PRELIMINARY USER MANUAL

MODEL:

FC-202NET
2 x 2 Dante Interface

FC-202NET Quick Start Guide

This guide helps you install and use your product for the first time. For more detailed information, go to
http://www.kramerav.com/manual/FC-202NET to download the latest manual or scan the QR code on the left.

Step 1: Check what's in the box

☑ The **FC-202NET** 2x2 Dante Interface

☑ 1 Power adapter

☑ 4 Rubber feet

☑ 1 Quick start guide

Step 2: Install the FC-202NET

Attach the rubber feet and place on a table.

Step 3: Connect the input and output

Always switch OFF the power on each device before connecting it to your **FC-202NET**.
For best results, we recommend that you always use Kramer high-performance cables to connect AV equipment to the **FC-202NET**.
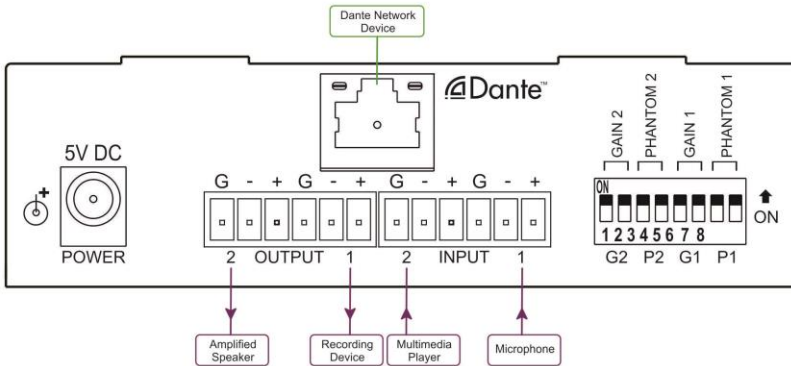
Step 4: Connect the power

Connect the power adapter to the **FC-202NET** and plug it into the mains electricity

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1 Introduction

Welcome to Kramer Electronics! Since 1981, Kramer Electronics has been providing a world of unique, creative, and affordable solutions to the vast range of problems that confront the video, audio, presentation, and broadcasting professional on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better!

Our 1,000-plus different models now appear in 14 groups that are clearly defined by function: GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Matrix Switchers; GROUP 3: Control Systems; GROUP 4: Format/Standards Converters; GROUP 5: Range Extenders and Repeaters; GROUP 6: Specialty AV Products; GROUP 7: Scan Converters and Scalers; GROUP 8: Cables and Connectors; GROUP 9: Room Connectivity; GROUP 10: Accessories and Rack Adapters and GROUP 11: Sierra Products; GROUP 12: Digital Signage; and GROUP 13: Audio, and GROUP 14: Collaboration.

Congratulations on purchasing your Kramer **FC-202NET** *2 x 2 Dante Interface*, which is ideal for the following typical applications:

- Boardrooms
- Classrooms
- Hospitality
- Transportation
- Retail
- Entertainment
- Houses of worship

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment

- Review the contents of this user manual

> Go to http://www.kramerav.com/downloads/FC-202Net to check for up-to-date user manuals, application programs, and to check if firmware upgrades are available (where appropriate).

2.1 Achieving the Best Performance

To achieve the best performance:

- Use only good quality connection cables (we recommend Kramer high-performance, high-resolution cables) to avoid interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)

- Do not secure the cables in tight bundles or roll the slack into tight coils

- Avoid interference from neighboring electrical appliances that may adversely influence signal quality

- Position your Kramer **FC-202NET** away from moisture, excessive sunlight and dust

> This equipment is to be used only inside a building. It may only be connected to other equipment that is installed inside a building.

2.2 Safety Instructions

> **Caution:** There are no operator serviceable parts inside the unit
>
> **Warning:** Use only the Kramer Electronics power supply that is provided with the unit
>
> **Warning:** Disconnect the power and unplug the unit from the wall before installing

2.3 Recycling Kramer Products

The Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC aims to reduce the amount of WEEE sent for disposal to landfill or incineration by requiring it to be collected and recycled. To comply with the WEEE Directive, Kramer Electronics has made arrangements with the European Advanced Recycling Network (EARN) and will cover any costs of treatment, recycling and recovery of waste Kramer Electronics branded equipment on arrival at the EARN facility. For details of Kramer's recycling arrangements in your particular country go to our recycling pages at *http://www.kramerelectronics.com/support/recycling/*.

