# Table of Contents

Introduction ................................................................................................................................. 4  
Product Description ...................................................................................................................... 6  
  Standalone Configuration ........................................................................................................ 7  
  AoIP Configuration .................................................................................................................. 8  
Installation Instructions ............................................................................................................. 10  
  PC Minimum Specifications ................................................................................................... 11  
  Dante Virtual Soundcard ....................................................................................................... 11  
  Hardware Installation ............................................................................................................. 12  
  DARC Virtual Software Authorization ................................................................................ 12  
  Dante Controller .................................................................................................................... 13  
  Key Concepts for Dante Controller: ..................................................................................... 14  
DARC Virtual & Simple IP Bundle Setup .................................................................................. 16  
Operating Instructions ............................................................................................................... 22  
  Up / Down Timer ................................................................................................................... 23  
  User Preset / Soft Keys .......................................................................................................... 24  
  DARC Surface, Virtual & Surface Modes ............................................................................ 26  
  Headphone, Monitor and Phone Panel ................................................................................. 27  
Setup Screen .............................................................................................................................. 28  
  Channel Number Select ........................................................................................................ 29  
  External Monitor Input Channel Select ................................................................................ 30  
  Autocue ................................................................................................................................. 30  
  Up Down Timer ..................................................................................................................... 30  
  EAS Channel ........................................................................................................................ 30  
  Single Channel Playback ....................................................................................................... 31  
  Channel Labels ...................................................................................................................... 32  
  Fader Color Select ................................................................................................................ 33  
  Microphone Channels ............................................................................................................ 33  
  Phone Channels .................................................................................................................... 33  
  Fader Audio Level ................................................................................................................ 34  
  VU Meter Calibration ............................................................................................................ 34  
  DARC Surface Settings ......................................................................................................... 35  
External Hardware Setup ........................................................................................................... 36  
  Soft Key ............................................................................................................................... 36  
  KMTronic Relay 2 & 8 .......................................................................................................... 37  
  Broadcast Tools GPI 16 ....................................................................................................... 37  
Reports Screen .......................................................................................................................... 38  
About Screen ............................................................................................................................. 40  
Support .................................................................................................................................... 42  
Utilizing Dante Equipment ....................................................................................................... 42  
Warranty .................................................................................................................................... 43  
Troubleshooting ......................................................................................................................... 44  
  Error Messages .................................................................................................................... 45
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 inc
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](http://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 & Simple-IP 8D 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.
- 2 Mix Minus telephone interface through Simple-IP 8A & 8D.
- Touchscreen compatible.
- 8 programmable buttons for controlling software, changing assignments, etc.
- Dante AoIP interstudio ethernet connectivity.
- AES67 AoIP support.

The DARC Virtual AoIP Software console is a powerful mixing console that runs on a Windows PC. It will mix any Dante enabled audio source on your network. You can then send the mixes to any output on your Dante network.

**DARC Virtual 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 ran 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 ran 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.

**BASIC CONNECTION STEPS:**
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.
Installation Instructions

There are 4 major components to the DARC Virtual 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 6,000 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 operation may be found on the arrakis-systems.com website.

Dante Virtual Soundcard

STEP 1 – Purchase, download and install the Dante Virtual Sound Card: https://www.audinate.com/products/software/dante-virtual-soundcard

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 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.

DARC Virtual Software Authorization

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

STEP 2 - Open DARC Virtual and select File. Then choose Authorization.

STEP 3 - On the Authorization screen, go to STEP 1 and copy the code listed. Email the code listed to darcsupport@arrakis-systems.com

STEP 4 - If authorized, you will then receive an email back with an authorization code to enter. Enter this code by going to the Authorization screen again, and enter the given code in the STEP 3 field. Click on Submit Code at the bottom.

STEP 5 – Restart the DARC Virtual software.

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

Please email darcsupport@arrakis-systems.com if you are needing to swap PC’s and put the DARC Virtual software on a different computer.
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 32 input sources to map. Each of the 32 inputs are mono inputs, and are Left / Right for each channel, giving you 16 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 auto assigned within the DARC Virtual software to specific channels:

