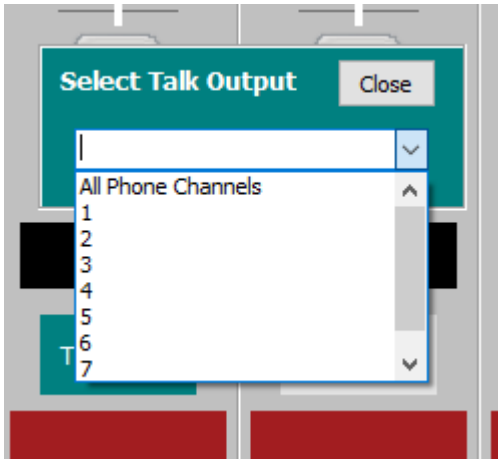
You can change the output and button labels for the main screen. Simply change the label and click on **Apply Changes**. This will customize the output and button labels that are located above their respective meters and on each button.

Phone Channels

The DARC Virtual software has 8 mix-minus buses that will connect to your external phone hybrids.

Talk Channel
Choose which mic channel input source you want to dedicate to your 'Talk' button functionality. Once selected, a **Talk** button will now be displayed for the selected source channel.

When the **Talk** button is pressed, it will allow you to talk to the caller offline, and not feed the Program, Audition or Utility bus audio.

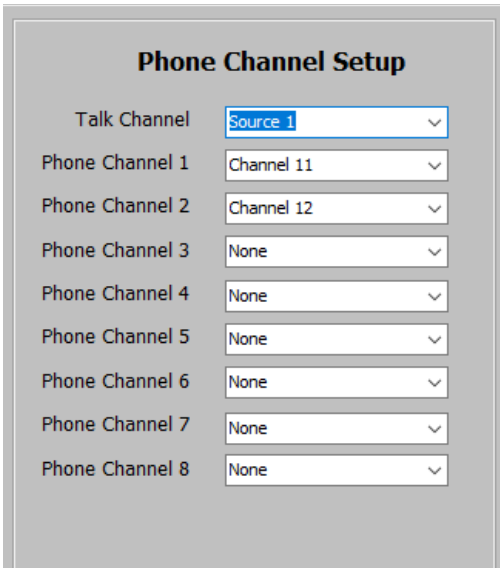


This assignment goes to a specific source. If that source is selected on an input channel on your board, it will give you the **Talk** button option instead of a Cue button.

By default, the Talk button will play to all phone channels. Which means your mic input can be heard by all of the callers at the same time. To speak to only 1 specific caller:

1. Right-click the **Talk** button.
2. Select which Phone Channel number you would like to speak to.
3. Click the **Talk** button to activate.

Phone Channel – From the Setup Screen, you may choose any input source to be your phone mix-minus source input. This is the caller's voice coming from the Phone hybrid. This channel audio will be 'minused' on the mix- output that goes back to the caller. Make sure that your phone hybrid is wired, and Dante Controller has the correct channel selected for the phone channel and mix-minus output.



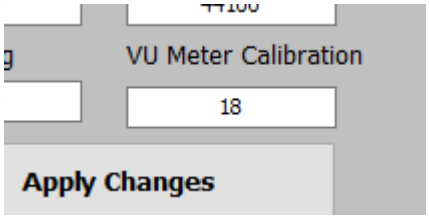
You may assign up to 8 input sources as a phone channel. In the pictured example, it shows that Channel 11 is assigned as your first phone mix minus, and Channel 12 is assigned as your second mix minus.

Output assignments are:

07	Mix Minus 1 (to go to your phone hybrid input)
08	Mix Minus 2 (to go to your phone hybrid input)
17	Mix Minus 3 (to go to your phone hybrid input)
18	Mix Minus 4 (to go to your phone hybrid input)
19	Mix Minus 5 (to go to your phone hybrid input)
20	Mix Minus 6 (to go to your phone hybrid input)
21	Mix Minus 7 (to go to your phone hybrid input)
22	Mix Minus 8 (to go to your phone hybrid input)

Click on the **Apply Changes** button to save the settings.

VU Meter Calibration

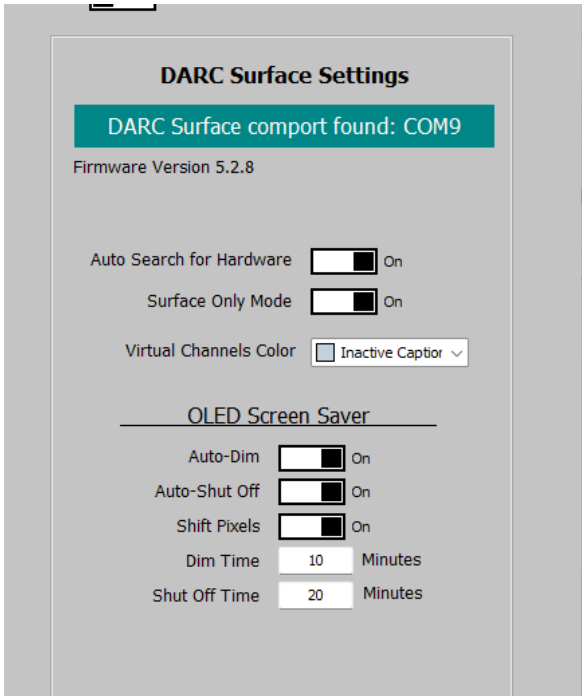


You may calibrate your VU meters to adjust up or down. The default level number is **18**, and typically should be left at the default.

You may select a number between 2 & 25.

Lower the number, the lower the VU Meter level.
Higher the number, the higher the VU Meter Level.

DARC Surface Settings



These settings only apply if a DARC Surface is connected to the DARC Virtual PC via USB. The top of the section will display whether a DARC Surface is connected or not. If disconnected, verify that the USB from the DARC Surface is connected and the Surface is powered up. Then either restart the DARC Virtual software, or go to External Device Setup and select **Manually Find External Hardware**. Firmware information will also be displayed when the Surface is connected.

Auto Search for Hardware – When active, the software will automatically look for hardware on startup. If you do not have hardware connected to the DARC Virtual PC, then you may turn this setting off for faster booting times.

Surface Only Mode – When this function is turned on, it will auto-size the DARC Virtual screen to the channel size of the DARC Surface. For example, a DARC-Surface-8 will auto-size the DARC Virtual software to only show 8 channels. It will also default to being in Surface only mode, which prohibits you from activating the buttons from the software.

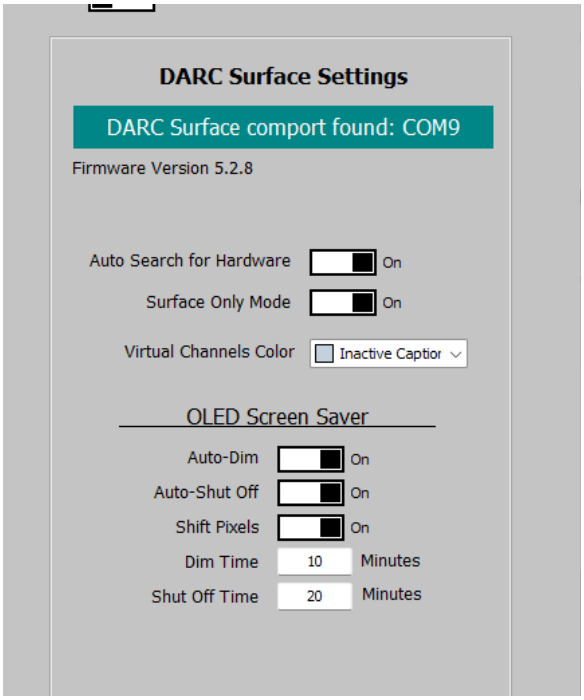
When this setting is off, you may manually choose between 4, 8, 12 or 16 input channels (depending on your license). These channels will be operable by the Surface, but may or may not be controlled by the Surface. The Utility bus and other features will also be unlocked by default. The software will always start in Virtual mode, which allows you to activate channels via the software as well as the Surface.

For example, with the Surface Only Mode set to **Off** and a DARC Surface 12 connected, while the DARC Virtual is set to display 16 channels, the Surface will control channels 1–12 but not channels 13–16. You can manually control channels 13–16 by enabling Virtual Mode from the main screen.

Virtual Channels Color – When Surface Only Mode is set to Off, additional Virtual-only channels may be available for control via the software. To help distinguish between the channels controlled by the Surface and those that are Virtual-only, you can change the fader colors with this setting.

OLED Screen Saver

These settings will help preserve the OLED screens on your DARC Surface console. It is recommended to keep the default settings for optimal life of the OLED displays.



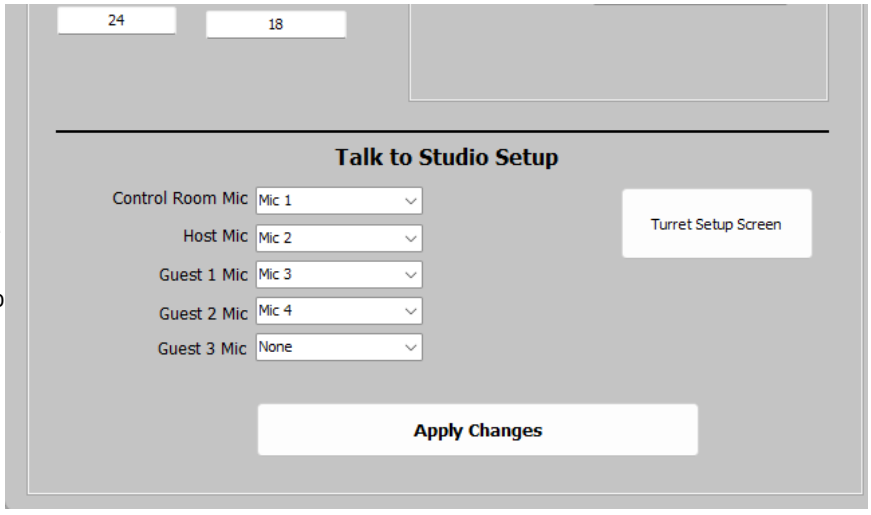
Auto-Dim – When turned on, it will dim the OLED screens based on the **Dim Time** (default is 10 minutes). The Dim Time is the amount of time that the board hasn't been touched. Clicking on any button, or adjusting any fader will reset the dim time and bring the OLED back to full brightness. It is often recommended to reserve a Soft Key to bring the display out of dimming.

Auto-Shut Off – When activated, it will shut off the OLED displays after the given **Shut Off Time** (default is 20 minutes). This is the amount of time that the board has not been touched. Clicking on any button, or adjusting any fader will reset the OLEDs and bring them back at full brightness.

Shift Pixels – This option will automatically move your channel labels down one pixel every 5 minutes. This helps preserve the life of the OLED's and prevents burn-in.

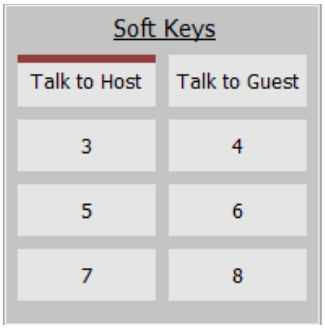
Talk to Studio Setup

The DARC Virtual can be run in a Control Room with a connected Studio for a Host(s) and Guest(s) format.