3 Overview

The Kramer **FC-202NET** is a high-performance mono, audio power amplifier for balanced signals that can output 50W of audio into 70V or 100V speaker systems.

The **FC-202NET** *2 x 2 Dante Interface* features:

- A Dante network interface
- Two balanced, line-level/mic inputs
- Two balanced, line-level outputs from the network
- Independent gain setting per channel
- Independent phantom power setting per channel
- 1/4U Rack housing
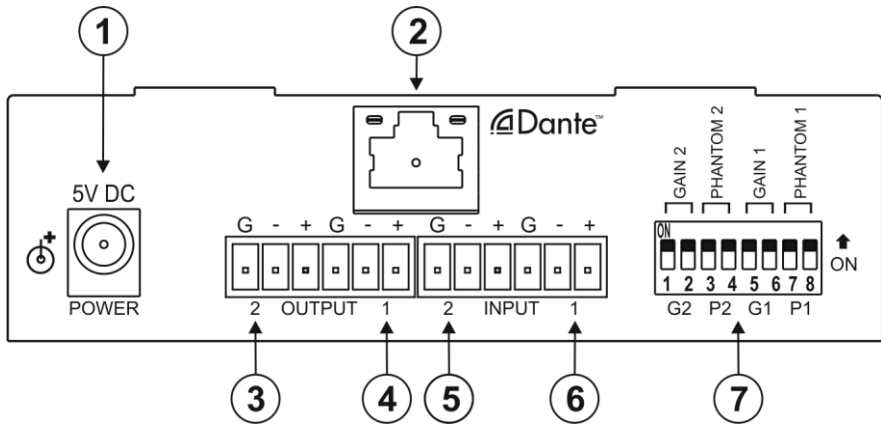
4 Defining the FC-202NET 2 x 2 Dante Interface

Figure 1: FC-202NET 2 x 2 Dante Interface Rear Panel

#	Feature		Function
1	*5V DC* Power Connector		Connect to the power adapter
2	*Dante* RJ-45 Ethernet Connector		Connect to the Dante audio source via the LAN
3	*OUTPUT* 6-pin Terminal Block	2	Connect to the second balanced line-level audio acceptor, (G, −, +)
4		1	Connect to the first balanced line-level audio acceptor, (G, −, +)
5	*INPUT* 6-pin Terminal Block	2	Connect to the second balanced line-level audio source, (G, −, +)
6		1	Connect to the first balanced line-level audio source, (G, −, +)
7	8-way DIP-switch		Sets the phantom power and gain per channel, (see Section 6)

5 Connecting the FC-202NET

This chapter comprises the following sections:

- Connecting the FC-202NET (see Section 5.1)
- Connecting the inputs (see Section 5.2)
- Connecting the outputs (see Section 5.3)

5.1 Connecting the FC-202NET

Always switch off the power to each device before connecting it to your **FC-202NET**. After connecting your **FC-202NET**, connect its power and then switch on the power to each device.
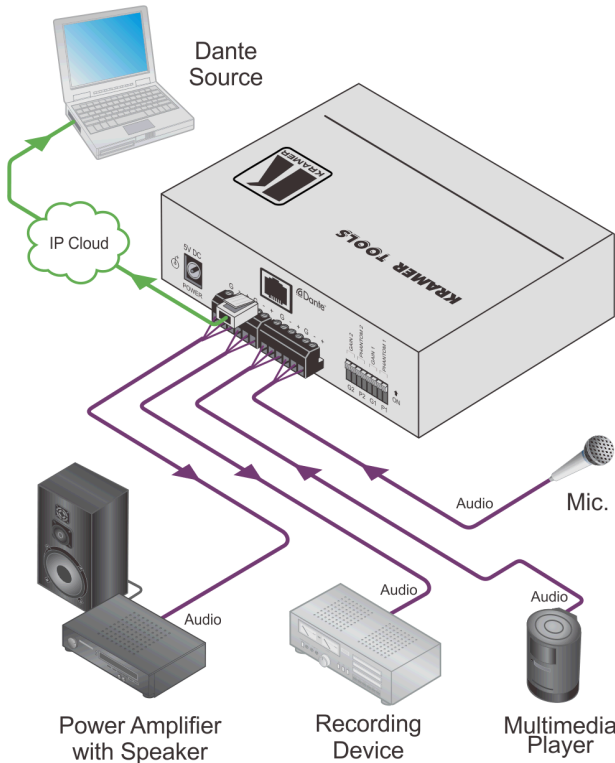