<table>
<thead>
<tr>
<th>Dante Controller Receivers #</th>
<th>DARC Virtual Channel Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Channel 1 Left</td>
</tr>
<tr>
<td>02</td>
<td>Channel 1 Right</td>
</tr>
<tr>
<td>03</td>
<td>Channel 2 Left</td>
</tr>
<tr>
<td>04</td>
<td>Channel 2 Right</td>
</tr>
<tr>
<td>05</td>
<td>Channel 3 Left</td>
</tr>
<tr>
<td>06</td>
<td>Channel 3 Right</td>
</tr>
<tr>
<td>07</td>
<td>Channel 4 Left</td>
</tr>
<tr>
<td>08</td>
<td>Channel 4 Right</td>
</tr>
<tr>
<td>09</td>
<td>Channel 5 Left</td>
</tr>
<tr>
<td>10</td>
<td>Channel 5 Right</td>
</tr>
<tr>
<td>11</td>
<td>Channel 6 Left</td>
</tr>
<tr>
<td>12</td>
<td>Channel 6 Right</td>
</tr>
<tr>
<td>13</td>
<td>Channel 7 Left</td>
</tr>
<tr>
<td>14</td>
<td>Channel 7 Right</td>
</tr>
<tr>
<td>15</td>
<td>Channel 8 Left</td>
</tr>
<tr>
<td>16</td>
<td>Channel 8 Right</td>
</tr>
<tr>
<td>17</td>
<td>Channel 9 Left</td>
</tr>
<tr>
<td>18</td>
<td>Channel 9 Right</td>
</tr>
<tr>
<td>19</td>
<td>Channel 10 Left</td>
</tr>
<tr>
<td>20</td>
<td>Channel 10 Right</td>
</tr>
<tr>
<td>21</td>
<td>Channel 11 Left</td>
</tr>
<tr>
<td>22</td>
<td>Channel 11 Right</td>
</tr>
<tr>
<td>23</td>
<td>Channel 12 Left</td>
</tr>
<tr>
<td>24</td>
<td>Channel 12 Right</td>
</tr>
<tr>
<td>25</td>
<td>Channel 13 Left</td>
</tr>
<tr>
<td>26</td>
<td>Channel 13 Right</td>
</tr>
<tr>
<td>27</td>
<td>Channel 14 Left</td>
</tr>
<tr>
<td>28</td>
<td>Channel 14 Right</td>
</tr>
<tr>
<td>29</td>
<td>Channel 15 Left</td>
</tr>
<tr>
<td>30</td>
<td>Channel 15 Right</td>
</tr>
<tr>
<td>31</td>
<td>Channel 16 Left</td>
</tr>
<tr>
<td>32</td>
<td>Channel 16 Right</td>
</tr>
</tbody>
</table>
Dante Transmitters
These are the OUTPUTS for your Dante Devices, including the DARC Virtual Console. The Dante Virtual Soundcard PC outputs will be pathed 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:

<table>
<thead>
<tr>
<th>Dante Controller</th>
<th>DARC Virtual</th>
<th>Channel Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmitters #</td>
<td></td>
<td></td>
</tr>
<tr>
<td>01</td>
<td>Program Left</td>
<td></td>
</tr>
<tr>
<td>02</td>
<td>Program Right</td>
<td></td>
</tr>
<tr>
<td>03</td>
<td>Audition Left</td>
<td></td>
</tr>
<tr>
<td>04</td>
<td>Audition Right</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>Utility Left</td>
<td></td>
</tr>
<tr>
<td>06</td>
<td>Utility Right Right</td>
<td></td>
</tr>
<tr>
<td>07</td>
<td>Mix Minus 1 (to go to your phone hybrid input)</td>
<td></td>
</tr>
<tr>
<td>08</td>
<td>Mix Minus 1 (to go to your phone hybrid input)</td>
<td></td>
</tr>
<tr>
<td>09</td>
<td>Cue Left</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Cue Right</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Monitor Left</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Monitor Right</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Headphone Left</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Headphone Right</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Mix Minus 2 (to go to your phone hybrid input)</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Mix Minus 2 (to go to your phone hybrid input)</td>
<td></td>
</tr>
</tbody>
</table>

**SINGLE CHANNEL PLAYBACK** [Must be enabled]

17/18      Channel 1 Left / Channel 1 Right
19/20      Channel 2 Left / Channel 2 Right
21/22      Channel 3 Left / Channel 3 Right
23/24      Channel 4 Left / Channel 4 Right
25/26      Channel 5 Left / Channel 5 Right
27/28      Channel 6 Left / Channel 6 Right
29/30      Channel 7 Left / Channel 7 Right
31/32      Channel 8 Left / Channel 8 Right
33/34      Channel 9 Left / Channel 9 Right
35/36      Channel 10 Left / Channel 10 Right
37/38      Channel 11 Left / Channel 11 Right
39/40      Channel 12 Left / Channel 12 Right
41/42      Channel 13 Left / Channel 13 Right
43/44      Channel 14 Left / Channel 14 Right
45/46      Channel 15 Left / Channel 15 Right
47/48      Channel 16 Left / Channel 16 Right

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...
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 ran 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 2 Simple IP units, A & B.