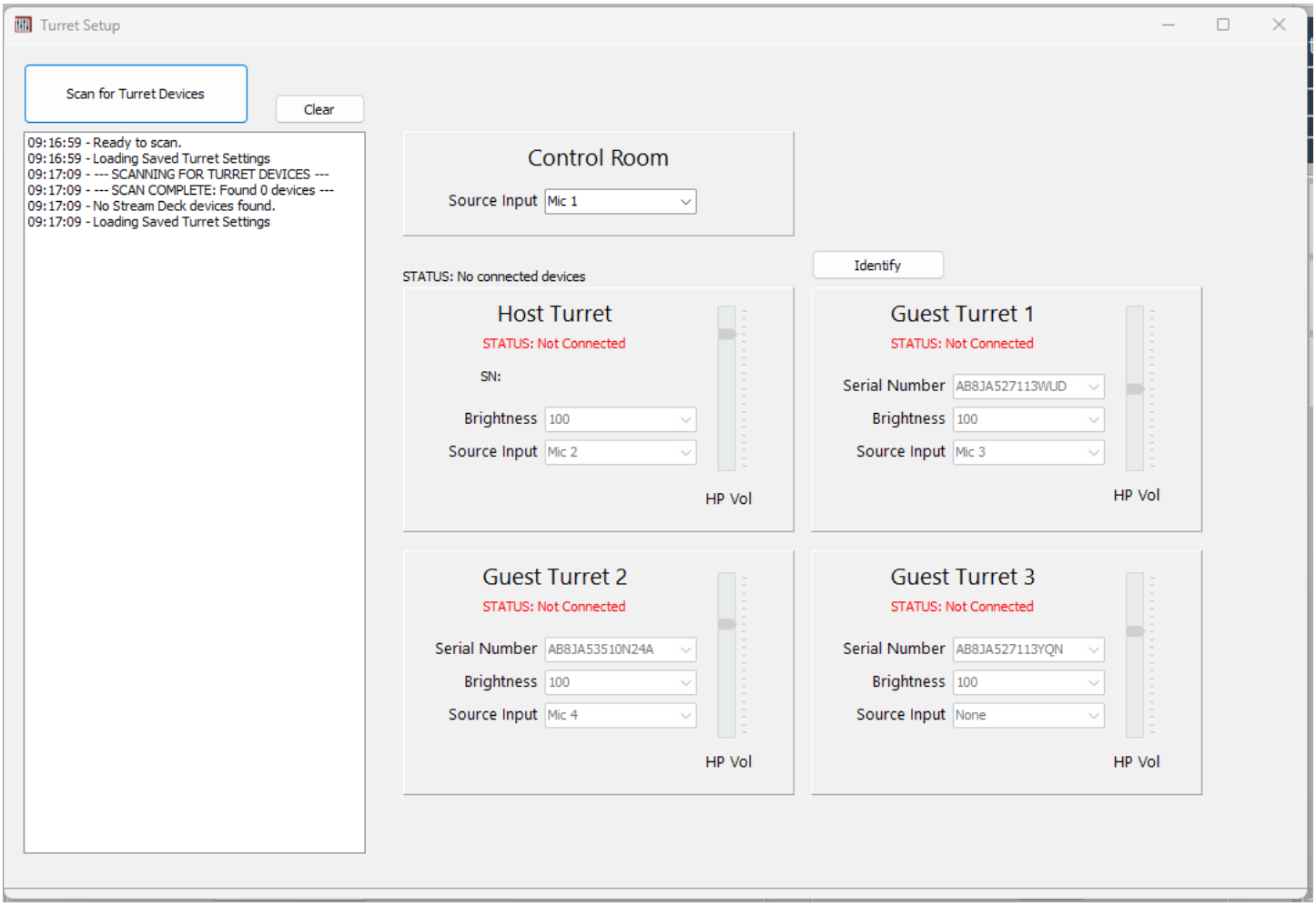
The **Talk to Studio Setup** section allows you to assign channels for the **Control Room Mic**, **Host Mic**, and **Guest Mic(s)**. For example, in the image on the right, the **Control Room Mic** is assigned to Mic 1 of the console, the **Host Mic** to Mic 2, **Guest Mic 1** to Mic 3, and **Guest 2 Mic** to Mic 4.

Talk to Host – When this soft key is pressed, using the example above, the Control Room mic audio on Mic 1 will be sent pre-fader to the Host headphone output, and the Host mic audio pre-fader on Mic 2 will also be routed to the Control Room through the main Headphone output.



On-Air Light Setup – When the Talk to Host or Guest mics are set up, the On-Air light, controlled by the KMTronic devices, will activate if either the Host's or the Guests' mics are turned on. Ensure that both the Host and Guest mics are set up as **Mono**, not as a **Microphone** source in the Source Setup screen.

Turret Setup



The optional Turret Control system allows you to integrate physical desktop controllers for your Host and Guest talent. Using Host and Guest turret devices, talent can manage their own microphone states, headphone volumes, and talkback features without needing to touch the main mixing console.

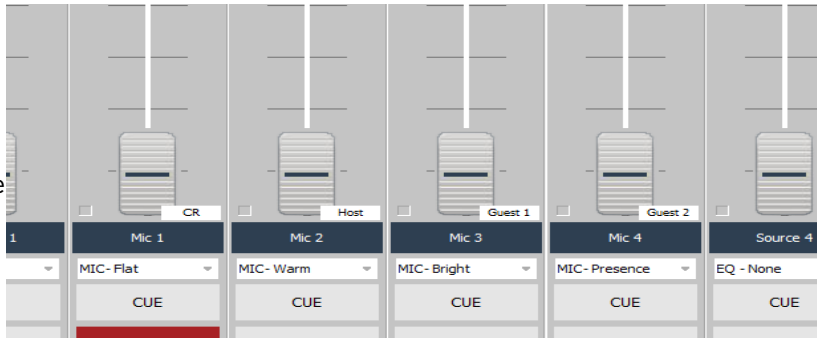
All hardware actions are perfectly synchronized with the DARC Virtual software. When a Turret adjusts a volume or mutes a mic, the DARC software instantly reflects that change on-screen.

Turret Setup & Configuration

Before operating the Turrets, they must be assigned to their respective microphone channels in the software.

1. **Connect Devices:** Ensure the Host and Guest Turret devices are plugged into the PC via USB. Be sure that if you are using a USB splitter that there is sufficient power for all devices.
2. **Scan for Devices:** The Turrets will typically be recognized on boot, but you may manually connect as well. Open the **Turret Setup** screen in DARC Virtual and click **Scan for Turret Devices**. The software will identify the connected Host and Guest modules.

3. **Source Input:** Use the dropdown menus to assign a specific Input Source to each Turret (Host, Guest 1, Guest 2, Guest 3).
    - *Note: Only Mono, Left, or Microphone sources will appear in this list.*
4. **Visual Confirmation:** Once assigned, the main DARC mixing screen will display a badge ("Host", "Guest 1", etc.) above the corresponding channel fader to confirm the hardware is linked.
5. **Adjust Preferences:** From the setup screen, you can also set the default LCD Brightness and Headphone Volumes for each device. Changes made here are pushed immediately to the hardware.



Host Turret Operation

The Host Turret provides comprehensive control over the primary microphone, guest monitoring, and the studio timer. It features 8 LCD buttons and 4 rotary knobs with a touch-sensitive display strip.

LCD Buttons (Top Panel)

- **B1 - Timer Start/Stop:** Toggles the main studio timer. The button displays the live running time. When paused or stopped, it displays the total elapsed time. The same timer will be shared with the Control Room and Guests.
- **B2 - Mic ON/OFF:** Toggles the Host microphone live or muted. This perfectly mirrors the channel ON/OFF state in the software.
- **B3 - Cough:** A momentary mute. Press and hold to temporarily cut the Host microphone audio. Release to restore audio.
- **B4 - Monitor Source:** Cycles the headphone monitor feed between **PGM** (Program), **AUD** (Audition), **UTL** (Utility), and **AIR**.
- **B5 - Timer Pause:** Pauses the active timer.
- **B6 - Headphone ON/OFF:** Toggles the local headphone feed on or off.
- **B7 - Talk to Guest:** Momentary talkback to route the Host microphone directly to the Guest headphones.
- **B8 - Talk to Control Room:** Momentary talkback to the main control room.

Rotary Knobs (Bottom Panel)

- **Knob 1 - Headphone Volume:** Turn to adjust the Host headphone volume (0-100%). The screen above the knob displays the current percentage, along with the current date.
- **Knob 2 - Mic Volume:** Turn to adjust the Host microphone level. This physically moves the corresponding channel fader inside the DARC Virtual software. The screen displays the volume percentage and current time.
- **Knob 3 - EQ Select:** Turn to cycle through available EQ presets for the Host microphone.
- **Knob 4 - Talk to Guest Select:** Selects which specific Guest (Guest 1, 2, or 3) the Host will speak to when using the Talkback button.

Guest Turret Operation

The Guest Turret is a streamlined controller designed for individual guest talent. It features 8 standard LCD buttons and an integrated digital Infobar.

LCD Buttons

- **B1 - Headphone Volume (+):** Press to increase the guest's headphone volume in 5% increments.
- **B2 - Mic ON/OFF:** Toggles the Guest microphone live or muted.
- **B3 - Cough:** Press and hold to temporarily mute the Guest microphone.
- **B4 - Monitor Source:** Cycles the guest's headphone feed between **PGM**, **AUD**, **UTL**, and **AIR**.
- **B5 - Headphone Volume (-):** Press to decrease the guest's headphone volume in 5% increments. The button displays the current volume percentage.
- **B6 - Headphone ON/OFF:** Toggles the guest's headphone feed on or off.
- **B7 - Talk to Host:** Momentary talkback to route the Guest microphone directly to the Host.
- **B8 - Talk to Control Room:** Momentary talkback to the main control room.

The Infobar (Digital Display Strip)

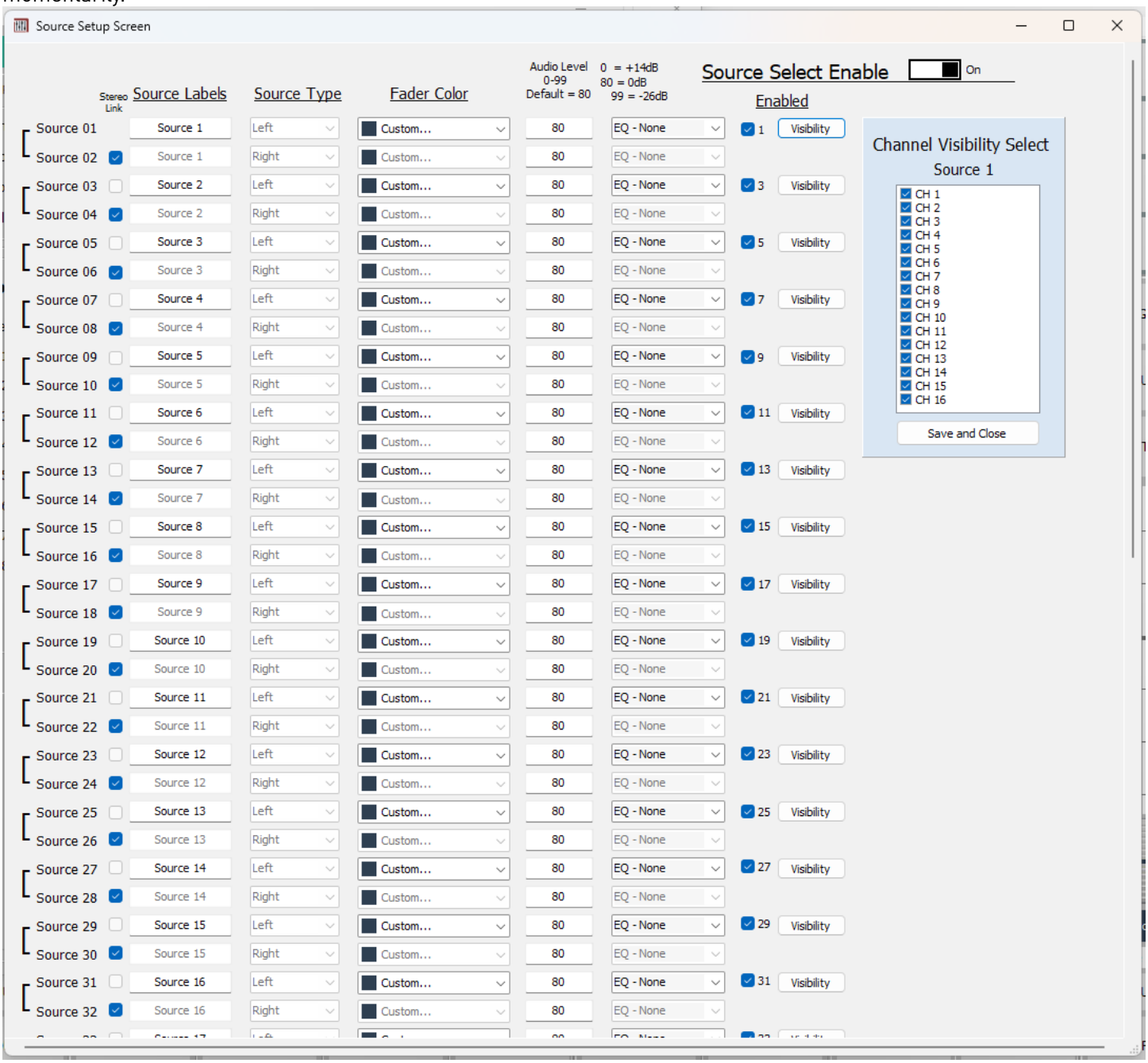
- **Studio Clock:** When the main studio timer is not running, the Infobar displays the current Day, Date, and Time.
- **Live Timer:** When the Host or Control Room starts the studio timer, the Guest Infobar automatically switches to display the live running time in a large, easy-to-read font so guests know exactly how long a segment has been running.

Source Setup Screen

DARC Virtual allows you to map up to 64 input sources. The number of inputs is limited by your hardware, and how many physical inputs you have. The number of inputs for your soundcard are displayed on the **Setup Screen** under the **ASIO Inputs**. The DARC Virtual will use your inputs numerically in the order of your hardware.

On the Source Setup Screen you are able to change the Source Labels, the type of Source, the color for the fader when selected and a custom audio level for the source input.

IMPORTANT NOTE: All changes should be made when you are first setting up your system, or are able to go off-air momentarily.

