STEWARTAUDIO
The Difference is Hear

CVA100-2

#1 Sig/Clip #2   Power/Active

STEWARTAUDIO

CVA100-2
With Dante / CobraNet Options

Owner's Manual
June 2013

www.stewartaudio.com

Important Safety Instructions

Before using your Stewart Audio Inc. Power Amplifier, please read this **Owner's Manual** carefully to ensure optimum trouble-free performance.

WARNING: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT EXPOSE THIS AMPLIFIER TO RAIN OR MOISTURE. DANGEROUS HIGH VOLTAGES ARE PRESENT INSIDE THE ENCLOSURE. DO NOT OPEN THE CABINET. REFER SERVIC- ING TO QUALIFIED PERSON- NEL ONLY.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lighting bolt within arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to person.

The exclamation point within an equilateral triangle, is intended to alert the user to the presence of important operating and maintenance (servicing) instruction in the literature accompanying the appliance.

Important Safety Instruction – Please Read Prior to Product Installation.

1. Installation should be performed by a trained and licensed professional to insure safe and lasting operation.

2. All of the safety and operating instructions should be read before the amplifier is installed or operated. Retain these instructions for future refer-

3. The amplifier should be situated so that its location and position does not interfere with its proper ventilation. For example, the amplifier must not be placed on a rug, bed, sofa or similar surface that impedes airflow across the chassis. Airflow around the unit should be unobstructed.

4. This amplifier should not be used near water, for example, near a bathtub, in a wet basement, near a swimming pool, etc. This amplifier is intended to be operated in a controlled indoor environment.

5. Do not place the amplifier near heat sources such as radiators, heat registers, stoves, or other appliances that produce heat.

6. The amplifier's power supply should only be connected to 120 VAC, 60 Hz power source. Do not defeat the ground or polarization of the power plug.

7. Route power cord and other cables so that they are not likely to be walked on, tripped over or stressed. Pay particular attention to condition of cords and cables at plugs and at the point where they exit the amplifier. To prevent risk of fire or injury, damaged cords and cables should be replaced immediately.

8. Clean the amplifier with a clean, damp cloth. Do not use solvents or abrasive cleaners. Never pour any liquid on the amplifier.

9. When left unused for a long period of time, the power cord should be unplugged from the outlet.

10. Damaged Amplifiers requiring service should be repaired by a qualified service technician when:

    a. The power cord or AC plug has been damaged.
    b. Objects have fallen, or liquid has spilled into the unit.
    c. The amplifier has been exposed to rain or other moisture.
    d. The amplifier does not appear to operate normally or exhibits a marked change in performance.
    e. The amplifier has been dropped or the enclosure damaged.

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

Table of Contents

1 Welcome

STEWART**AUDIO**
The Difference is Hear

Congratulations on the purchase of your new Stewart Audio CVA100-2 power amplifier. This amplifier has been designed and built to provide you with years of high-quality audio performance and trouble-free operation. If after reading this manual you should have any questions concerning amplifier installation and operation, please contact your Authorized Stewart Dealer, or you may contact us directly using the contact information provided on the back of this manual.

1.1 Features

Your Stewart Audio CVA 100-2 amplifier is the result of years of experience in the design and manufacture of quality amplifiers. As such it provides a combination of performance and operational benefits that simply cannot be found in conventional amplifiers.

- Compact 1/ 2 rack package
- 2 channel constant voltage amplifier
- Optional Factory-Installed Dante or CobraNet
- Selectable Hi-Pass Filter
- Remote volume control and muting
- Signal Sense Technology™
- RS232 or IR controllable via available accessories
- Ultra-efficient switch-mode power supply. <PFC>
- Made in the USA

1.2 Using this Manual

This manual provides you with the information necessary to safely install and operate your new CVA 100-2 amplifier in the most common scenarios. If you find yourself requiring additional assistance, please feel free to contact your Authorized Dealer, or you may contact us directly using the contact information provided on the back of this manual.

2 Setup

2.1 Setup Precautions

⚠️ **CAUTION: Before installing your amplifier, make sure that you have read the Important Safety Precautions at the beginning of this manual.**

2.2 Rackmount Installation

The CVA100-2 amplifier takes up only 1/2 of a standard 19″ rack unit.

While it is not necessary to rackmount your CVA100-2 amplifier, there are two options available if you would like to do so : a single rackmount or a double-rackmount.

