USER GUIDE

ANGRY AUDIO

Bluetooth Gadget

P/N 991004

Revision 1.0

Welcome to the world of Angry Audio, home of the audio Gizmos and Gadgets.

A quick peek at the growing catalog of Angry Audio products reveals a pretty diverse array of Gizmos and Gadgets, but they all have a few things in common.

For starters, each one was created to solve a unique but common challenge in the studio – one of those niggling annoyances that crop up over and over again but don't seem to have a really solid solution. Plus each Gizmo and Gadget is engineered and manufactured to impeccably high standards and follows our philosophy that great-sounding audio is made by paying careful attention throughout the signal path.

The Bluetooth Gadget, which acts as a balanced audio interface between your smartphone and your audio console and allows you to place any audio from the phone on the air. This includes regular cellular phone calls or calls made using Skype or a SIP client, and since the audio is bi-directional, your caller gets a mixminus feed as well. It can also be used to broadcast an interview recorded on the phone or even music. It sure beats taping your phone to the mic.

Our promise and guarantee.

We love the Bluetooth Gadget and we think you will too. But we're also realists and understand you thought you'd love the Pajama Jeans, Flowbee, and Neckline Slimmer you ordered on night four of your battle with insomnia. That's why we'll buy back your Gizmo if you change your mind within 30 days.

Plus, every Gizmo and Gadget is warrantied to be free from defects in parts and workmanship for two full years after you purchase it. If a Gizmo or Gadget fails within this time period, Angry Audio, at its discretion, will repair or replace it so long as you let us know of the failure within the warranty period and can provide proof of purchase in the form of a dated sales receipt.

You can call us at +1 615-763-3033 or reach out to us online via our website at www.angryaudio.com/contact.

Making a good first impression.

When you unbox your Bluetooth Gadget, we really hope it makes a good first impression and that you take a moment to appreciate the lengths we've gone to in order to create a "built for broadcast" product. Behold the durable powder-coated steel enclosure (oooooh) and the premium components within (aaaahhh), and sleep easy knowing that all of our products are over-engineered to provide long-term reliability and guaranteed RFI immunity. Even if you can't see it, you'll hear it!

A word or two about safety.

This section used to be eight pages long back in the day when we made the Angry Lint Fired Clothes Dryer, the Angry Open Door Microwave Oven, the Angry Gasoline Powered Toaster, the Angry Balsa Wood Ladder, and famously, the Angry NoGuard™ Deli Meat Slicer.*

And while we've since moved on to building audio products, which are comparatively benign, there are still some things to keep in mind for your safety.

Bluetooth Gadgets are intended to be used by qualified personnel only. To avoid electric shock, do not open the unit or attempt to perform any servicing unless you are qualified to do so.


```
CAUTION   AVIS
RISK OF ELECTRIC SHOCK. DO NOT OPEN
RISQUE DE CHOC ELECTRIQUE. NE PAS OUVRIR

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL
ATTENTION: POUR EVITER LES RISQUES DE CHOC ELECTRIQUE, NE PAS ENLEVER LE COUVERCLE.
AUCUN ENTRETIEN DE PIECES INTERIEURES PAR L'USAGER.
CONFIER L'ENTRETIEN AU PERSONNEL QUALIFIE.
AVIS: POUR EVITER LES RISQUES D'INCENDIE OU D'ELECTROCUTION, N'EXPOSEZ PAS CET ARTICLE
A LA PLUIE OU A L'HUMIDITE
```

Bluetooth Gadgets have internal 115VAC or 230VAC power supplies. Hazardous voltages are present whenever the unit is plugged in and may still be present on certain components even when the unit is unplugged.

The power cord is the primary disconnect device and so the outlet providing power to the Gadget should be easily accessible. In other words, make sure you can back out of making bad electrical decisions by yanking the plug.

Use only a properly grounded outlet for power. Do not cut the ground pin or use a ground-lifting adapter, and do not defeat the polarized plug. Do not overload outlets.

* - We also made the Angry Combination Lawn Mower and Hedge Trimmer but it never made it to market after some "disappointing" beta testing, so we don't talk about it anymore. Ever.

Why the Bluetooth Gadget?

The ubiquitous smartphone has found its way to the broadcast studio, and "broadcasting" itself is no longer contained by the concrete-filled, non-parallel, thoroughly soundproofed walls of a professional studio (that's how all studios were built, right?). Trouble is, smartphones were never designed to easily interface with professional broadcast equipment or even semi-pro podcast gear.