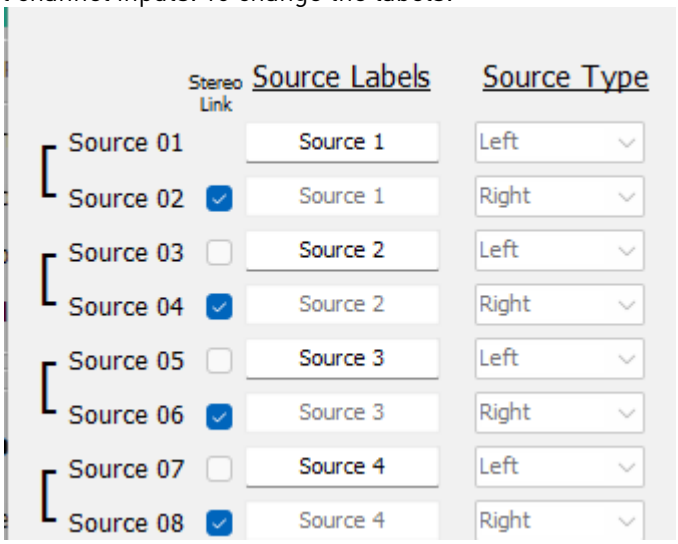


Any changes here will require you to:

1. Select which source is going to which channel.
2. Restart your software.
3. Recreate your User Preset settings.

Source Labels

Custom labels for your sources can be applied to the DARC Virtual channel inputs. To change the labels:



STEP 1 – Enter the **Setup Screen**. Go to **Source Setup Screen**.

STEP 2 – Type in the desired label for the desired channel. Max of 15 characters.

STEP 3 – Click on **Apply Changes**.

STEREO SOURCES

Any stereo source requires both left and right channel assignments. To link the two input channels, select the **Stereo Link** check box option. This links the inputs and automatically updates their **Source Types** to **Left Channel** and **Right Channel**.

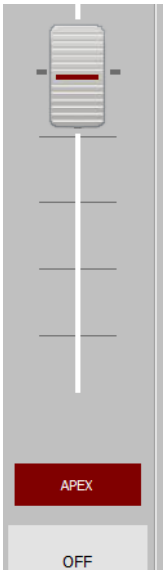
MICROPHONE

Microphone channels only require 1 input. Do NOT duplicate any names for a mic channel.

MONO

Use the **Mono** source type for mono input channels that you do not want to mute the Monitor output.

Fader Color Select



You may assign custom colors for each source input. This will change the color of the Channel Label, as well as the center bar on the fader knob for when the source is assigned to a channel on your main screen.

To change the fader color:

STEP 1 – Enter the **Setup Screen**. Go to **Source Setup Screen**.

STEP 2 – Select the desired color from the drop down menu for the source. Choose **Custom** to choose from even more colors.

STEP 3 – Click on **Apply Changes**.

For stereo channels, you will want the colors to match. It will always use the Right channel for the color of the selected fader.

Microphone Channels

Any input may be assigned as a microphone channel. Depending on your hardware, you may need an external mic pre amp. If you are using the Simple IP 8A nodes for example, you would then need the ARC-MIC-PRE. You would connect the ARC-MIC-PRE to your Simple IP, and the mic would connect to the ARC-MIC-PRE.

Mic channels will perform specific functions when turned on or off:

Monitor Mute – When a mic channel is activated, it will mute the monitor output. The Monitor output will stay muted so long as any microphone channel is turned on.

On-Air Light On/Off – Turning on a mic channel can also activate an on-air light. A KMTronic 2, or 8 relay is required for this. External Hardware settings also need to be setup as well.

To assign a channel as a microphone:
Select **Microphone** from the **Source Type** drop down lists, and it will now operate as a mic channel. Click on the **Apply Changes** button to save the settings.

Mono Source Type

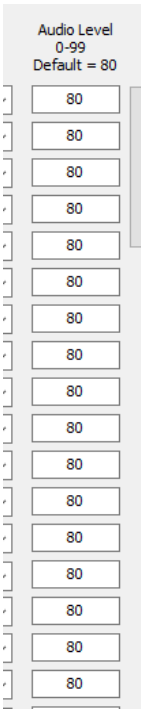
Use the **Mono** source type for mono input channels that you do not want to mute the Monitor output. By default, Mono sources will not mute the Monitor output or activate the On-Air light.

On-Air Light Setup – If you would still like the On-Air light to activate when using mono, such as in a Control Room/Studio setup, you can do so by assigning a Talk to Host mic. When the Talk to Host or Guest mics are set up, the On-Air light, controlled by the KMTronic devices, will activate if either the Host's or Guests' mics are turned on. Ensure that both the Host and Guest mics are set up as Mono, not as Microphone, in the Source Setup screen.

Source Input Audio Level

This column allows you to calibrate any input source audio level. You may calibrate a source from up +14dB, down to -26dB. The default is **80** which is 0dB gain. The higher the number, the lower the volume. The lower the number, the higher the volume.

0 = +14dB
80 = 0dB
99 = -26dB



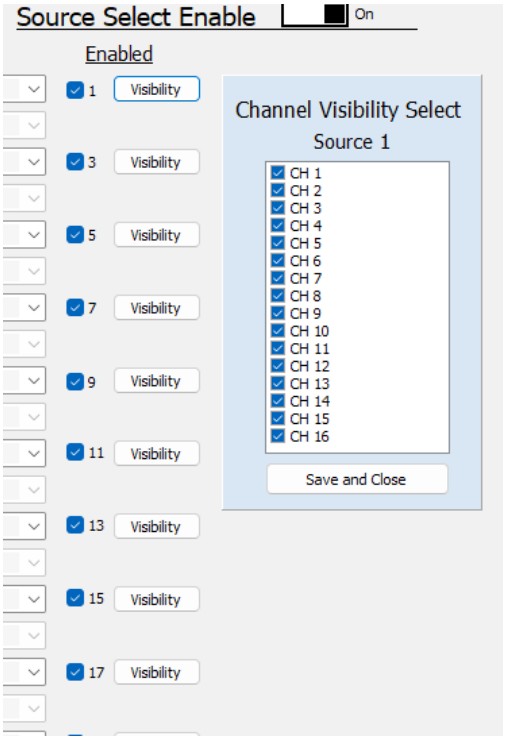
IMPORTANT NOTE: It is recommended to not adjust these levels in the DARC Virtual software. Rather, adjust the incoming levels from the devices themselves. It is also strongly recommended to use test tones with constant levels while adjusting.

IMPORTANT NOTE: Custom Source Input Audio Levels must be the same number for a Stereo pair. Both Left & Right audio inputs need to have the same Source Input Audio Level number.

Visibility

DARC Virtual allows you to select which source inputs are visible on the main on-air screen. Visibility is configured in two ways. The first checkbox determines whether the source is available to any channel.

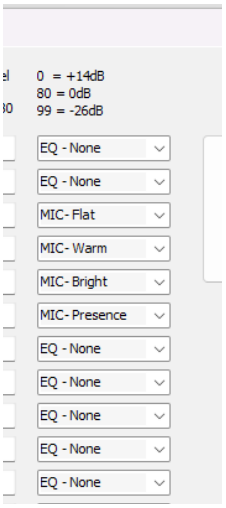
Then, if the source is enabled, click the **Visibility** button to select the specific channels on which it will appear. This provides an effective way to control which channels have access to each source input.



EQ Preset

The DARC Virtual comes with a selection of default EQ Presets. You may also create additional EQ Presets. Once created, you may assign these presets to a specific source input. Once assigned, when a source input is selected on a channel, it will go to that selected EQ Preset.

As a note, the EQ preset applied to a stereo source, it will use the Left source input for which EQ preset it uses. Channel right will default to use what the Left channel is assigned to.

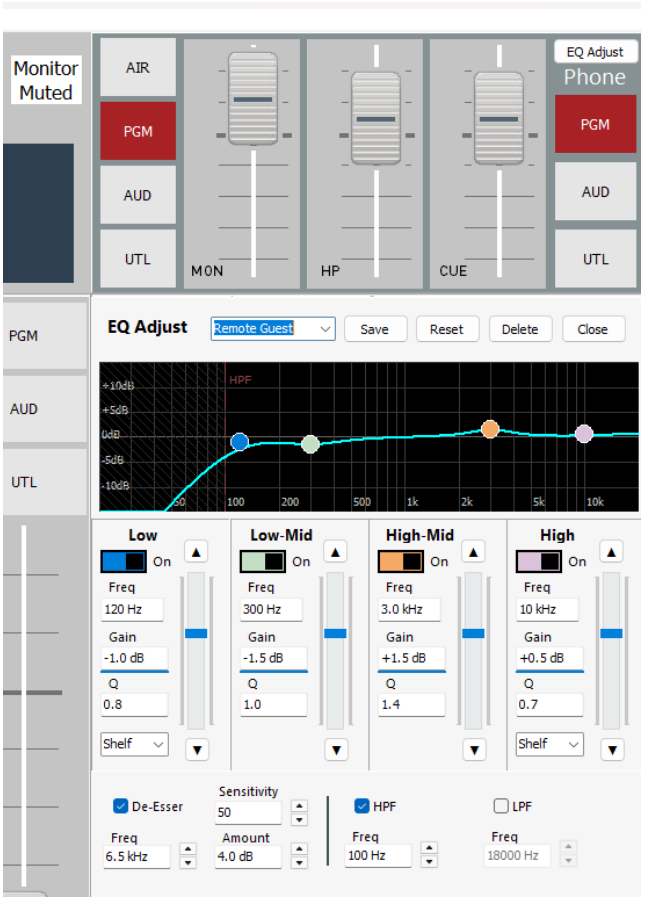


EQ & Dynamics Guide

The built-in EQ and Dynamics engine allows you to sculpt the sound of your audio sources precisely. You can create custom presets for different microphones, hosts, or music genres, and apply them dynamically to any channel or source.

Managing EQ Presets

How to Create a New Preset



1. Open the EQ Editor screen by clicking on the **EQ Adjust** button above the Phone output selector.
2. Select an existing preset (like "EQ - None") from the **Preset Select** drop-down menu to use as a starting point.
3. Adjust the EQ bands, filters, and De-Esser settings to your liking.
4. Click inside the **Preset Select** drop-down box and type a **new name** for your preset (e.g., "Host Mic 1").
5. Click the **Save** button. Your new preset is now saved and available in all channel and source menus.

How to Edit an Existing Preset

1. Select the preset you want to modify from the **Preset Select** drop-down menu.
2. Make the desired adjustments to your frequencies, gains, or filters.
3. Click the **Save** button.
4. *Note: The system will automatically update any active channels currently using this preset to reflect your new changes instantly.*

How to Delete a Preset

1. Select the preset you wish to remove from the **Preset Select** drop-down menu.
2. Click the **Delete** button.
3. A confirmation prompt will appear. Click **Yes** to confirm.
4. *Note: If any active channels or hidden sources were using the deleted preset, the system will automatically safely revert them to "EQ - None". The default "EQ - None" preset is protected and cannot be deleted or overwritten.*

Applying EQ Presets

There are two ways to assign your saved EQ profiles to your audio:

- **On the Fly (By Channel):** Use the EQ drop-down menu located on each individual channel strip (Channels 1–16). This applies the chosen EQ to whatever audio source is currently active on that fader.
- **By Default (By Source):** Open the **Source Setup Screen**. Here, you can assign an EQ preset directly to a specific source (e.g., "Studio Mic A"). Whenever that source is loaded onto *any* channel, it will automatically load with its assigned EQ preset.

Understanding the EQ & Filter Controls

The EQ section is divided into three main categories: Parametric EQ Bands, High/Low Pass Filters, and the De-Esser.

A. 4-Band Parametric EQ

The equalizer is split into four frequency ranges: **Low**, **Low Mid**, **High Mid**, and **High**. Each band has an "Enable" switch to turn it on or off.

- **Frequency (Freq):** Measured in Hertz (Hz) or Kilohertz (kHz). This determines the exact center point of the sound you want to adjust. Lower numbers (e.g., 80 Hz) represent deep bass, while higher numbers (e.g., 10 kHz) represent treble/air.
- **Gain:** Measured in Decibels (dB). This determines how much you are turning the volume up (boosting) or down (cutting) at your chosen frequency.
    - *Tip: It is generally better to cut unpleasant frequencies rather than boosting good ones.*
- **Q (Bandwidth):** This determines how wide or narrow the adjustment is.
    - A **low Q value** (e.g., 0.5) affects a very wide range of neighboring frequencies (great for gentle, natural-sounding boosts).
    - A **high Q value** (e.g., 2.0 or higher) creates a very narrow, sharp adjustment (great for surgically cutting out a specific annoying ringing or hum).
- **Type (Low and High Bands Only):**
    - **Shelf:** Adjusts the target frequency and *all* frequencies beyond it (like turning the Bass or Treble knob on a car stereo).
    - **Bell (Peak):** Adjusts only the target frequency and the immediate frequencies around it (based on your Q setting), leaving the extreme highs or lows alone.