Figure 2: Connecting the FC-202NET 2 x 2 Dante Interface

To connect the **FC-202NET** as illustrated in the example in <u>Figure 2</u>:

1. Connect a balanced audio source, (for example, a microphone) to the 3-pin Input 1 terminal block.

2. Connect a balanced audio source, (for example, a multimedia player) to the 3-pin Input 2 terminal block.

3. Connect a Dante audio network source via the network to the Dante RJ-45 connector.

4. Connect the Output 2 3-pin terminal block to the first balanced, line-level audio acceptor, (for example, a recording device).

5. Connect the Output 1 3-pin terminal block to the second balanced, audio acceptor, (for example, an amplified speaker).

6. Connect the power adapter to the **FC-202NET** and plug the power adapter into the mains power supply.

5.2   Connecting the Inputs

Your **FC-202NET** is provided with a 3-pin terminal block for each input channel. This connector can accept either a balanced or an unbalanced connection, however, some modifications must be made for an unbalanced connection. See the next two sections for instructions on connecting the NetAV I/O 2x2 to its input source.

5.2.1   Connecting Balanced Inputs

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 **FC-202NET** terminal block connector respectively. The following diagrams illustrate how to connect standard XLR and 6.5mm phone jack.

Figure 3: Connecting a Balanced XLR Input
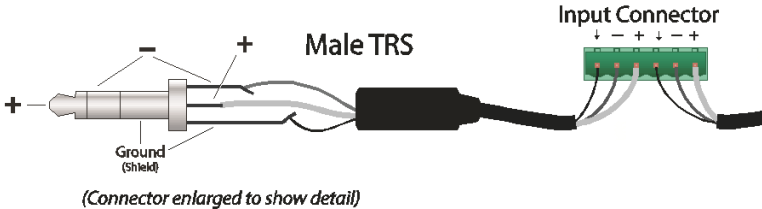

Figure 4: Connecting a Balanced 6.5mm Phone Jack

5.2.2 Connecting Unbalanced Inputs

When using an unbalanced input source, a jumper must be added between the negative (–) and ground terminals. The unbalanced source is connected to the positive (+) and ground terminals.

Note: A jumper is required for connecting an unbalanced input.

Figure 5: Connecting an unbalanced RCA Input
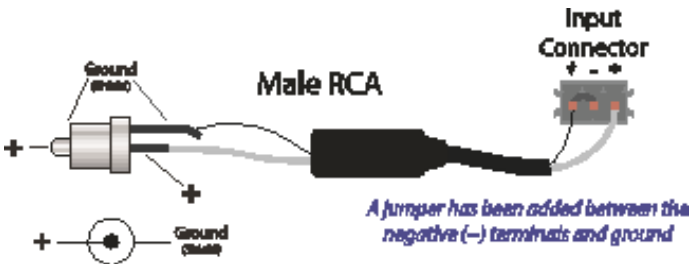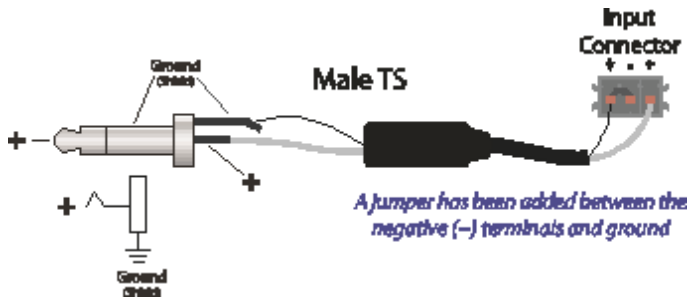
Figure 6: Connecting an unbalanced 6.5mm Phone Jack

5.3   Connecting the Outputs

Your **FC-202NET** is provided with a 3-pin terminal block for each output channel. This connector offers a balanced output to interface with the input of another device.

Connection methods for balanced and unbalanced outputs are identical as the methods for inputs as referenced in Section 5.2.

6   Setting the DIP-switch

The 8-way DIP-switch on the rear panel sets the gain and enables/disables the phantom power to each channel according to the DIP-switch settings shown in the following table.