⚠️ **NOTE: Regardless of which rackmount option is used, the 4 adhesive rubber feet must be removed from the bottom of the unit.**

2.2.1 Single Rackmount

A single CVA100-2 amplifier can be mounted on one rack unit with the RMK-70-S rackmount kit. The kit includes 2 brackets which will center the CVA100-2 on a single rack unit.

2.2.2 Dual Rackmount

Two CVA100-2 amplifiers can be mounted on one rack unit with the RMK-70-D rackmount kit. The kit will connect the two amplifiers and center them on a single rack unit.

Single Rackmount with RMK-70-S

Dual Rackmount with RMK-70-D

2.2.3 Proper Cooling Considerations

Cooling of the CVA 100-2 amplifier is achieved by Stewart's unique whole chassis heatsink design, which utilizes the entire chassis as a heatsink to cool the heat generating components inside. In the event the internal ambient temperature reaches 85 degrees centigrade, the protection circuit will shut down the power supply until the amplifier cools down.

Although the sophisticated thermal management system in the CVA100-2 makes it less susceptible to overheating than other amplifiers, it remains good practice to provide airspace around the chassis.

CAUTION: Inadequate airflow to the amplifier can cause the amplifier to overheat and potentially become damaged in the process. Be sure to provide plenty of air space to allow for convection cooling.

2.4 Product Dimensions
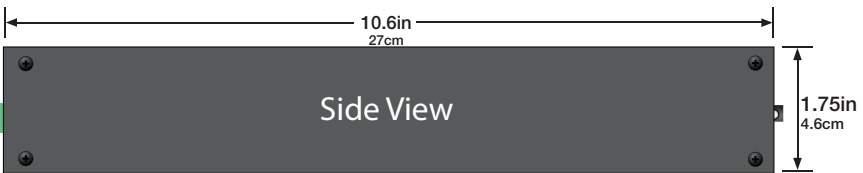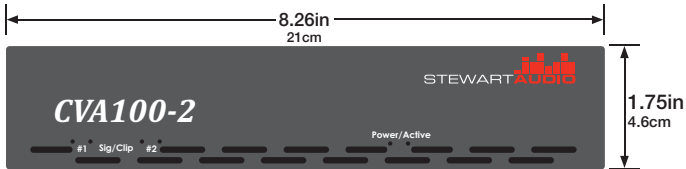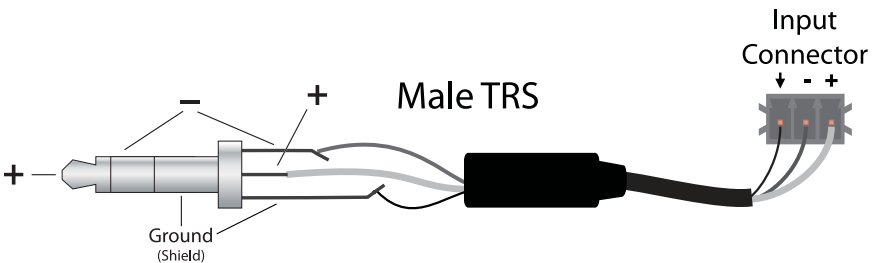
2.4 Input Connections

Your CVA 100-2 amplifier is provided with a 3-pin Euro Block connector for each of the two input connection. This connector will accept both balanced or unbalanced connections, however some modifications must be made for an unbalanced connection. See the next two sections for instructions on connecting your amplifier to its input source.

2.4.1 Balanced Input Connections

When using a balanced input source and connector, you must ensure that the hot, cold, and ground pins of the connector are matched up to the +, -, and ground pins of the CVA 100-2's Euro Block connector respectively. Diagrams have been provided for standard XLR and TRS connectors. Please refer to the manual of your input source in case it does not follow the standard pin-out.

NOTE: The CVA 100-2 <u>does not</u> accept TRS inputs wired for a stereo source. TRS inputs should *only* be used for balanced mono inputs.


(Connector enlarged to show detail)

2.4.2 Unbalanced Input Connections

When using an unbalanced input source and connector, a jumper must be added between the negative (-) terminals and the ground terminals. Once this has been done, the unbalanced source can be connected to the positive (+) and ground terminals. Please refer to the manual of your input source in case it does not follow the standard pin-out. For your convenience, pre-wired connectors are available for purchase, see the next page for details.

NOTE: A jumper is _required_ for connecting an unbalanced input.