B. Filters (HPF & LPF)

Filters are used to completely chop off extreme ends of the audio spectrum to clean up your sound.

- **HPF (High-Pass Filter):** Allows high frequencies to "pass" through while cutting low frequencies.
    - *Best Use:* Set between 60 Hz and 90 Hz on vocal microphones to eliminate low-end stage rumble, HVAC noise, or microphone handling thumps without affecting the voice.
- **LPF (Low-Pass Filter):** Allows low frequencies to pass through while cutting extreme high frequencies.
    - *Best Use:* Set around 16 kHz to 18 kHz to roll off harsh, inaudible electronic hiss or high-frequency interference.

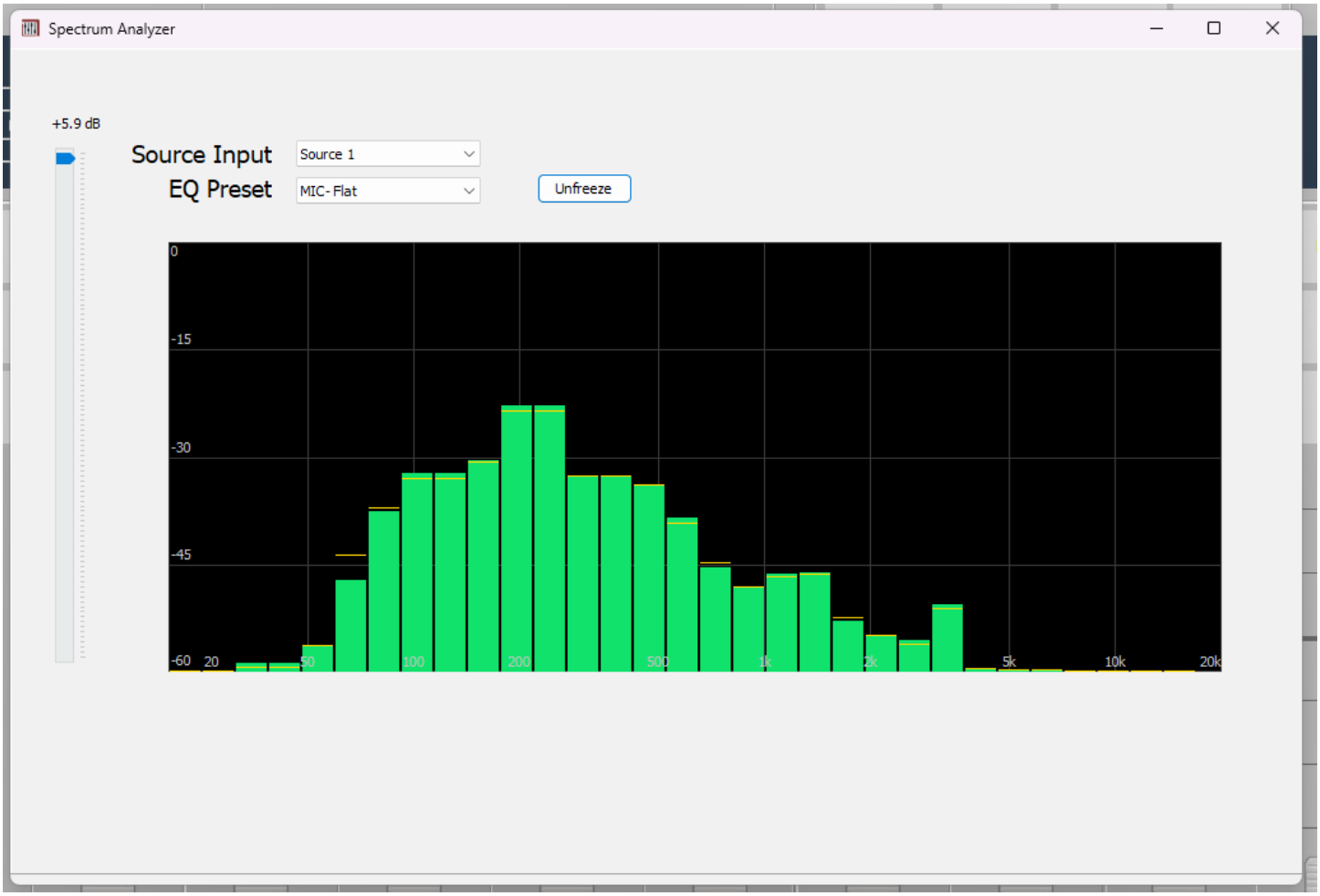
C. Dynamics: De-Esser

A De-Esser is a specialized audio compressor designed to target and reduce sibilance– the harsh "S", "Sh", and "T" sounds in human speech.

- **Enable:** Turns the De-Esser on or off.
- **Frequency (Freq):** The specific frequency where the harsh "S" sound is occurring. For most adult voices, this sits somewhere between **5 kHz and 8 kHz**.
- **Amount (Amt):** How much volume reduction (in dB) is applied to the harsh frequency when the sibilance is detected. Higher amounts will push the "S" sound down harder, but too much can give the speaker a lisp.
- **Sensitivity (Sens):** Acts as the "Threshold." This dictates how loud the "S" sound needs to be before the De-Esser

kicks in. A lower sensitivity means it will only catch very loud "S" sounds, while a higher sensitivity will aggressively catch quieter ones.

Spectrum Analyzer



The Spectrum Analyzer provides a real-time visual representation of your audio signals. It allows you to monitor the frequency balance of your inputs, spot problematic frequencies (like feedback or low-end rumble), and visually confirm how your EQ settings are affecting the sound.

Selecting an Audio Source

To begin monitoring, use the **Source Input** dropdown menu at the top of the window.

- Click the menu to view a list of all available active inputs (Microphones, Mono, or Left-channel sources).
- Select the input you want to analyze. The graph will immediately begin displaying the live audio data for that source.

Understanding the Graph

The analyzer maps the audio signal across a standard mathematical grid to help you identify specific sounds.

- **The Bottom Edge (X-Axis):** This represents the **Frequency** (Pitch), measured in Hertz (Hz) and Kilohertz (kHz). It runs from 20 Hz (deep bass) on the far left, up to 20 kHz (high treble) on the far right.
- **The Left Edge (Y-Axis):** This represents the **Amplitude** (Volume), measured in Decibels (dB). It ranges from -60 dB (very quiet/background noise) at the bottom, up to 0 dB (maximum digital volume) at the top.

Reading the Traces

As audio plays, you will see two distinct visual indicators working together on the graph:

- **The Live Trace (Green Line):** This is the fast-moving line that reacts instantly to the audio. It shows the exact energy present across the entire frequency spectrum at any given millisecond.
- **The Peak Hold (Yellow Dots):** These markers trail slightly behind the live trace. When a loud sound occurs, the yellow dots will hold at the maximum volume reached and then slowly fall back down. This allows you to easily see the maximum energy peaks of fast, transient sounds (like a snare drum or a sudden vocal plosive) that the green line might move too quickly to catch.

Using the Controls

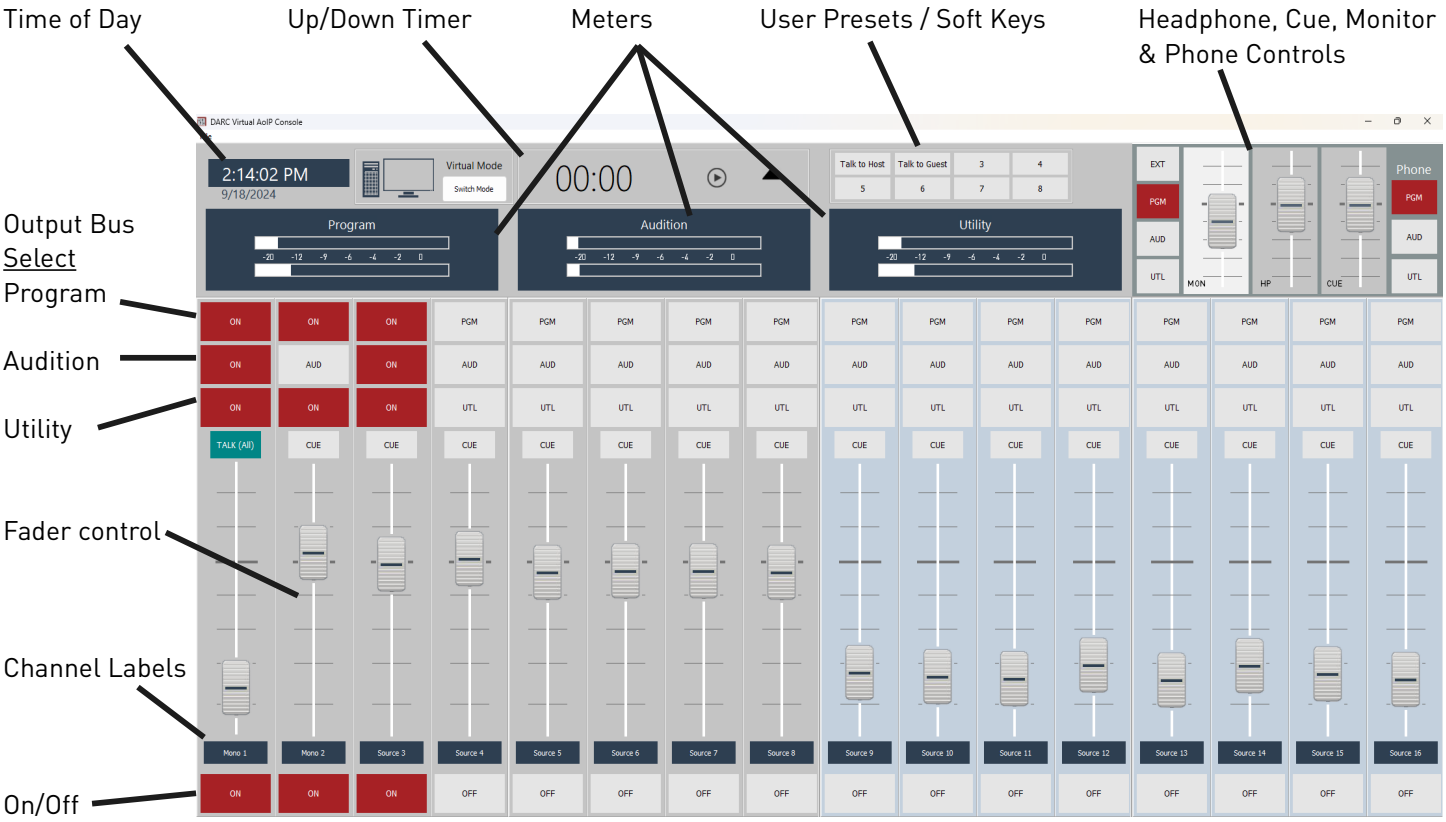
- **Freeze Button:** Click the **Freeze** button to instantly pause the analyzer. This locks the current visual state of the graph on the screen, allowing you to closely inspect the frequency curve of a specific moment in time. Click **Unfreeze** to resume live monitoring.
- **EQ Preset Dropdown:** Use this menu to select an existing EQ preset. This will overlay the selected EQ's frequency curve directly onto the analyzer grid, allowing you to visually compare your intended EQ adjustments against the raw, live audio signal.

Quick Troubleshooting Tips

- **Finding Feedback:** If you hear a high-pitched squeal or low hum from a microphone, look for a sharp, narrow spike on the green line that shoots toward 0 dB. Note the frequency at the bottom of that spike so you know exactly which frequency to cut with your EQ.
- **Checking the Noise Floor:** When the room is quiet and nobody is speaking into the mic, check where the green line rests. If it is hovering high up on the graph (e.g., above -45 dB) in the lower frequencies, you may be picking up background room noise like an air conditioner.

Operating Instructions

The DARC Virtual console will operate similar to a traditional broadcast radio console. It features the ability to be configured to 4, 8, 12 or 16 channels. It also has 3 output buses, a time of day clock and an up/down timer.



Program / Audition / Utility

These buttons will assign the specific channel to play out the particular output. When turned 'on' it will change to a red color and display the text 'ON'.

Fader Control

Move up/down to increase or decrease the volume. All the way down will have no volume. Each channel can be calibrated. Instructions will be found later in this manual.

Channel Labels

These are custom labels that can be changed from the Settings screen. More details may be found later in this manual.

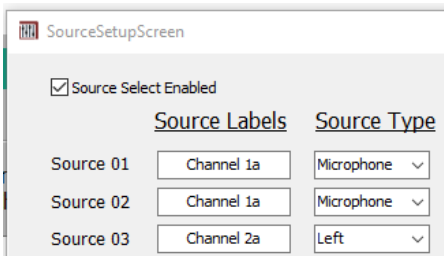
Cue

Select this button to send audio out the Cue output, as well as to the Headphone and Monitor outputs. By default, the Autocue feature is enabled, and will automatically mute the selected program audio and switch both Monitor and Headphone feeds to the cue channel. This button will also change to Talkback, when a mic & phone channel is assigned.