Enter the Bluetooth Gadget, which uses – ready for it? – a Bluetooth connection to pair to your Android smartphone or iPhone.

Once paired, it negotiates the optimal codec algorithm (usually APT-X for Android and AAC for iOS) and connects to your console using analog I/O on balanced XLR jacks. The sound quality is top-notch, and because the Bluetooth Gadget is bi-directional, callers are provided with a mix-minus feed. Most broadcasters will be familiar with the concept of mix-minus, but for our podcaster friends or live and studio sound engineers, here's a resource you may find helpful:

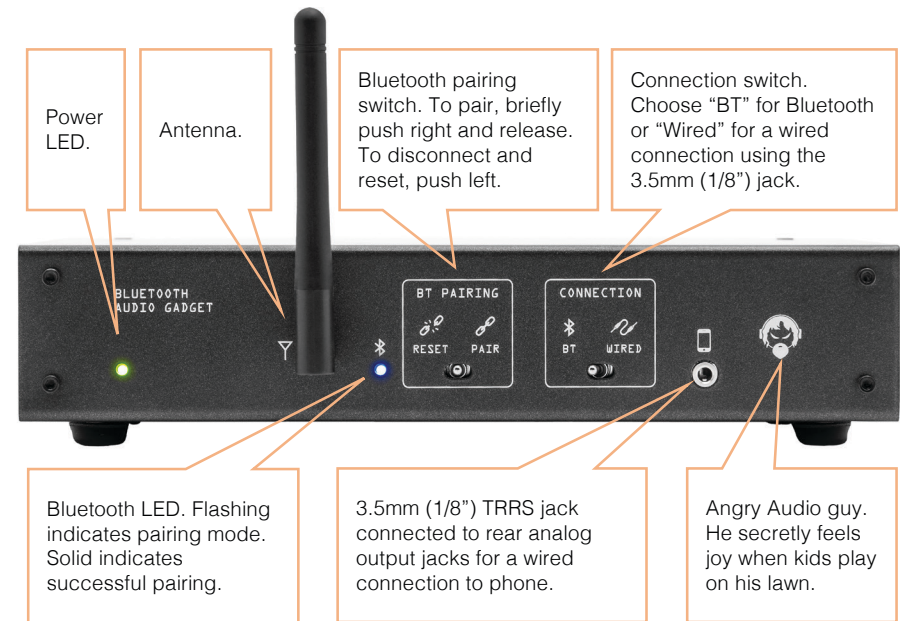https://thepodcastersstudio.com/how-to-setup-a-mix-minus/.

A front panel 3.5mm (1/8") TRRS jack facilitates a wired connection from the phone. See Page 5 for important details about this connection.

A rear panel AES-3 digital output can be used when playing from high fidelity apps such as your phone's music player.

Power is provided by an internal 120V or 240V power supply depending on region and model number.

The Front panel de-mystified.

Power LED.

Antenna.

Bluetooth pairing switch. To pair, briefly push right and release. To disconnect and reset, push left.

Connection switch. Choose "BT" for Bluetooth or "Wired" for a wired connection using the 3.5mm (1/8") jack.

Bluetooth LED. Flashing indicates pairing mode. Solid indicates successful pairing.

3.5mm (1/8") TRRS jack connected to rear analog output jacks for a wired connection to phone.

Angry Audio guy. He secretly feels joy when kids play on his lawn.

A peek around to the rear panel.

Analog input. A mix-minus feed from your console plugs in here.

Fully balanced +4DBU analog outputs to feed audio to your mixing console.

Digital AES-3 output. Can be used when playing audio from phone's music player.

Internal 120V or 240V power supply.

Power and Console Connections.

Power up your Bluetooth Gadget by plugging it in. The green Power LED will illuminate. Connect the Left and Right Analog Outputs to a stereo line input on your mixing console. Connect your console's mix-minus output to the Analog Input on the Bluetooth Gadget.

Connecting using Bluetooth.

Briefly push the "BT Pairing" switch to the right and release. A flashing blue LED indicates the Bluetooth Gadget is in pairing mode. Navigate to the Bluetooth settings on your phone, enable Bluetooth, then select "ANGRYBT" on the list of available devices. If no device is paired within 90 seconds, the Gadget will time out and stop advertising; click "Pair" to re-enable pairing.