A jumper has been added between the negative (−) terminals and ground

A jumper has been added between the negative (−) terminals and ground
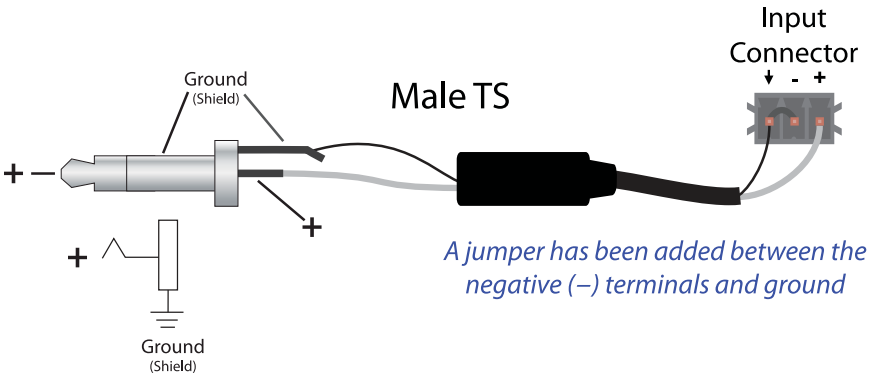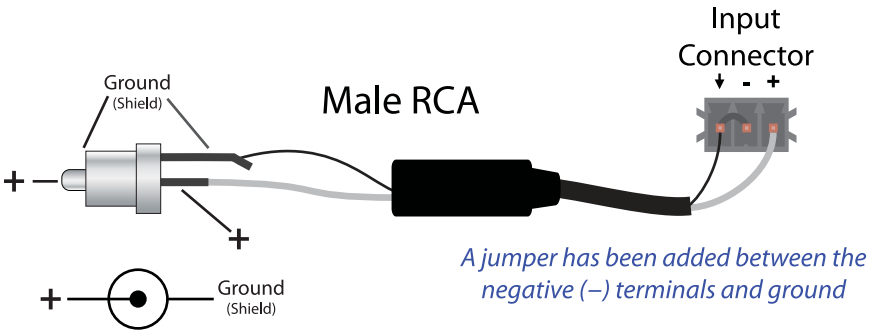
NOTE: The CVA 100-2 does not accept stereo inputs. Either one side must be selected from the stereo source or an overload-protected Y-cable must be used to sum them to mono. It is highly recommended that you purchase the pre-wired connectors mentioned on the next page. Damage to source equipment can result from the use of a standard Y-

Pre-wired unbalanced connectors are available for purchase from Stewart Audio. These will allow for a quicker installation with less room for error when connecting the CVA 100-2 amplifier to an unbalanced source. The summing adapters will properly sum a stereo source for use with the mono input on the rear of the amplifier without causing sound cancellation. Part numbers are found below the diagrams.

ADPT-RCA
Mono
Female RCA

ADPT-SUMRCA
Stereo
Female RCA

ADPT-SUM35
Stereo
Female 3.5mm
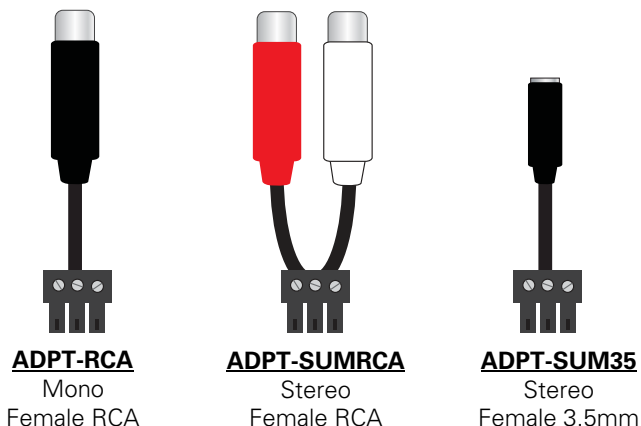
2.5 Output Connections

Because of the differences in the way that constant-voltage amplifiers work as opposed to a typical 8-ohm setup, the wiring procedure and the gauge of wire used is very different.

Constant voltage systems and speakers use a smaller current flow than the typical 8ohm systems and thus can use a higher gauge (thinner diameter) wire. Please refer to the following g chart to choose the appropriate wire gauge for your installation.