ON / OFF

This button turns the channel on or off. It can also be set to trigger external closures.

Source Select

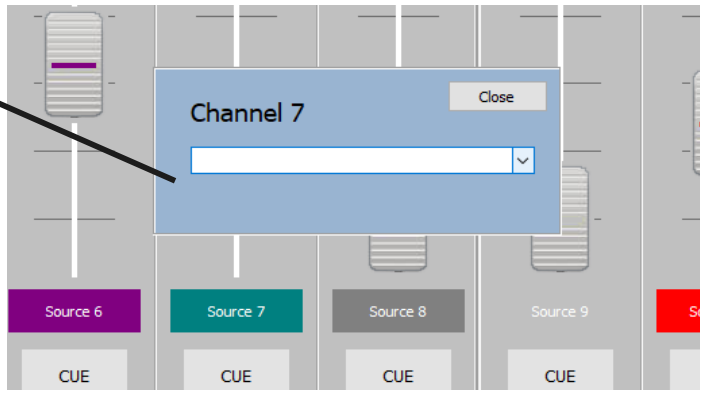


The DARC Virtual allows you to switch input sources from the main screen. This option must be enabled from the **Setup Screen**. To enable source switching:

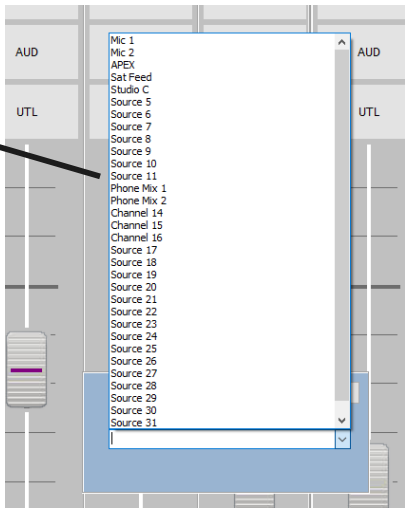
1. Go to **File** and choose **Setup Screen**.
2. Enter the setup screen password.
3. Click on the **Source Setup Screen** button.
4. Check the option **Source Select Enabled**.

To change source selected for a channel from the main screen, left click on the desired channel label.

A drop down menu for the channel will now be opened. Select the drop down tab.



Choose which source you are wanting to use for that channel.

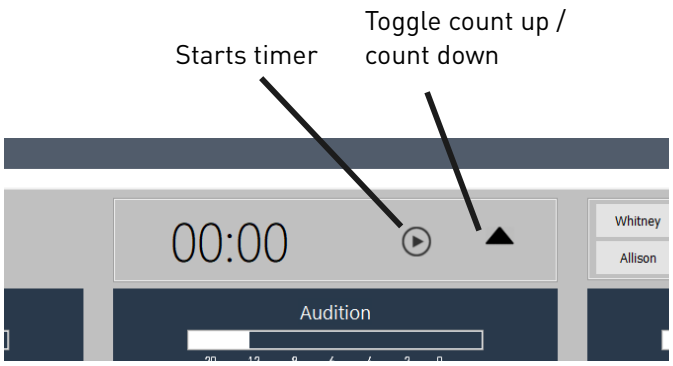


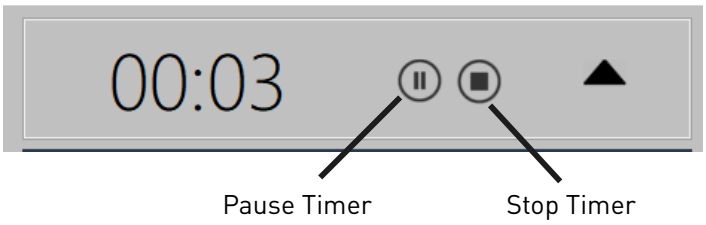
Up / Down Timer

The up / down timer allows you to keep track of time counting up or down. The default is to count up, and an up arrow will signify that setting.

UP TIMER

The up timer can be started manually, or automatically when a channel is turned on. This setting is adjusted in the Settings screen.

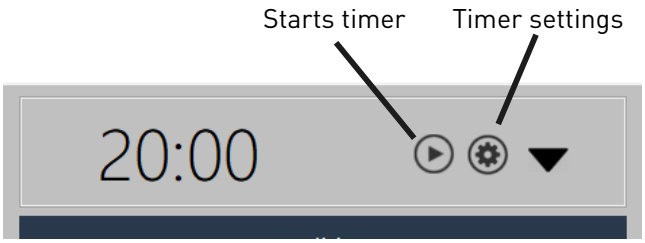


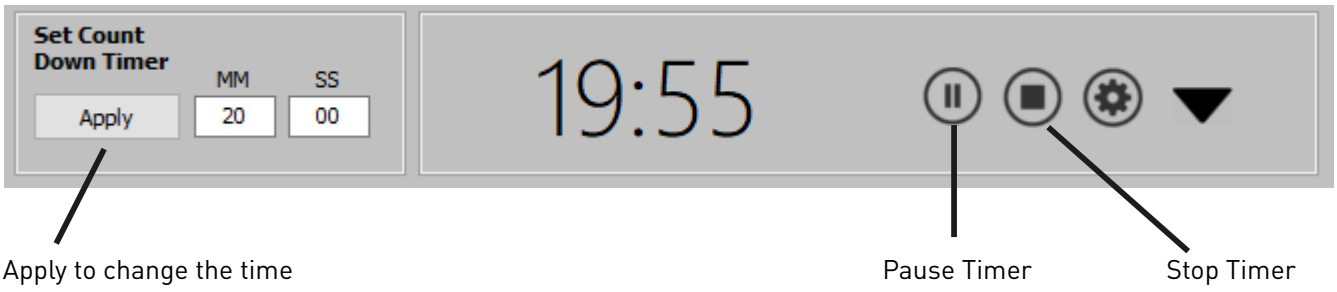


DOWN TIMER

The down timer will count down from a specific start time. The default is 20 minutes.

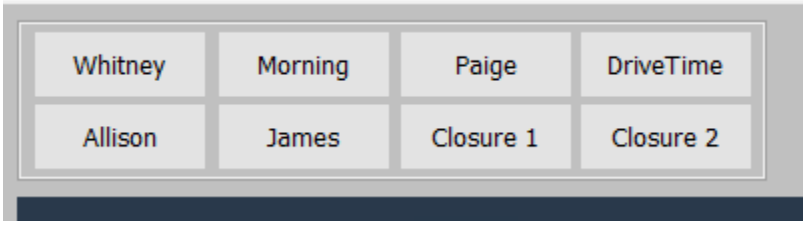
Select the Timer Settings button to change the count down time.





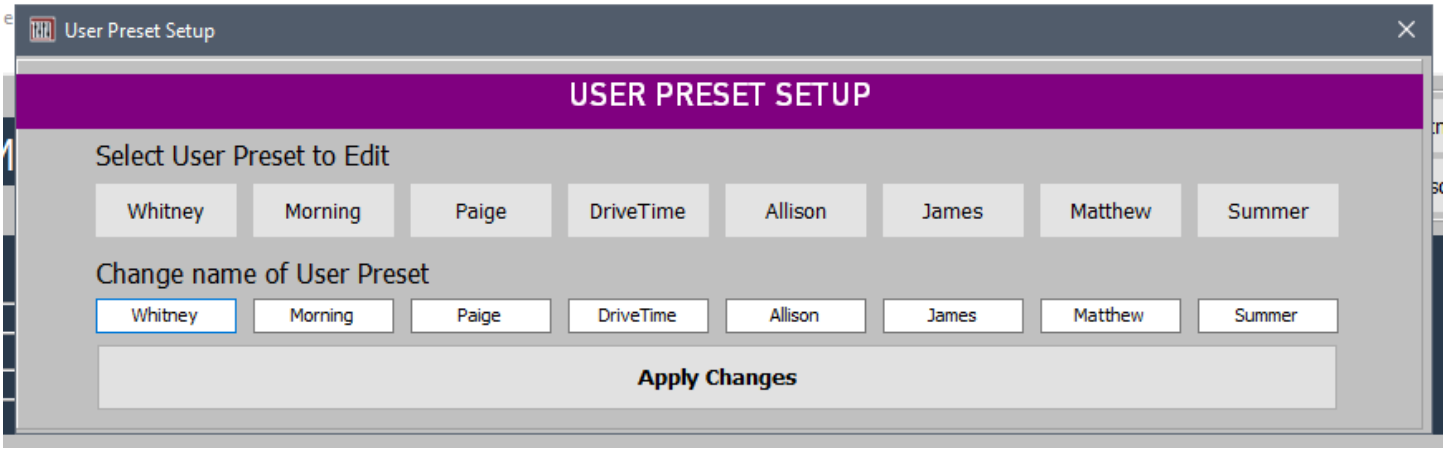
User Preset / Soft Keys

These 8 buttons can be assigned to various functions, such as triggering an external closure, or switching to a user preset.
These buttons also correspond to the 8 Soft Keys found on the DARC Surface consoles.



Creating & Editing User Presets

User presets allow you to create a custom setup that will determine whether a channel is off or on, as well as the volume level for each channel.



To create and adjust a user preset:
STEP 1 – Click on **File** and select **User Preset Setup**.

STEP 2 – To change the name of the user preset, select a box under **Change name of User Preset**. Change the name as desired, and click on **Apply Changes**.

STEP 3 – To adjust the settings of the user preset, click on the desired user preset under the **Select User Preset to Edit.** Now, turn on or off the desired channels. This includes PGM, AUD, UTL and CUE assignments. Then adjust to the desired channel volume for each channel. Once those settings are to your preference, click on **Apply Changes**.

When you click on the User Preset buttons, you will have those channels automatically turn on or off, as well as adjust the volume to the desired levels.

User presets do not save Headphone or Monitor settings.

IMPORTANT NOTE: Be sure to setup your Source Input assignments on the **Source Setup Screen** before you setup your User Presets. Any changes to the Source Input screen will require you to recreate your User Presets.

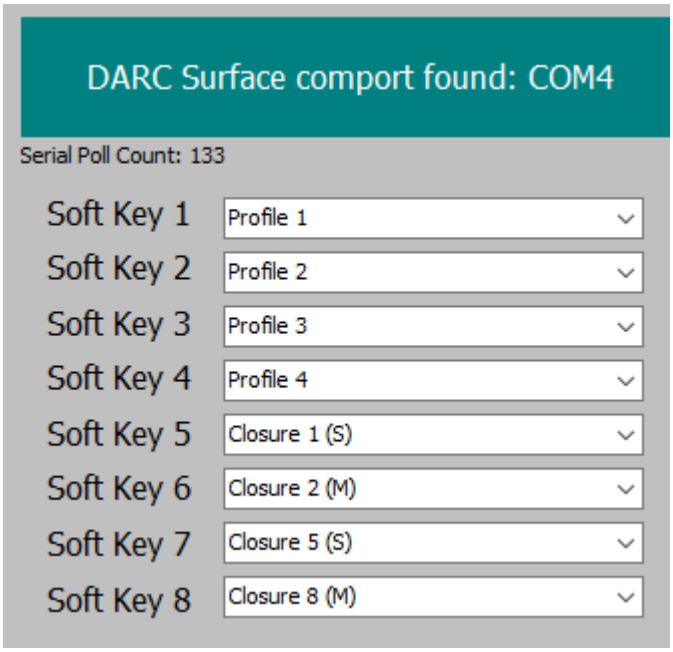
Assigning Soft Keys

Each of the 8 soft keys can be assigned various functions, such as user presets, or sending closures. This can be done by:

STEP 1 – Go to **File** and select **External Device Setup**.

STEP 2 – On this screen is listed 8 **Soft Key** settings. From the drop down list, select the desired User Preset, or if you have a KMTronic USB closure device, you may also choose to send a closure. Once you have changed to the desired settings, click on **Apply Changes** at the bottom to save the settings.