- **Unit A** has the **Meter** output that connects to the optional DARC Surface **Meter** input. Ignore this output if you are not using the DARC Surface.

- **Unit B** has your **Cue** (CUE), **Monitor** (Mon) and **Headphone output** (HP). These outputs will feed your studio for monitoring your audio feeds. It is recommended to have this unit in your main studio as well.

If you have purchased the DARC Virtual 12 or 16 bundles, then it will come with additional Simple IP unit(s) with 4 more stereo inputs & outputs each. It is referred to as **Unit C**. Unit C can be located in a rack room with other source equipment, or anywhere on your Dante network.

**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 the Simple IP units 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 HP output, or you may use an external amplifier as well. The headphone will connect to the HP connection on Simple IP unit B.

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 or Simple IP 8D unit). 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 Simple IP Monitor Output on the back panel of the unit. 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 CD 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

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)**

<table>
<thead>
<tr>
<th>Pinout</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin 1</td>
<td>Mic 1 (+)</td>
</tr>
<tr>
<td>Pin 2</td>
<td>Mic 1 (-)</td>
</tr>
<tr>
<td>Pin 3</td>
<td>NC</td>
</tr>
<tr>
<td>Pin 4</td>
<td>Ground</td>
</tr>
<tr>
<td>Pin 5</td>
<td>NC</td>
</tr>
<tr>
<td>Pin 6</td>
<td>NC</td>
</tr>
<tr>
<td>Pin 7</td>
<td>NC</td>
</tr>
<tr>
<td>Pin 8</td>
<td>NC</td>
</tr>
</tbody>
</table>

**Mic 2 Output (Simple IP 8A)**

<table>
<thead>
<tr>
<th>Pinout</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin 1</td>
<td>Mic 2 (+)</td>
</tr>
<tr>
<td>Pin 2</td>
<td>Mic 2 (-)</td>
</tr>
<tr>
<td>Pin 3</td>
<td>NC</td>
</tr>
<tr>
<td>Pin 4</td>
<td>Ground</td>
</tr>
<tr>
<td>Pin 5</td>
<td>NC</td>
</tr>
<tr>
<td>Pin 6</td>
<td>NC</td>
</tr>
<tr>
<td>Pin 7</td>
<td>NC</td>
</tr>
<tr>
<td>Pin 8</td>
<td>NC</td>
</tr>
</tbody>
</table>

**RJ45 Pinout T-568B**

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

**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 OUTPUT- 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. The second phone hybrid connects to **8[7/8 Out]** of the ‘B’ Simple IP 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 trim pots next to their respective connectors. 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.

**STEP 10 - External Monitor Input**
The Monitor Selector Switch on the DARC Virtual has an External Input position (AIR). This position is usually used to monitor the actual radio station on air signal from a radio tuner. NOTE: it is important to monitor the actual signal from the radio station and not just the output of the console. This is so as to monitor the entire radio chain from the console to the transmitter. Installation steps will be found later in this manual.
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.

Time of Day
Up/Down Timer
Meters
User Presets / Soft Keys
Headphone / Monitor & Phone Controls

Output Bus
Select Program
Audition
Utility
Fader control
Channel Labels
Cue
On/Off

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.
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.

Click Apply to change the 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.
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:
Headphone, Monitor, 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 channel number between 00 to 16. 00 means that it will not pull any audio for the external input. It is typically recommended to use channel 16 as your external monitor input channel.

Volume Control
Both Monitor and Headphone 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.
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.
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.
External Monitor Input Channel Select

This setting allows you to choose which Dante input channel you would like to set for your External Monitor Input. Enter the desired channel number between 1 to 16. ‘None’ means that it will not pull any audio for the external input. It is typically recommended to use channel 16 as your external monitor input channel. As a note, the channel used for External Monitor Input cannot be used as a regular input channel.

Autocue

If any Cue button is activated, the DARC Virtual will automatically mute the PGM, AUD and UTL feeds in your Monitor and Headphone outputs. If Autocue in the Setup Screen is enabled, the cue output will play out your Monitor, Headphone, and Cue outputs. If Autocue is deactivated in the Setup Screen, then cue will only play out the Headphone and Cue outputs.