Distance	Wire Gauge
Up to 500ft	22 AWG
500-1000 ft.	20 AWG
Over 1000ft	18 AWG

Speaker leads connect by means of removable Euro Block connectors supplied with the unit. Strip speaker leads 1/4" and insert leads into connector observing proper polarity. With a small, flat-blade screwdriver, tighten the screw until the leads are held securely in place. Inspect for possible shorts or broken wires.

2.5.1 Constant Voltage Wiring Example

The diagram below is a typical wiring setup for two speakers with out-board step-down transformers wired in parallel to one of the 70V outputs on a CVA100-2 amplifier.

Output Connector
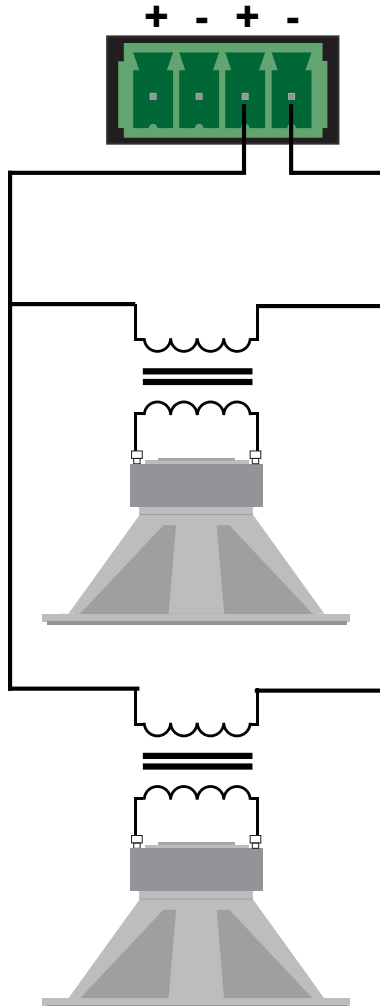
3 Operation

3.1 Operating Precautions

1. Before use, your amplifier must be configured for proper operation, including input and output wiring hookup. Improper wiring can result in damage to equipment or potentially harm to the operator. Consult section 2 for setup instructions.

2. Tampering with the circuitry, or making unauthorized changes is not only dangerous but may also violate local regulations.

3. Use care when making connections between the amplifier and the input or output equipment. Using equipment that is not capable of handling the output wattage may lead to permanent damage.

NOTE: Stewart Audio will not be held responsible for damage to your CVA 100-2 amplifier or connected equipment if the instructions in this manual are not followed.

NOTE: For additional operating precautions, please refer to "Important Safety Instructions" located on Page 2.

3.2 Controls, Indicators, and Connectors
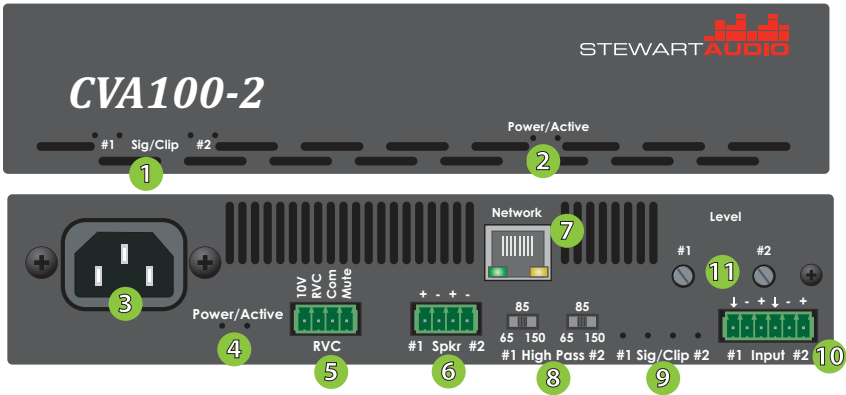
1. Front Signal and Clip LEDs
2. Front Power/Sleep Indicator
3. Power Connector (PFC)
4. Rear Power/Sleep Indicator
5. RVC and Mute Connector
6. Speaker Output Connector
7. Network Input (Optional)
8. High-Pass Filter Selector
9. Rear Signal and Clip LEDs
10. Input Connectors (Balanced)
11. Channel Level Controls

3.2.1 Indicators

The CVA100-2 has a set of indicators for power, signal, and clip located on both the front and the rear of the amplifier. The redundant indicators are intended to ease installation by giving feedback regardless of being in front of or behind the unit.