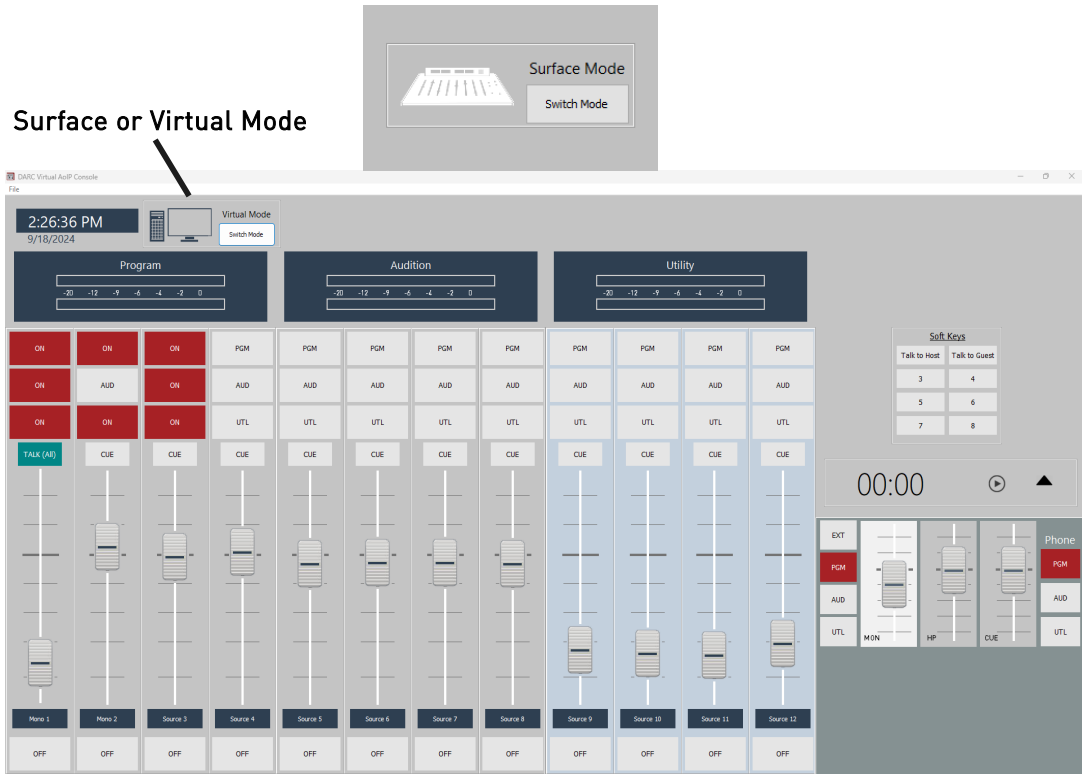
Note: A DARC Surface is not required in order to use the 8 soft key buttons.



DARC Surface, Virtual & Surface Modes

When a DARC Surface is connected, it will default to 'Surface Mode.' This mode only allows the control of the DARC Virtual from the DARC Surface console. In this mode, you may not turn channels on/off or adjust the volume from a mouse or touchscreen.

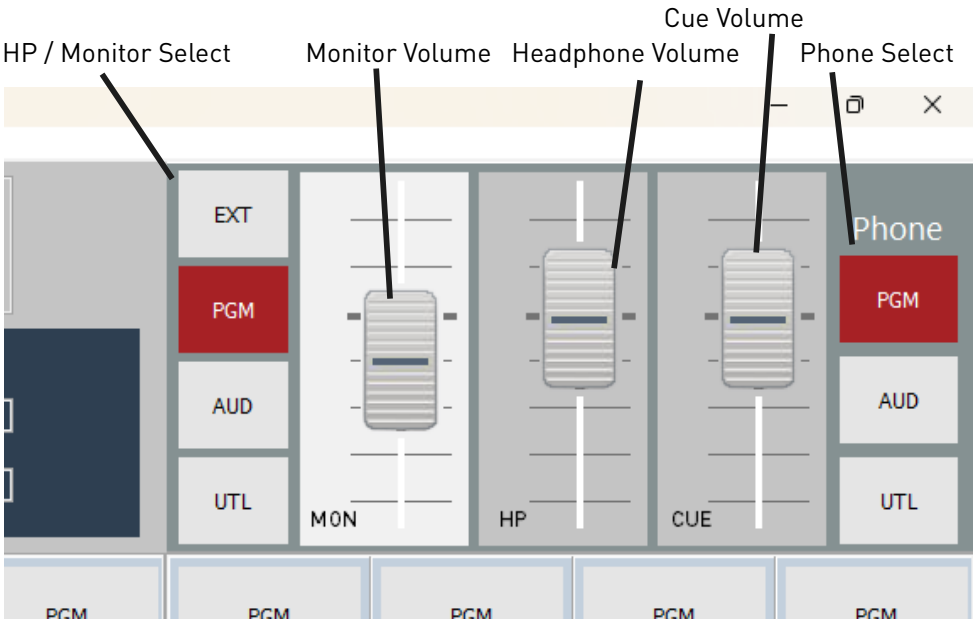
When you switch to 'Virtual mode,' you are then able to control the DARC Virtual software via a mouse or touchscreen. To switch between the two, simply click on the Surface, or Virtual Mode button on the top of the screen:



When in Virtual mode, you can use channels beyond those available on the DARC Surface. These channels are marked with a different color and can only be controlled through the software, not via the DARC Surface.

Headphone, Monitor, Cue and Phone Panel

This section of the screen allows you to control the Headphone & Monitor select, volume, and Phone Mix Minus audio.



Headphone & Monitor Select

You can choose to listen to the 3 mixing buses, or an external input for the headphone & monitor outputs. To switch between options, choose **PGM** to listen to the Program feed. **AUD** to listen to Audition, and **UTL** to listen to the Utility bus.

EXT - External Input to Monitor system. To monitor the Off Air signal, the Monitor system has an External input. The default input is set to 00 which is off. You can change to a channel, such as channel 16 by:

STEP 1 – Go to **File** and choose **Setup Screen**.

STEP 2 – Enter the password **darc** to enter the Setup Screen.

STEP 3 – Under **External Monitor Input Channel Select**, enter the desired source inputs between 1- 64. 'None' means that it will not pull any audio for the external input.

Volume Control

Monitor, Headphone and Cue outputs have volume control. Simply adjust the volume to the desired level.

Phone Mix Minus Select

This option chooses which output bus feed goes to the caller on the mix-minus output. For example, choosing **PGM** will send the Program output audio to the Mix-Minus output. The caller will hear Program audio in that example.

External Hardware Setup

You may connect external hardware to work with the DARC Virtual software. These devices are:

-DARC Surface 8 or 12, or DARC S8 or S15 series.

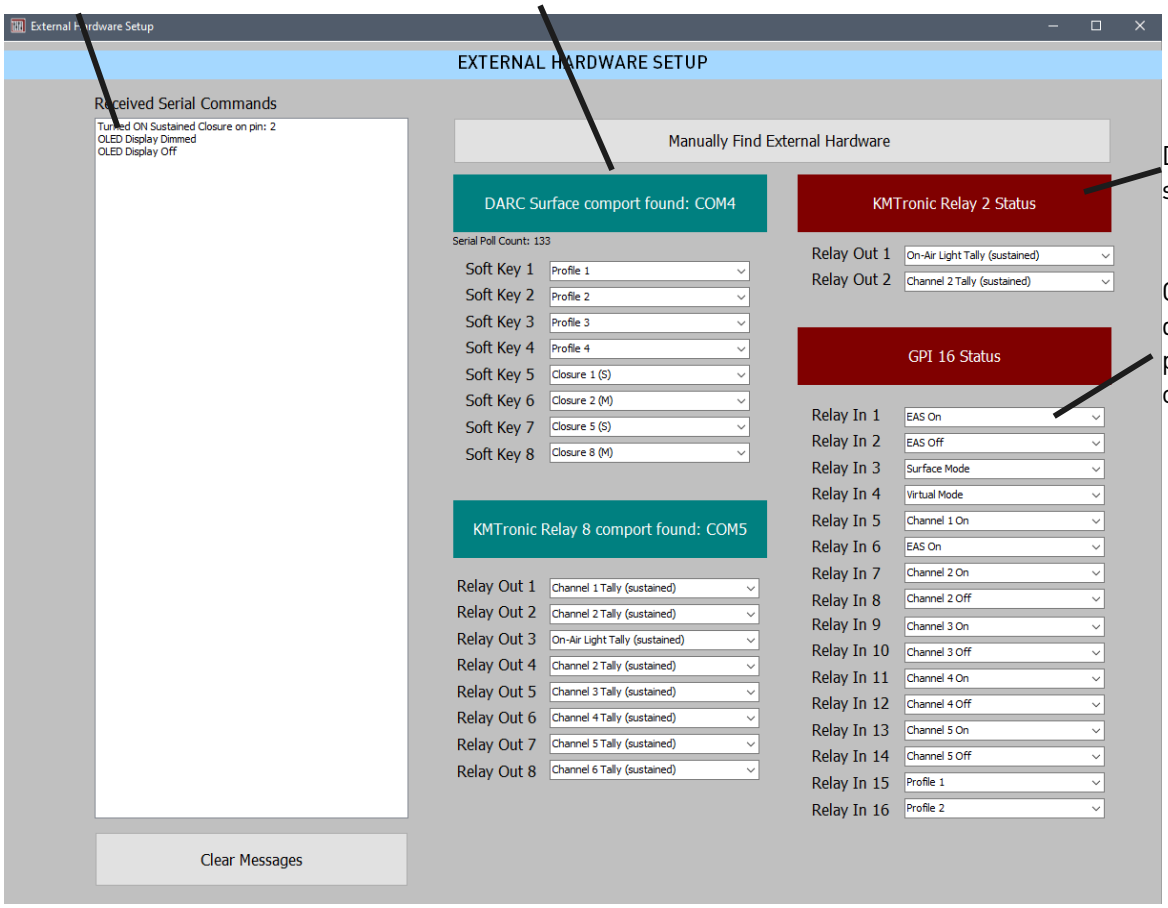
-KMTronic output relay. 2 output or 8 output.

IMPORTANT NOTE: You may only have one KMTronic device connected at a time.

-Broadcast Tools GPI-16 input relay.

Received Serial Commands for customer support

Manually Find External Hardware Click to manually search for external hardware



Displays connection status

Choose from drop down options for the particular hardware options

Soft Key

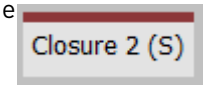
These assignments can be triggered by either clicking on the soft keys from the DARC Virtual software, OR from the soft keys on the DARC Surface board. The options are:

Profile – Choose from 8 different user presets. These presets are created from the User Preset Setup screen.

Closure – Choose this option to send a closure when the Virtual or Surface soft key is pressed. Choose from:

A) **Momentary (M)** – For example, **Closure 1(M)** will do a momentary closure on pin 1 of the relay.

B) **Sustained (S)** – For example, **Closure 2(S)** will do a sustained closure when pressed, for pin 2 on the relay. Pressing the button again will turn closure 2 off. You will see a red line on the top of the soft key for when it is activated.

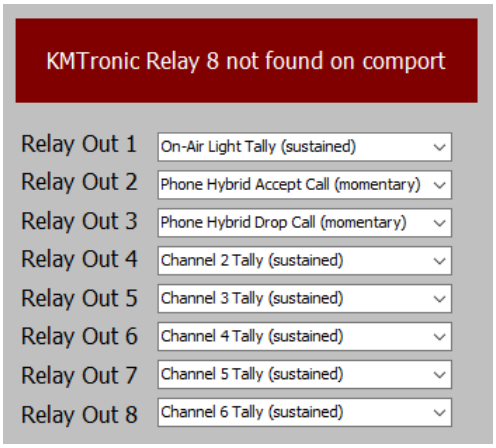


Talk to Host / Talk to Guest – Use these to activate the Talk to Studio functions.

IMPORTANT NOTE: Either have a KMTronic 2 or 8 connected via USB. You cannot have both connected at the same time.

KMTronic Relay 2 & 8

Follow the steps listed in KMTronic instructions for setup. Connect the Relay via USB, and the DARC Virtual software will auto-recognize the device.



This device is capable of sending closures to do tasks such as:
On-Air Light Tally (sustained) – This will turn an on-air light relay on and off. This is a sustained closure. High will turn the light on, while Low will turn the on-air light off. The KMTronic does not have enough power to power an on-air light.

Phone Hybrid Accept Call (momentary) – This will send a momentary closure to make a phone hybrid accept a call. It is triggered when the Phone Channel is turned on.

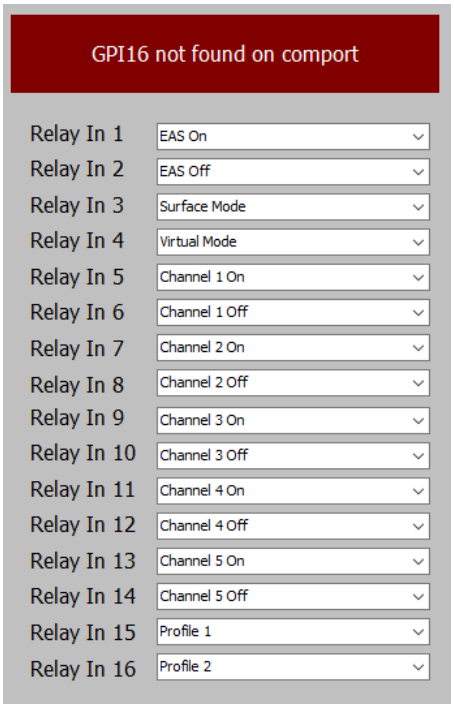
Phone Hybrid Drop Call (momentary) – This will send a momentary closure to make a phone hybrid drop a call. It is triggered when the Phone Channel is turned off.