Once a connection is established, the Bluetooth light will stay illuminated. To test the connection, open your phone's music app and play a song. Best performance and fidelity will occur with the phone's volume set at maximum. If you don't hear audio, check your console settings and verify that the "Connection" switch on the Gadget is in the BT position. You may use your phone as you normally do when it is paired, playing music, voice recordings, making/receiving phone calls, or using apps such as Skype. The connection can be terminated on the phone or by briefly pushing the "Pairing" switch on the Gadget to the left.

Connecting using the front panel jack.

The front panel 3.5mm (1/8") TRRS jack is connected directly to the rear analog output jacks to allow the use of a wired connection from the phone. This jack uses the OMTP standard (Tip = Audio Left, Ring 1 = Audio Right, Ring 2 = Mic, Sleeve = Ground) which is compatible with most Android devices including Samsung phones. Phones that use the CTIA standard (Tip = Audio Left, Ring 1 = Audio Right, Ring 2 = Ground, Sleeve = Mic) including iPhones will require the use of the included adapter.

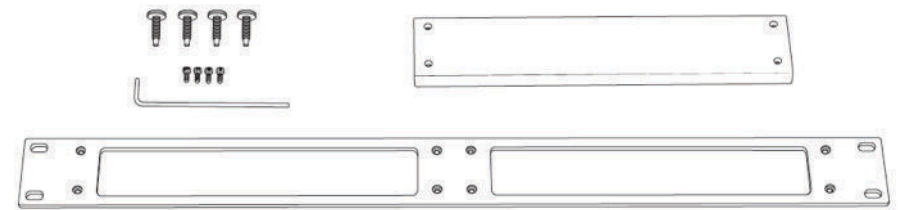## Using the rear panel digital output.

Audio from apps that provide high-fidelity audio such as your phone's native music player can be routed to the digital output. To enable it, reset the Gadget's Bluetooth (blue LED off), press and hold the "Pair" switch for >3 seconds, then release the switch when the blue LED illuminates. Bluetooth pairing follows the same process described above. To turn off the digital output, power cycle the Gadget by unplugging it from the wall then plugging it back in. Note that audio from phone apps and wired sources will always remain on the analog outputs only while hi-fi audio will appear only on the AES-3 output when enabled.

Rack mounting your Bluetooth Gadget.

The Bluetooth Gadget sits on four rubber feet that ensure it won't scratch or otherwise disfigure the custom Italian marble surfaces prevalent throughout your palatial studio.

If you prefer to rack mount your Gadget, however, you'll need the optional Rack Mount kit which allows one or two Gadgets to be installed side-by-side in a standard 1RU rack space.

Each Rack Mount kit consists of a custom rack panel with cut outs for all front panel controls and displays. A blank filler panel is also provided if you are mounting only one Gadget.
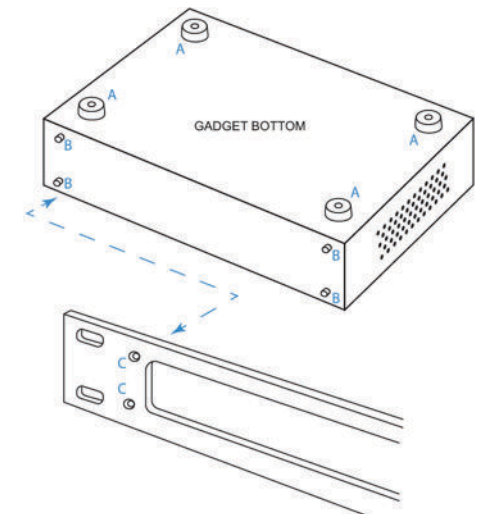

When rack mounting, remove the four rubber feet ("A") from the bottom of the Gadget with a #1 Phillips screwdriver.

Remove the four front panel 3/32" hex screws ("B"). You can rummage around your toolbox for your own hex key, or use the one we thoughtfully provide in the mounting kit

Line up your Gadget so that the holes exposed after removing the socket head screws line up with the mounting holes ("C") in the rack panel.