The "Power" and "Active" LEDs indicate whether the amplifier is being supplied proper AC power and is active (not in sleep mode) respectively. The amplifier will go into sleep mode after approximately thirty minutes of no signal on either input. When it does so, the "Active" light will go out leaving just the "Power" light on. As soon as signal is detected again the "Active" LED will illuminate indicating that the amplifier is now back in normal operation mode.

The green LEDs, labeled "Sig", will light when an audio signal is present on the corresponding audio input channel. The red LEDs, labeled "Clip" will illuminate when the signal is too hot. The "Level" control for that channel must be adjusted until the "Clip" LED goes out for undistorted sound amplification. If clipping still occurs when the "Level" control is turned all the way down (counter-clockwise), reduce the signal at the source.

3.2.2 Controls

All CVA100-2 controls are located on the rear of the unit. There is no power switch so the amplifier will power up into a sleep state when power is first applied. The CVA 100-2's Signal Sense Technology (SST™) will power up the amplifier from sleep when a signal is detected. After 30 minutes without an input signal the amplifier will go into sleep mode.

To adjust the input sensitivity knob, you will need a small flat-head screwdriver. While a typical program source level is present, spin the rotary knob as far clockwise as you can without hearing distortion or without the "Clip" indicator glowing red. If the signal is distorting and the knob is all the way counter-clockwise, adjust the gain down at the source level.

Your CVA100-2 amplifier has 2 high-pass filters, one for each channel. The high-pass filter is used to attenuate (reduce the volume of) frequencies below a desired cutoff point. The high-pass filters on the CVA100-2 have 3 cutoff points which can be selected: 65Hz, 85Hz, 150Hz. To make a selection, slide the switch to the desired cutoff point.

The purpose of this high-pass filter is to both prevent unwanted noise that can come in with the signal sources as well as to prevent damage to speakers which are unable to handle frequencies which are more suited for a subwoofer.

3.2.3 Remote Volume Control

CVA 100-2 amplifiers can have their volume remotely controlled (or muted) via the Euro Block input on the rear of the amplifier. Remote muting is also useful for fire-alarm situations in which all unnecessary sound must be silenced.

⚠ **NOTE: If the remote volume control connector is utilized, it will override the volume knob on the rear of the unit.**

In order to remotely control the volume of the unit, a 10k-ohm potentiometer should be placed between the +10V pin and the GND (Ground) pin on the rear of the unit with its wiper on the RVC pin. The volume will be determined by the selected resistance on the potentiometer, the greater the resistance the louder the volume.

The amplifier can be remotely muted by making a connection between the GND pin and the MUTE pin. No power should be applied to these pins, simply a contact connection.
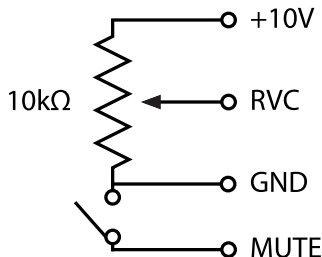
3.3 Dante

If you have selected the Dante version of the CVA100-2, configuration is done using the Dante Controller software from Audinate.

Dante Controller Software can be found on Audinate's website at www.audinate.com.

From there you can select Dante Controller under the Products section. This will require registration for Audinate's portal and also includes access to the Dante Controller User Manual which should be read for complete configuration instructions.