Channel '#' Tally (sustained) – This will send a sustained closure whenever the particular channel is turned on or off.

IMPORTANT NOTE: You cannot have both the KMTronic 2 & KMTronic 8 connected at the same time.

Broadcast Tools GPI 16

Follow steps listed in the GPI 16 instruction manual for setup. Connect the device via USB, and the DARC Virtual software will auto-recognize the device.



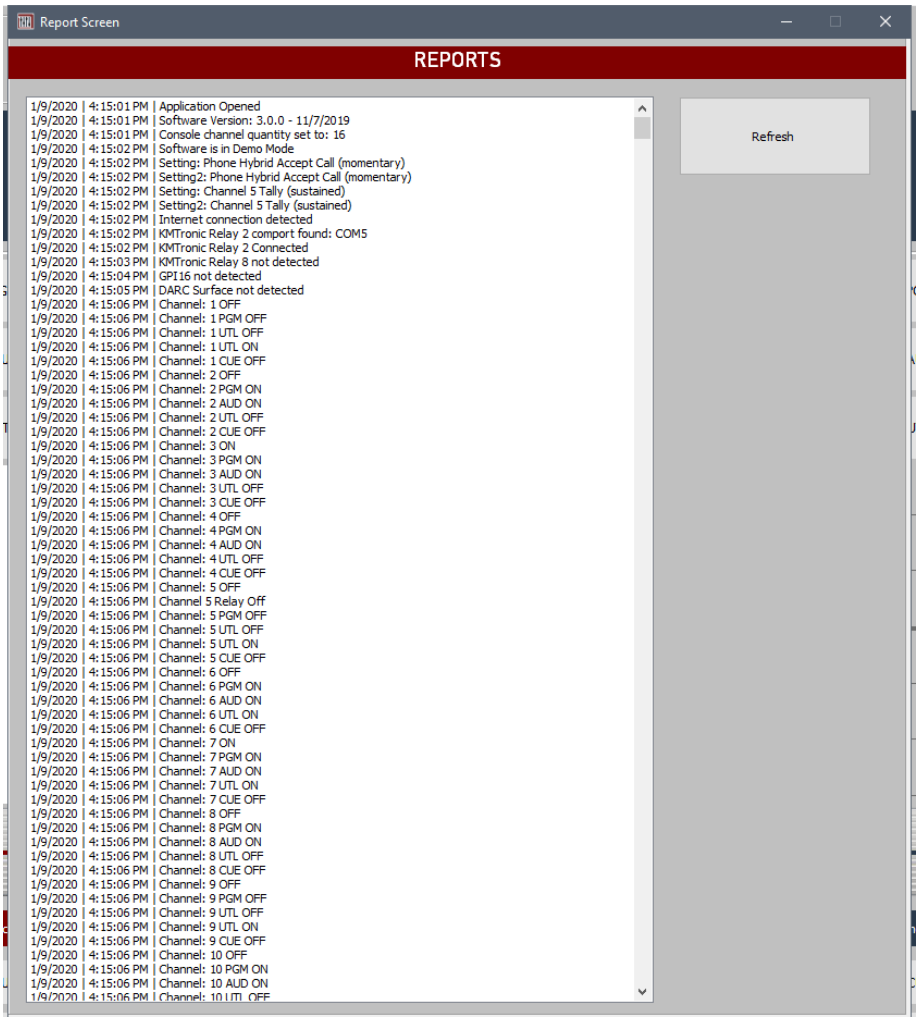
The GPI 16 gives you the ability to receive closures to trigger specific tasks:
EAS On – When this closure is received, it will switch to the designated EAS channel. Additional info about EAS and setup can be found in the Setup Screen section of this manual.
EAS Off – When this closure is received, it will turn the EAS channel off and go back to the previous feed. Additional info about EAS and setup can be found in the Setup Screen section of this manual.
Surface Mode – When a DARC Surface is connected, it will switch to 'Surface mode' when this closure is received. Additional information about Surface Mode can be found in this manual.
Virtual Mode - When a DARC Surface is connected, it will switch to 'Virtual mode' when this closure is received. Additional information about Virtual Mode can be found in this manual.
Channel '#' On / Off – When this closure is received, it will either turn the channel on, or off, depending on the setting selected.
Profile '#' - When this closure is received, it will switch to the selected profile. Additional information about profiles, and user presets can be found in this manual.
Talk to Host – When this closure is received, it will trigger the Talk to Host function, and will be displayed active on the assigned soft key. Receiving the closure a second time will deactivate the Talk to Host function.
Talk to Guest – When this closure is received, it will trigger the Talk to Guest function, and will be displayed active on the assigned soft key. Receiving the closure a second time will deactivate the Talk to Guest function.

Reports Screen

The Reports screen is a useful feature for checking the status and diagnosing possible errors. To open the Reports screen, select **File** and choose **Report Screen**.

This screen will list certain tasks performed, such as a channel being turned off or on. It will also list useful information upon startup, or when settings are changed.

The **Refresh** button will refresh the log with all tasks that have happened since opening the screen.



Arrakis support may ask for this report if needed. To send a report:

STEP 1 – Open the **C:** drive on your computer.

STEP 2 – Open **Program Files (x86).**

STEP 3 – Open **DARC Console**.

STEP 4 – Open **Logs**.

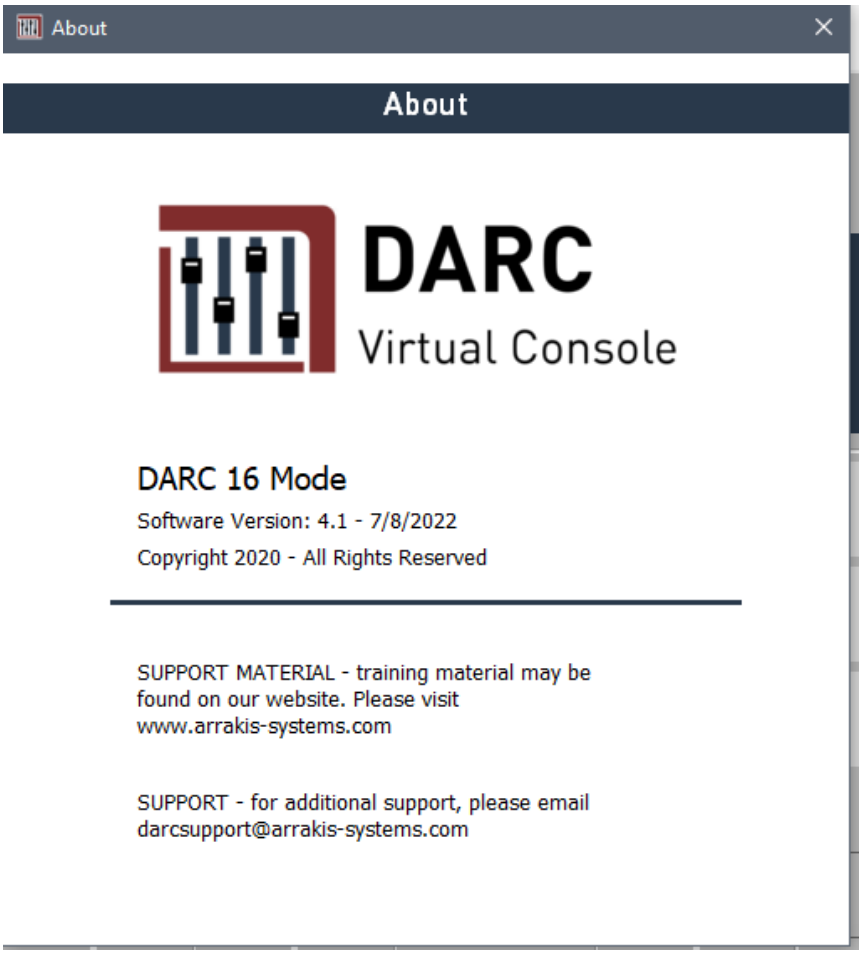
STEP 5 – Inside here is a **Report.txt** file. Email this file to the darcsupport@arrakis-systems.com address.

When a Report.txt file gets large enough, it will create another report text file with the date of its creation in the filename. It may be necessary to receive all of these files.

About Screen

The About screen will display information such as the **Software Version**, and helpful support links. Use this screen to verify that you are on the latest software.

To open the About screen, select **File** and choose **About**.



Support

Arrakis Systems will provide 1 year of no cost telephone technical support for DARC Virtual Console component products that are purchased from Arrakis or one of its authorized dealers under the following conditions:

1) The DARC Virtual Radio Console is a component product consisting of 3 parts:
   a) one or more Simple-IP digital boxes for audio input-output to your studio
   b) DARC software for Windows OS PCs
   c) a Windows OS PC

While DARC will run on most current model Windows PCs, it is highly recommended that the Arrakis factory selected and configured PC be purchased from Arrakis. It has been tested and configured and is known to perform to Virtual Console standards. Should a 3rd party PC be chosen, Arrakis can not provide configuration or operational customer support for the 3rd party product. The 3rd party PC supplier should be contracted to provide the required warranty and customer support. Arrakis has configuration tutorials on our website as a guide to the PC selection and configuration process. We can also provide technical assistance to your configuration technician at a nominal charge. However, Arrakis can not warranty the suitability, reliability or performance of a system that includes 3rd party products. Should a 3rd party PC have configuration, reliability, or performance issues, the suggested Arrakis customer service solution is to purchase a new Arrakis PC.

2) For a DARC console to receive Arrakis customer service support, only Arrakis approved software may be used on the PC and the software must be configured and used per Arrakis specifications. The PC is dedicated ONLY to console use. It may not be used for any other purpose whatsoever. Internet access and remote desktop control software will be determined by Arrakis customer service.

Utilizing Dante Equipment

Arrakis DARC Virtual Radio Consoles are stand alone, single studio, digital audio Radio consoles that have Dante AoIP network connectivity. While Dante networks can have mixed use on a normal business network, Audinate recommends a dedicated network for mission critical applications like Radio broadcasting. Configuration of a Dante network is made with free 'Dante Controller' software that is provided by Audinate. It is as simple to use as an X-Y input-output assignment matrix. Or it can be as complex as monitoring and controlling the network down to the packet level to squeeze out the maximum network traffic.

Arrakis customer support in multistudio network environments is limited to basic Dante Controller X-Y assignment setup, which in most cases is all that will be required. Network configuration and management is a site by site decision, requires on site support, and is beyond the scope of Arrakis DARC console or Simple-IP customer support.

Arrakis customer support will support Arrakis supplied equipment. Any issues with any 3rd party Dante equipment must be supported by the relative manufacturer.

Warranty

This product carries a 1 year manufacturer's warranty subject to the following guidelines and limitations:
A) Except as expressly excluded herein, Arrakis Systems Inc. ("Seller") warrants equipment of its own manufacture against faulty workmanship or the use of defective materials for a period of one (1) year from date of shipment to Buyer. The liability of the Seller under this Warranty is limited to replacing, repairing or issuing credit (at the Seller's discretion) for any equipment, provided that Seller is promptly notified in writing within five (5) days upon discovery of such defects by Buyer, and Seller's examination of such equipment shall disclose to its satisfaction that such defects existed at the time shipment was originally made by Seller, and Buyer returns the defective equipment to Seller's place of business in Loveland, Colorado, packaging and transportation prepaid, with return packaging and transport guaranteed.

B) Equipment furnished by Seller, but manufactured by another, shall be warranted only to the extent provided by the other manufacturer.

C) The warranty period on equipment or parts repaired or replaced under warranty shall expire upon the expiration date of the original warranty.

D) This Warranty is void for equipment which has been subject to abuse, improper installation, improper operation, improper or omitted maintenance, alteration, accident, negligence (in use, storage, transportation or handling), operation not in accordance with Seller's operation and service instructions, or operation outside of the environmental conditions specified by Seller.

E) This Warranty is the only warranty made by Seller, and is in lieu of all other warranties, including merchantability and fitness for a particular purpose, whether expressed or implied, except as to title and to the expressed specifications contained in this manual. Seller's sole liability for any equipment failure or any breach of this Warranty is as set forth in subparagraph A) above; Seller shall not be liable or responsible for any business loss or interruption, or other consequential damages of any nature whatsoever, resulting from any equipment failure or breach of this warranty.

Latency

Latency is the time taken for a signal to travel from the input to the output of a system. All digital systems exhibit latency. The Dante AoIP system has extremely low latency hardware and software.

One area that may cause problems is when the user speaks into the microphone, and then listens to themselves in their headphones. To prevent any issues, it is important to optimize the audio flow chain, as well as keep the network path as short as possible. As adding more audio devices into the audio chain will increase latency. Do not add any unnecessary devices or steps in the audio chain. Ideally the path would be as simple as:

Mic
↓
Simple IP node [Input]
↓
Dante Virtual Soundcard [PC running DARC Virtual]
↓
Simple IP node Headphone [Output]
↓
Headphone amp / Headphones

When audio travels, there is approximately a 1ms of delay for each foot traveled. For example, if you were speaking to someone 15 feet away, there would be a 15ms delay. Audio delay in the headphones becomes noticeable at approximately 20ms. It becomes unacceptable once it gets to 25ms or higher.