DARC also features a separate wired audio output if a separate Cue amp and speaker is desirable.

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.

EAS Channel

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 channel. This channel will be your Emergency Alert Audio feed. Choose from channel 01 to channel 16.

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 between **None**, **8 Channel**, **12 Channel**, and **16 Channel**.

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

<table>
<thead>
<tr>
<th>Dante Controller Transmitters #</th>
<th>DARC Virtual Channel Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>17/18</td>
<td>Channel 1 Left / Channel 1 Right</td>
</tr>
<tr>
<td>19/20</td>
<td>Channel 2 Left / Channel 2 Right</td>
</tr>
<tr>
<td>21/22</td>
<td>Channel 3 Left / Channel 3 Right</td>
</tr>
<tr>
<td>23/24</td>
<td>Channel 4 Left / Channel 4 Right</td>
</tr>
<tr>
<td>25/26</td>
<td>Channel 5 Left / Channel 5 Right</td>
</tr>
<tr>
<td>27/28</td>
<td>Channel 6 Left / Channel 6 Right</td>
</tr>
<tr>
<td>29/30</td>
<td>Channel 7 Left / Channel 7 Right</td>
</tr>
<tr>
<td>31/32</td>
<td>Channel 8 Left / Channel 8 Right</td>
</tr>
<tr>
<td>33/34</td>
<td>Channel 9 Left / Channel 9 Right</td>
</tr>
<tr>
<td>35/36</td>
<td>Channel 10 Left / Channel 10 Right</td>
</tr>
<tr>
<td>37/38</td>
<td>Channel 11 Left / Channel 11 Right</td>
</tr>
<tr>
<td>39/40</td>
<td>Channel 12 Left / Channel 12 Right</td>
</tr>
<tr>
<td>41/42</td>
<td>Channel 13 Left / Channel 13 Right</td>
</tr>
<tr>
<td>43/44</td>
<td>Channel 14 Left / Channel 14 Right</td>
</tr>
<tr>
<td>45/46</td>
<td>Channel 15 Left / Channel 15 Right</td>
</tr>
<tr>
<td>47/48</td>
<td>Channel 16 Left / Channel 16 Right</td>
</tr>
</tbody>
</table>

Whenever a specific channel is turned **On** it will play the audio out the designated Dante channel. For example, if **Channel 2** on the DARC Virtual console is turned on, it will play the Channel 2 audio out Dante transmitters 19 & 20.

**IMPORTANT NOTE** - The more channels selected, the more CPU will be used on your PC. 12 Channels will use roughly double the CPU as the 8 Channel option. And the 16 Channel option will use roughly double what the 12 Channel option uses. If you find your PC’s CPU to be struggling, then it may be best to use less channels, or none.
Channel Labels

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

STEP 1 – Enter the Setup Screen.

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

STEP 3 – Click on **Apply Changes**.
Fader Color Select

You may assign custom colors to each fader channel. This will change the color of the Channel Label, as well as the center bar on the fader knob.

To change the fader color:

STEP 1 – Enter the Setup Screen.

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

STEP 3 – Click on Apply Changes.

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:
Check mark any of the inputs for microphone, and it will now operate as a mic channel. Click on the Apply Changes button to save the settings.

Phone Channels

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

Phone Channel – From the Setup Screen, you may choose any channel to be your phone mix-minus channel 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.

Talk Button
Choose which mic channel[s] you want to dedicate to your ‘Talk’ button functionality. Once selected, a Talk button will now be displayed for the selected 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.

Click on the Apply Changes button to save the settings.
Fader Audio Level

This column allows you to calibrate any input channel audio level. You may calibrate a channel 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.

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.

**Auto-Size** – 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.

When this setting is off, you may manually choose between 4, 8, 12 or 16 input channels. These channels will be operable by the Surface, but may or may not be controlled by the Surface.

For example, with Auto-Size setting Off, and you have a DARC Surface 12 connected, with the DARC Virtual set to display 16 channels. In this case, the Surface will control channels 1 – 12, but will not control channels 13 – 16. You can manually control channels 13-16 by turning on the **Virtual Mode** from the main screen.

**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 off 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 OLED’s 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.
External Hardware Setup

You may connect external hardware to work with the DARC Virtual software. These devices are:
- DARC Surface 8 or 12
- 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
Manually Find External Hardware
for customer support
Click to manually search for external hardware

**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.

**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 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.

www.arrakis-systems.com
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.
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.

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 – No audio processing occurs within 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...

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 mark the Run this Program as an Administrator check 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 setup 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.