3.3.1 Using Audinate's Dante Controller Software

Once Dante Controller has been installed following the instructions in the Dante Controller Software User Manual (found at **www.audinate.com**), launch the application to see the connection matrix.
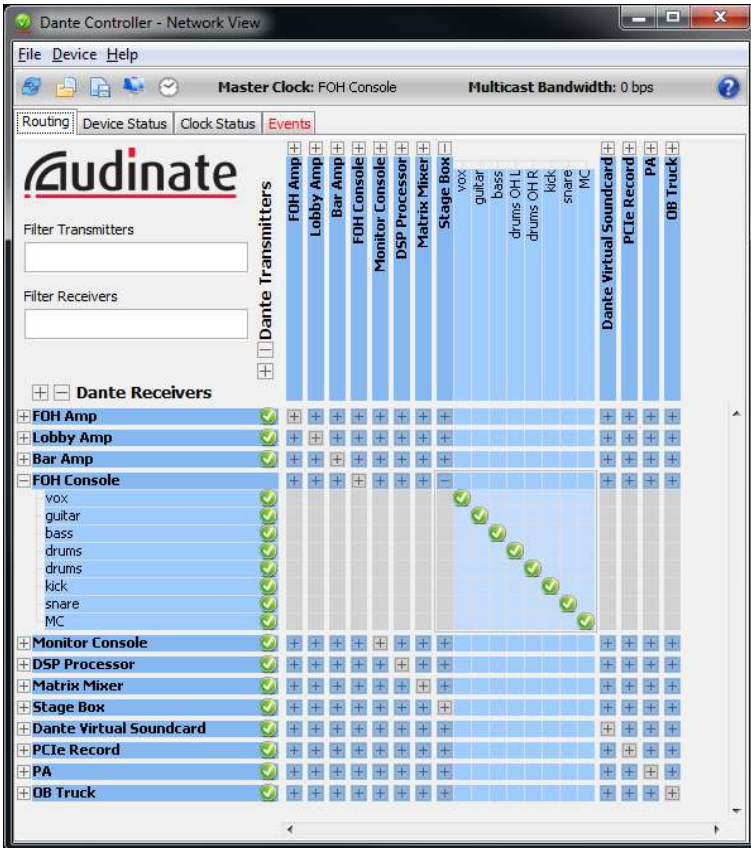
Unlike CobraNet, Dante does not require IP configuration or bundle configuration. Instead, connections are made on the connection matrix shown above

All Stewart Audio products will ship from the factory as being named Ultimo-<MAC>. This can be renamed within the device configuration in the Dante Controller.

Transmitters are shown on the top of the matrix while Receivers are shown on the left-hand side. The CVA100-2 includes 2 receive channels. In order to make a connection, click on the matrix node between the appropriate transmitter and receiver. If a connection is successful, it will display a green checkmark.

3.3.2 Dante FAQ

Q: I am having problems installing or using the Dante Controller Software

A: Please refer to the official documentation available in the Audinate portal where you downloaded the Controller Software.

Q: I do not see the CVA100-2 showing up on the network?

A: All Stewart Audio products are tagged as Ultimo-<MAC_ADDRESS> from the factory. You can find the correct Ultimo device by choosing the correct MAC address from the list. You can rename this using the device configuration.

3.4 CobraNet

3.4.1 CobraNet FAQ

Q: How do CobraNet devices communicate on the network? Do they receive an IP address?

A: CobraNet devices operate without the need for an IP address. Many configuration applications for CobraNet devices will assign an IP address for organizational purposes. However, CobraNet devices operate using data channels called "bundles". In order to connect a transmitter and a receiver in a CobraNet network, both devices simply need to be set to the same bundle number. There is no need for a DHCP server (a router for example).

Q: How do I configure the bundles of the CVA100-2?

A: Bundle settings should be configured using Cirrus Logic's CobraNet Discovery Utility. Instructions for downloading and operation can be found in **section 3.4.2**.

Q: Why is the CobraNet Discovery Utility not detecting any devices?

A: First, ensure that your computer has an IP address. If you are operating without a DHCP server (ie in a switch-only network) then you will need to manually set an IP address in the Network Configuration section of Windows. Next, go to Tools > Options in the top menu and make sure the proper network device is selected in the top dropdown.

Q: Can the CVA100-2 transmit the input channels to other CobraNet devices?

A: Yes, the CVA100-2 is designed to transmit two channels and receive two channels over CobraNet.

3.4.2 Using CobraNet Discovery Utility

The CobraNet Discovery utility can be downloaded from the Cirrus Logic website at: http://www.cobranet.info/downloads/disco