The Dante AoIP system has an ideal latency of 8 – 12ms when testing using the above audio path. The difference in latency is primarily affected by the Dante Virtual Soundcard settings, but may also be improved by optimizing the Windows PC that is running your DARC Virtual software.

Other non-AoIP systems exhibit significantly less latency, as these do not require audio to travel over the network and back. For example, the Behringer UMC1820 has latency of 4-6ms.

Steps to reduce latency

1) Have a dedicated network for your AoIP equipment. Do not put unnecessary computers or hardware on your dedicated network.

Gigabit switches are essential. QoS is recommended for Gigabit switches on networks that share data with services other than Dante. Setup your QoS to prioritize your AoIP hardware and computers.

2) Adjust your Dante Virtual Soundcard settings.

Click on **Options** in the Dante Virtual Sound Card. You will need to **Stop** the service, if it has already been started.

Recommended **ASIO Options** are:

- **Buffer Size: 32 samples**
- **Encoding: 24 bits/sample**
- **Asio Latency: 3ms**

This should produce approximately 10-12ms of latency.

You may adjust these settings to:

Buffer Size: 32 samples
Encoding: 16 bits/sample
Asio Latency: 1ms

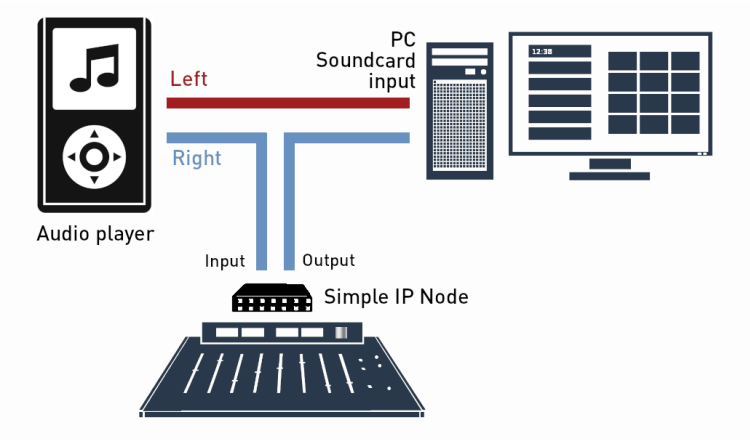
This should produce latency of approximately 8-10ms. Audio quality and glitching may occur at these settings. So you will need to test the audio quality extensively if you are planning on using these settings.

3) Optimize your Windows PC. Make sure that your PC is set to the High-Performance Power Plan, and disabled visual effects. Reduce the number of applications running on your PC, and dedicate it to run the DARC Virtual software. More software added to the PC will result in higher latency and other performance issues.

Additional instructions for optimizing your PC may be found on the arrakis-systems.com website, along with the Audinate website: https://www.audinate.com/learning/faqs/how-can-i-tune-a-windows-pc-for-best-audio-performance

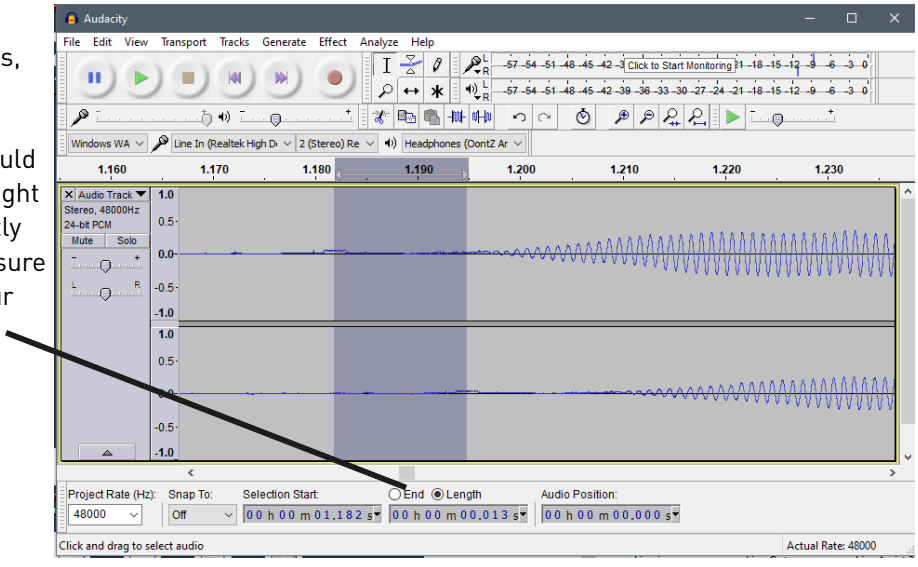
4) Use noise canceling headphones. This will help when listening to yourself through your headphones and speaking into the mic.

How to measure latency



You will need to split a stereo signal to measure latency.
STEP 1 - Take your Left signal and run it directly into your PC soundcard input.
STEP 2 - Take your Right signal and run it into your hardware input, such as the Simple IP node.
STEP 3 - Take your hardware output, such as your Simple IP node, and run it to your PC soundcard input.
STEP 4 - Use a software, such as Audacity, to record the audio coming in to your PC soundcard. Make sure it is set to record a stereo input.
STEP 5 - Start recording on Audacity. You shouldn't see any audio being recorded yet.
STEP 6 - Start playing a constant tone out of your audio player. Let it play for a few seconds, then stop your audio player.

When you zoom in on the wave form, you should see the start of the signal on your Left and Right channels. The Right channel should be slightly delayed compared to your Left channel. Measure the distance of this signal, and it will give your latency in the form of milliseconds.



Troubleshooting

SOFTWARE CRASH – If the software has crashed, it will log the message: **ERROR - Application was closed improperly** in the Report screen. This will get logged after the DARC Virtual has been startup again. Software crashes are typically caused by 3rd party software, Windows OS issues, or hardware issues.

POSSIBLE SOLUTION – Remove all unnecessary software on the PC. Especially anti-virus software. 3rd party software may be causing crashes on the PC that is unrelated to DARC Virtual.
POSSIBLE SOLUTION – Check Windows Updates, and make sure that it is set to manual updates, not automatic.
POSSIBLE SOLUTION – Check Windows Event Viewer for error messages.
POSSIBLE SOLUTION – If the PC hardware is more than 5 years old, it may be time to swap to a new PC.
POSSIBLE SOLUTION – Restart the PC at least monthly, weekly if possible.

SLOW OR CRASHES ON STARTUP – This can occur if the PC has a serial port connected via Bluetooth.
POSSIBLE SOLUTION – Go to **Device Manager** in Windows. Select **Ports** and search for a **Standard Serial over Bluetooth link** device. Right-click and select **Disable** for each of these devices. Restart the DARC Virtual software.

TROUBLE CONNECTING TO EXTERNAL HARDWARE – This occurs if there is a connection issue between the authorized hardware and the DARC Virtual.
POSSIBLE SOLUTION – Double check all USB connections. Swap to another USB port if necessary.
POSSIBLE SOLUTION – Restart hardware, and make sure it is powered up. Then restart the DARC Virtual software.
POSSIBLE SOLUTION – Restart the PC.
POSSIBLE SOLUTION – If trying to connect to the DARC Surface, move the **Monitor**, **HEAD PHONE**, and **CUE** knobs. Sometimes these may be sending erroneous messages to the DARC Virtual.

NO AUDIO – This can occur for a handful of reasons.
POSSIBLE CAUSE – Dante Virtual Soundcard is not installed and/or running.
POSSIBLE SOLUTION – Download, install, and start the DVS software. Make sure it has been started, and the settings have been set.

POSSIBLE CAUSE – There is an issue with the Dante enabled device.
POSSIBLE SOLUTION – Verify that the device is being seen in the Dante Controller software. If not, then restart the device and check again.

POSSIBLE CAUSE – The audio has not been routed, or routed properly via the Dante Controller.
POSSIBLE SOLUTION – Double check that the Dante Transmitters and Receivers have been set properly.

POSSIBLE CAUSE – The Dante device is not being ran at 48k sample rate.
POSSIBLE SOLUTION – All Dante devices need to be ran at the same sample rate. Verify that the sample rate has been set to 48k.

POOR AUDIO QUALITY – Most audio issues occur outside the DARC Virtual software. Any audio issues, such as hum, or noise, will be occurring either at the audio device, Dante node, or somewhere else along your audio chain.

POSSIBLE SOLUTION – Most audio hum is caused by ground loops. Make sure that ALL of your Dante equipment is connected to the same power strip on the same power outlet. This includes Simple IP nodes, AVIO adapter equipment, automation hardware, cd players, etc...

CHECK YOUR SOUNDCARD SETTINGS – Make sure that your ASIO soundcard settings match. You may find the DARC Virtual settings by going to **File** and selecting **Setup Screen**. On the left side it lists your soundcard Sample Rate, Buffer Size, and Encoding. Make sure that these match the ASIO soundcard driver you are using.

Error Messages

The Report screen can be used to diagnose possible errors. You may see these errors on the Report screen, or in a Windows message in the software:

ERROR - DARC Virtual must be ran in Administrator mode.
This means that the software was not started in Windows 'Administrator Mode.'

HOW TO SET TO ADMINISTRATOR MODE:

STEP 1 - Right-click on the **DARC Console.exe** application icon.
The DARC Console.exe can be found by going to the **C:** drive,
Program Files (x86), then inside the **DARC Console** folder.
STEP 2 - Select **Properties**.
STEP 3 - Select the **Compatibility** page.
STEP 4 - Check the **Run this Program as an Administrator** box.
STEP 5 - Click on the **Apply** button.
STEP 6 - Click on the **OK** button.
STEP 7 - Now restart the DARC software.

ERROR - Application was closed improperly
This error means that the software was closed, but not closed properly. The common causes may be:

POSSIBLE CAUSE - Windows Update shut off the software and computer.
POSSIBLE SOLUTION – Make sure that Windows is set up to not perform Windows Updates automatically.

POSSIBLE CAUSE – Computer crashed. This can be caused by many reasons, such as a faulty 3rd party hardware or software.
POSSIBLE SOLUTION – This will require IT support from a 3rd party company to diagnose what may be causing the computer crashes.

POSSIBLE CAUSE – Anti-virus software crashed software.
POSSIBLE SOLUTION - It is recommended to ONLY use the built-in Windows security, which is a part of the Windows OS. 3rd party anti-virus software is not recommended.

ERROR: (####) SOFTWARE NOT AUTHORIZED

This error occurs when the software is viewed as not authorized. Contact darcsupport@arrakis-systems.com and send the exact error code.

POSSIBLE SOLUTION - Authorization is limited to the PC that it was first installed on. If you are wanting to install the DARC Virtual on another PC, it will be necessary to authorize the PC on the new PC for it to properly operate.

ERROR The DANTE VIRTUAL SOUNDCARD (DVS) is not seen on this PC

This means that the DARC Virtual Software is not able to find the DVS software on the PC.

POSSIBLE SOLUTION – If the Dante Virtual Soundcard has not been installed on the PC, it will be necessary to install DVS on the PC.

POSSIBLE SOLUTION – The DVS software may simply need to be turned on. You can do this by finding the app, and then opening it.

ERROR The DANTE VIRTUAL SOUNDCARD (DVS) is active but is 'Stopped.'

This message occurs when the DARC Virtual software sees DVS in the Windows Processes, but the 'Start' button hasn't been pressed in the DVS software.

POSSIBLE SOLUTION – Open the DVS software, and click on the **Start** button. Restart the DARC Virtual software.

ERROR connecting to KMTronic#Comport

This message occurs when the DARC Virtual Software is unable to connect to the KMTronic device.

POSSIBLE SOLUTION – Shut down the DARC Virtual software, unplug the KMTronic device via USB, and the plug it back in. Then start up the DARC Virtual software again.

ERROR - Was not able to save '----' setting

This message occurs when DARC Virtual is not able to save a particular setting.

POSSIBLE SOLUTION – This may be because Windows OS is not allowing DARC Virtual to save to the C: drive. Check your Windows Administrator privileges, as well as read/write privileges for the C: drive.

POSSIBLE SOLUTION – Make sure that no anti-virus software is being used, other than the stock software built in to the Windows OS.

ERROR - Lost connection with DARC Surface

This error occurs when the DARC Virtual has been connected to the DARC Surface hardware, but has lost connectivity. This could be caused by USB failure, DARC Surface failure, or issues with the Windows PC.

POSSIBLE SOLUTION – Restart the DARC Surface first, and then restart DARC Virtual after the DARC Surface has loaded completely.

POSSIBLE SOLUTION -Try moving the USB cable to another USB port on the PC.