Attach the rack panel to the front of your Gadget with the same screws you just removed. If you dropped one and it immediately rolled to an inaccessible location as they always do, don't panic – we've included spares in the kit.
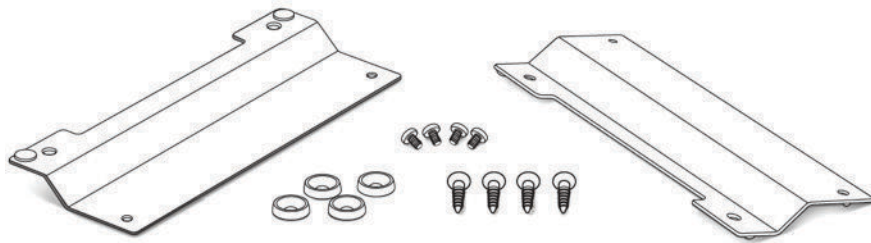
Finally, use the provided rack screws (all four, please) to mount your Gadgets.

Wall mounting your Bluetooth Gadget

If you prefer to secure your gadget to the inside of a rack, cabinet, or other flat surface, the optional Wall Mount kit comes in handy.

Each Wall Mount Kit includes two brackets, four No. 6 screws, and four cup washers.
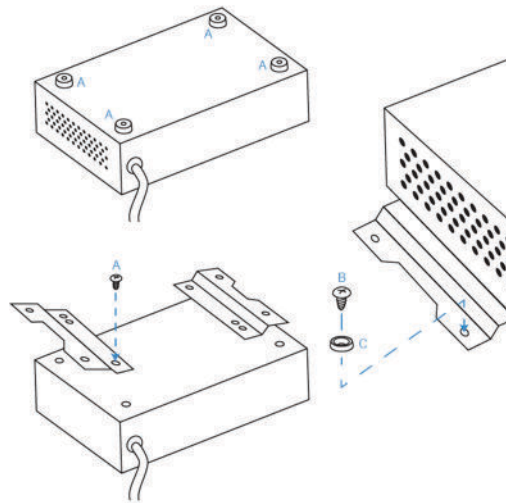

Remove the four rubber feet ("A") from the bottom of the Gadget with a #1 Phillips screwdriver, being careful to save the screws.

Align the holes in the wall Brackets with the holes in the bottom of the Gadget, then attach the brackets using the screws removed from the rubber feet.

Use the four No. 6 screws ("B") and the four cup washers ("C") to secure the Gadget to a Plywood surface.
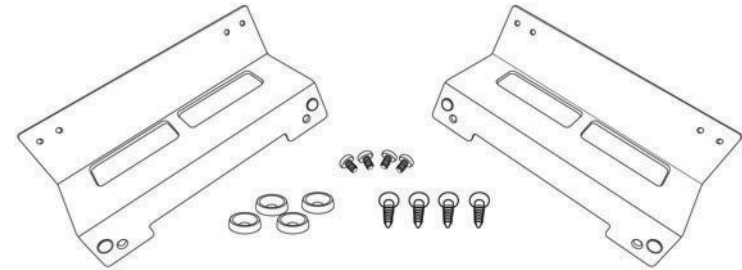
Different hardware (not supplied) will be required if you are mounting the Gadget to a drywall (or other) surface

Mounting your Bluetooth Gadget under a counter.

Your Bluetooth Gadget can be mounted under a counter, desk, or table using the optional Under Counter Mount Kit.
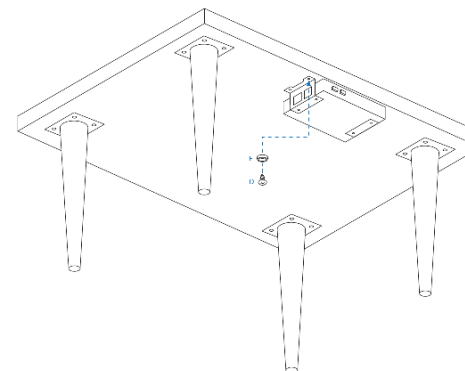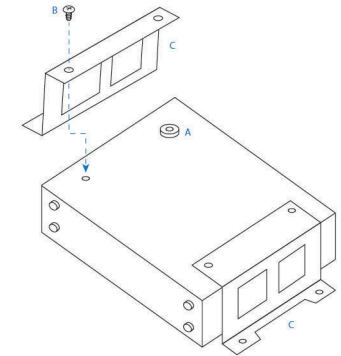
This kit includes two brackets, four No. 6 wood screws, and four cup washers suitable for mounting to a plywood surface. Different hardware (not supplied) may be needed if the mounting surface is a different material.