Once installed, it should be launched from a computer on the same network as the CVA100-2. After the program launches it will search for CobraNet devices. The CVA100-2 will appear as "Attero Tech CobraNet CEP2224". If this is the first time you are setting up this device, or the device has been power cycled, the IP address will appear as 0.0.0.0. To set an IP address for easier recognition, right-click the device and select "Update IP Address". To ensure visibility, assign it to the same subnet as the computer you are configuring it from.
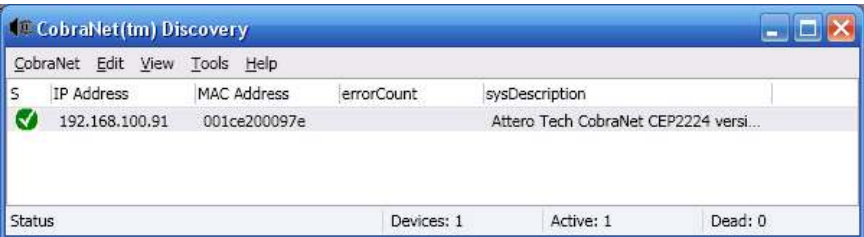
3.4.2 Setting Up Bundles
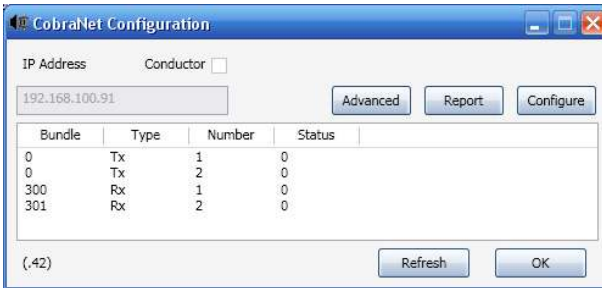
To open up the bundle configuration window, double-click on the device listed in the screen above. You will see 2 Tx and 2 Rx bundles ready to configure.
Single-click on each of the Rx bundles (shown as 300 and 301 in the screen capture on the next page) to make the fields editable. From here you can enter a new bundle numbers.

Repeat the same procedure for the Tx bundles..

4 Troubleshooting

Problem: Power indicator does not turn on.

Procedure: Check that the unit is plugged into a functioning outlet. Ensure that there is an audio signal present on the audio input indicated by the green LED being lit. If the unit is powered up but in sleep mode (due to no signal), the blue active LED will not be lit.

Problem: No output heard on speakers; Blue power indicator is lit.

Procedure: Check that physical level controls are not turned down. Check that input and output connections are secure. Ensure signal present LED is lit to denote a signal. If there is no signal detected check signal source and that level controls are set high enough. If using CobraNet, ensure that it is properly configured and sending full-level audio. Refer to **section 3.3**.

Problem: **Amplifier overheats and/or shuts off.**

Procedure: Review **section 2.2.3** on proper cooling procedures. Check the clip LEDs on the front or rear of the amplifier to see if the signal is overdriving (the signal light flashes red frequently). Overdriving the amplifier for extended periods of time can cause a thermal shutdown.

Problem: Output sound is distorted or cracking.

Procedure: Check all cables for damage or loose connections and reduce the gain on the input signal at the mixer or preamp level. Replace the cables and loudspeakers temporarily to see if this resolves the problem. If problem still exists, contact your Authorized Dealer for service.

5 Technical Specifications

Output Power	100W x 2 @ 70.7V
Frequency Response (+0, -3 dB)	65Hz—20kHz
THD+N	<0.1%
Signal-to-Noise Ratio	>90dB
Input Sensitivity	1V (0 dBV)
Input Impedance (Bal/Unbalanced)	20k Ohms/10k Ohms
Current—Standby, Idle, 1/8 Power	0.01W/10W/35W
Amplifier Class	D
Remote Volume	0-10V
External Mute	Contact-closure
High-Pass Filter (Selectable)	65/85/150Hz
Input Connectors	RJ45, Euro Block 3-pin, 3.5mm
Output Connectors	Euro Block 2-pin, 3.5mm
Power Supply	85-265 VAC 50/60Hz
LED Indicators	Power, Active, Signal, Clip
Controls	Recessed Level Knobs
Construction	Steel & Aluminum Chassis
Mounting	Rack Mounting
Cooling	Convection-Cooling
Dimensions	
Height	1.75in (4.6cm)
Width	8.26in (20.6cm)
Depth	10.6in (27cm)
Weight	2.8 lbs (1.27kG)

Stewart Audio reserves the rate to change features and specifications without notice.

6 Warranty Information

6.1 Warranty Summary

All Stewart Audio amplifiers and accessories, unless excluded in this summary, are covered by a 3-year limited warranty on parts and labor from the data of purchase. In order to be eligible for warranty repairs, the amplifiers and accessories must have been purchased through an authorized Stewart Audio dealer and submitted by the original purchaser. This warranty is only valid in the country in which the amplifier was purchased.

6.1.1 Eligibility Requirements

Stewart Audio warrants against all malfunctions which come as a result of component or manufacturer defect. The amplifier is also covered from all failures which arise during the warranty period (3 years from date of purchase) that are not a result of misuse. The following actions will void your warranty:

- The power cord or AC plug has been damaged through misuse.
- The amplifier has been exposed to moisture or extreme temperatures.
- The amplifier has been dropped, items have been dropped on the amplifier, or the enclosure has been damaged.
- The amplifier has been opened by the operator.
- The amplifier was improperly packaged when sending to the factory for repair, resulting in damage.
- Any of the precautions or instructions found in this manual were not followed.

Damages resulting to the amplifier which are not covered under this warranty can be factory-repaired at cost to the customer. Use the contact information below to initiate the repair process.

6.2 Return Procedure

This section includes the return procedures which must be followed in order to prevent processing delay or cost to the customer. Please read the entire section before contacting Stewart Audio for returns.

6.2.1 Return Authorization Number

All returns to the factory for service must be accompanied by a Return Authorization (RA) number. One can be obtained by contacting Stewart Audio at (209) 588-8111 or via e-mail at support@stewartaudio.com.

NOTE: Any defective products received without an RA number will be returned to sender at their expense.

If Stewart Audio is unable to contact the sender in 14 days, the merchandise will be considered scrap and may be disposed of.

6.2.2 Shipment Instructions

If Stewart Audio requests that you ship the defective product back to their service center, please refer to the guide below. To ensure prompt warranty service, be sure to follow all instructions.

1. Return Authorization (RA) is required for product being sent to the factory for service.
2. See packing instructions in **section 6.2.3.**
3. Ship the defective product using a method which provides for order tracking or order confirmation. The service center is located at the following address:

    Stewart Audio
    14397 Cuesta Court Suite D1
    Sonora, CA 95370

4. Use a bold black marker and write the RA number on three sides of the box.
5. Record the RMA number for future reference. The RA number can be used to check the repair status.

6.2.3 Packaging Instructions

Should Stewart Audio request that you ship your product to their service center, these instructions must be followed in order to ensure safe delivery. If they are not followed, Stewart Audio assumes no responsibility for damaged goods and/or accessories that are sent with your unit.

6.2.3 Packaging Instructions (cont.)

1. Please write the RA number on three sides of the box. Include the Stewart Audio RA number inside the box and a brief description of the problem.
2. Do not ship any accessories (manuals, cords, hardware, etc.) with your unit. These items are not needed to service your product. Stewart Audio will not be held responsible for these items if they are returned with the amplifiers.
3. When shipping your amplifier, it is important that it has adequate protection. We recommend you use the original packing material when returning the product for repair. If you do not have the original box, see number 4.
4. If you provide your own shipping pack, the minimum recommended requirements for materials are as follows:
   a. 275 P.S.I. burst test, Double-Wall carton that allows for 2-inch solid Styrofoam on all six sides of unit or 3 inches of plastic bubble wrap on all six sides of unit.
   b. Securely seal the package with an adequate carton sealing tape.
   c. Do not use light boxes or "peanuts".

NOTE: Damage caused by poor packaging will not be covered under warranty.

6.2.4 Estimate Approval

An estimate for all non-warranty repairs will be provided to the customer once the unit has been shipped to the factory. The customer is responsible to approve this estimate within 7 days. If the repairs are not approved within 14 days, Stewart Audio reserves the right to consider the unit scrap and may discard it.

6.2.5 Payment of Non-Warranty Repairs

Payment for non-warranty repairs must be submitted to Stewart Audio before the product will be returned to the customer.

7 Accessories

The following accessories are available from Stewart Audio for your amplifier.

All part numbers shown are Stewart Audio Part Numbers.

Rack Mounting Brackets

RMK-70-S   Hardware for racking a single amplifier centered in a 1U space

RMK-70-D   Hardware for racking two amplifiers side-by-side in a 1U space

Connection Adapters

ADPT-RCA   Mono Female RCA to male Euroblock.

ADPT-SUMRCA Stereo Female RCA to male Euroblock.

ADPT-SUM35   Stereo Female 3.5mm to male Euroblock

Wall Plates

WP-RVC-B   Wallplate with 10k potentiometer and knob for remote volume control (Black)

WP-RVC-A   Wallplate with 10k potentiometer and knob for remote volume control (Aluminum)

To purchase these accessories or to see the full Stewart Audio product lineup, visit us at:

www.stewartaudio.com

8 Notes

For Your Record

In the spaces provided below, record the model and serial
number located at the rear of your amplifier.

Model No. _____

Serial No. _____

Purchase Date _____

Retain this information for future reference.

STEWARTAUDIO

The Difference is Hear

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www.stewartaudio.com