Remove the four rubber feet ("A") from the bottom of the Gadget using a #1 Phillips screwdriver, being careful to save the screws.

Line up the brackets ("C") so that their mounting holes line up with holes exposed after removing the rubber feet. Orient the brackets as shown in the diagram to the right so that the deeper flat side supports the Gadget and the "notched" side faces the under-mount surface.

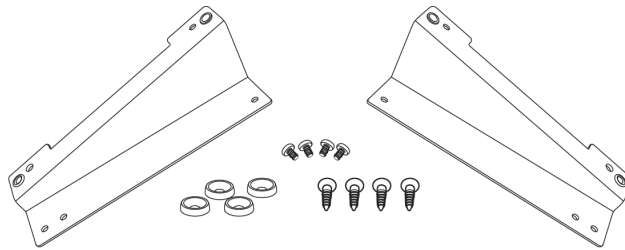Use the panhead screws ("B") removed from the rubber feet to secure the brackets to the Gadget.

Use the four provided No. 6 screws ("D") and the four cup washers ("E") as shown in the diagram to the left to secure the Gadget to the plywood underside of the counter, desk, or table.

Drilling pilot holes is recommended to reduce the risk of splitting the wood.
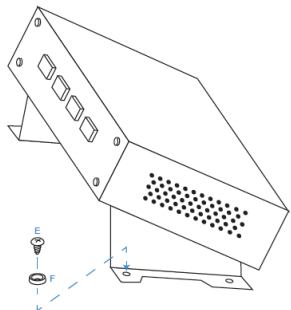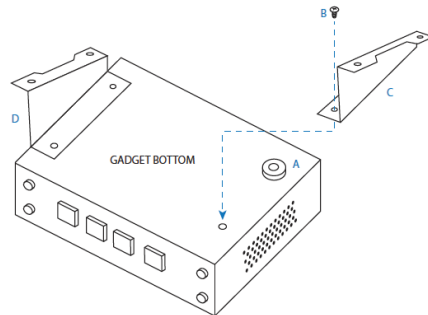
Using your Bluetooth Gadget on a desktop.

If you like the idea of using the Bluetooth Gadget on a desktop but prefer a more permanent installation along with the convenience of having it angled up toward the user, we've got you covered with the optional Desktop Bracket Kit.

This kit includes two brackets, four No. 6 wood screws, and four cup washers suitable for mounting to a plywood surface. Different hardware (not supplied) may be needed if the mounting surface is a different material.

Remove the four rubber feet ("A") from the bottom of the Gadget using a #1 Phillips screwdriver, being careful to save the screws.
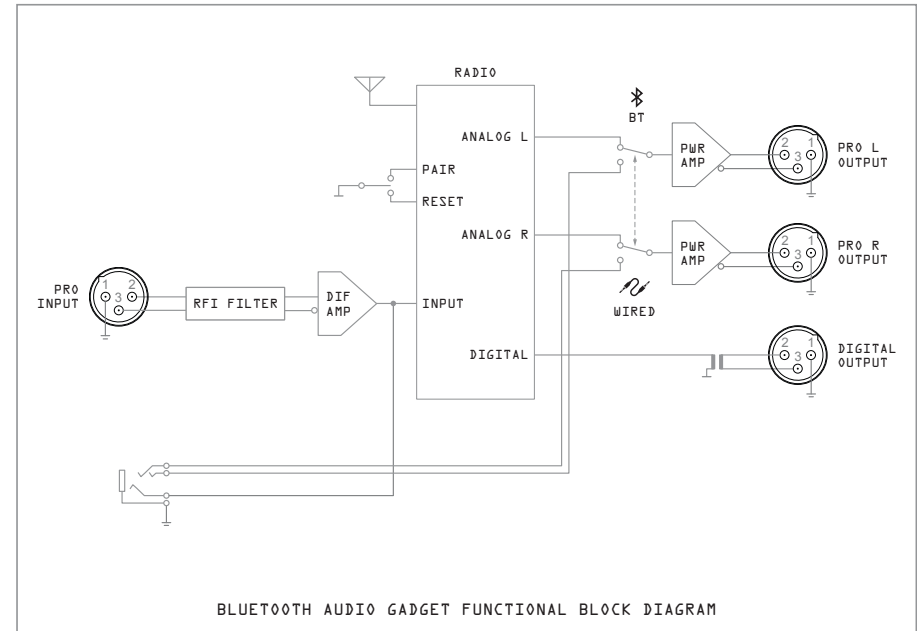
With the bottom of the Gadget facing up and the front panel facing toward you, line up bracket "C" with the holes exposed after removing the feet on the right side of the Gadget. Orient the bracket as shown in the diagram to the right so that the flat side is attached to the Gadget, and the "notched" side sticks up with the notch facing outwards. Use the panhead screws ("B")removed from the rubber feet to secure the brackets to the Gadget.

Use the four provided No. 6 screws ("E") and cup washers ("F") as shown in the diagram above to secure the Gadget to a plywood surface.

Drilling pilot holes is recommended to reduce the risk of splitting the wood.

The Ins and Outs of your Bluetooth Gadget.

BLUETOOTH AUDIO GADGET FUNCTIONAL BLOCK DIAGRAM

Compliance in the U.S.

In the U.S., this Gadget complies with the limits for a Class A computer device as specified by FCC Rules, Part 15, Subpart J, which are designed to provide reasonable protection against such interference when this type of equipment is operated in a commercial environment.

…and in Canada.

In Canada, this Gadget does not exceed the Class A limits for radio noise emissions set out in the Radio Interference Regulations of the Canadian Department of Communications.

…and in Europe.

This Gadget complies with the requirements of the EEC Council Directives 93/68/EEC (CE Marking), 73/23/EEC (safety – low voltage directive), and 89/336/EEC (electromagnetic compatibility). Conformity is declared to standards EN50081-1 and EN50082-1

Part Numbers.

Bluetooth Gadget

North America (115V)	Part No. 991004
Australia (230V)	Part No. 991004A
Europe (230V)	Part No. 991004E
United Kingdom (230V)	Part No. 991004U

Specifications.

Audio Connections and Bluetooth

Analog Input (from console)	Balanced +4dBu Mono, XLRF
Analog Outputs (to console)	Balanced +4dBu Stereo, XLRM
Analog Input (from phone)	Unbalanced -10dBv Stereo, TRRS
Analog Output (to phone)	Unbalanced -50dBv Mono, TRRS
Digital Output (to console)	Transformer isolated, XLRM
Transceiver	Bluetooth 3.0
Profiles	HFP, HSP
Codecs	AAC, APTX, SBC
Range	50 feet

Power and Environmental

Power Input (North America)	115VAC 60Hz
Power Input (Export Versions)	230VAC 50Hz/60Hz with region-specific plugs
Power Consumption	3VA
Operating Temperature	0º to 40º C (32º to 104º F)
Storage Temperature	-20º to 45º C (-4º to 113º F)
Relative Humidity	0% to 90% non-condensing
Cooling	Venting chassis (fanless)

Product Dimensions and Weight

Width x Depth x Height	8.5 x 6.25 x 1.7 in (21.6 x 16 x 4.32 cm)
Weight	3.5 pounds (1.59 kg)

Shipping Dimensions and Weight

Width x Depth x Height	12w x 9d x 6h in (30.5 x 22.9 x 15.3 cm)
Shipping Weight	5 pounds (2.27 kg)

Included in the box.

Bluetooth Gadget, antenna, StudioHub Dual XLRF to RJ45F adapter, StudioHub Single XLRM to RJ45F adapter, 3.5mm TRRS OMPT to CTIA adapter, and an abundance of audio goodness.

The importance of planning ahead.

In an ideal world, we would have planned this out a bit better and had valuable information to share here. But we didn't, so we don't.

Instead, please enjoy this stunning high resolution photograph of Ursus martimus – better known as the polar bear – caught in a snowstorm.

As Albert Einstein said, "Look deep into nature, and then you will understand everything better."

A look behind the technical curtain.

ANGRY AUDIO LLC

TITLE: BLUETOOTH AUDIO GADGET

Document Number: 921004

REV: C3

Date: 12/5/22 6:20 PM

Sheet: 1/2

Technical revelations Part 2.

ANGRY AUDIO LLC

TITLE: BLUETOOTH AUDIO GADGET

Document Number: 921004

REV: C3

Date: 12/5/22 6:20 PM Sheet: 2/2