DIP-switch Number	Channel	Function	Switch Setting	State
1, 2	2	Gain	On, On	Low gain
			Off, Off	High gain
3, 4		Phantom Power	On, On	Power on
			Off, Off	Power off
5, 6	1	Gain	On, On	Low gain
			Off, Off	High gain
7, 8		Phantom Power	On, On	Power on
			Off, Off	Power off

7   Troubleshooting

No output on one or both channels; the power indicator is lit.

Check that Dante has been configured properly.

The input is not sent to another network device or the sound is distorted.

Check that Dante has been configured properly. Check that the inputs are properly configured. If the input source requires pre-amplification or phantom power, see [Section 6](#).

8 Technical Specifications

INPUTS:	1 Dante NETWORK on an RJ-45 connector 2 balanced, line-level analog on 3-pin terminal block connectors
OUTPUTS:	2 balanced, line-level analog on 3-pin terminal block connectors
CONTROLS:	Phantom power: +24V switchable Mic/Line gain: 0dB, +28dB switchable
INPUT IMPEDANCE:	20kΩ balanced 10kΩ unbalanced 1.2kΩ when phantom power is on
EQUIVALENT INPUT NOISE:	-110dBu
MAXIMUM INPUT LEVEL:	–3.6dBu
OUTPUT GAIN:	0dB nominal
FREQUENCY RESPONSE:	100Hz (0dB) to 20kHz (–3dB)
SYSTEM THD:	<0.05% at any gain, input signal 3dB below maximum
OUTPUT SIGNAL to NOISE RATIO:	0dB 1Vpp @1kHz 0.06%
MAXIMUM OUTPUT LEVEL:	–3.6dBu
POWER CONSUMPTION:	5V DC, 1.1A
CLASS:	D
OPERATING TEMPERATURE:	0° to +40°C (32° to 104°F)
STORAGE TEMPERATURE:	–40° to +70°C (–40° to 158°F)
HUMIDITY:	10% to 90%, RHL non-condensing
COOLING:	Convection, vents
ENCLOSURE TYPE:	Aluminium chassis
DIMENSIONS:	11.6cm x 8.1cm x 3.2cm (4.57" x 3.19" x 1.26") W, D, H
WEIGHT:	0.3kg (0.66lbs) approx.
SHIPPING WEIGHT:	0.5kg (1.1lbs) approx.
INCLUDED ACCESSORIES:	Power supply 5V DC
Specifications are subject to change without notice at http://www.kramerelectronics.com	

LIMITED WARRANTY

The warranty obligations of Kramer Electronics for this product are limited to the terms set forth below:

What is Covered

This limited warranty covers defects in materials and workmanship in this product.

What is Not Covered

This limited warranty does not cover any damage, deterioration or malfunction resulting from any alteration, modification, improper or unreasonable use or maintenance, misuse, abuse, accident, neglect, exposure to excess moisture, fire, improper packing and shipping (such claims must be presented to the carrier), lightning, power surges, or other acts of nature. This limited warranty does not cover any damage, deterioration or malfunction resulting from the installation or removal of this product from any installation, any unauthorized tampering with this product, any repairs attempted by anyone unauthorized by Kramer Electronics to make such repairs, or any other cause which does not relate directly to a defect in materials and/or workmanship of this product. This limited warranty does not cover cartons, equipment enclosures, cables or accessories used in conjunction with this product.

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What Kramer Electronics will do

Kramer Electronics will, at its sole option, provide one of the following three remedies to whatever extent it shall deem necessary to satisfy a proper claim under this limited warranty:

1. Elect to repair or facilitate the repair of any defective parts within a reasonable period of time, free of any charge for the necessary parts and labor to complete the repair and restore this product to its proper operating condition. Kramer Electronics will also pay the shipping costs necessary to return this product once the repair is complete.

2. Replace this product with a direct replacement or with a similar product deemed by Kramer Electronics to perform substantially the same function as the original product.

3. Issue a refund of the original purchase price less depreciation to be determined based on the age of the product at the time remedy is sought under this limited warranty.

What Kramer Electronics will not do Under This Limited Warranty

If this product is returned to Kramer Electronics or the authorized dealer from which it was purchased or any other party authorized to repair Kramer Electronics products, this product must be insured during shipment, with the insurance and shipping charges prepaid by you. If this product is returned uninsured, you assume all risks of loss or damage during shipment. Kramer Electronics will not be responsible for any costs related to the removal or re-installation of this product from or into any installation. Kramer Electronics will not be responsible for any costs related to any setting up this product, any adjustment of user controls or any programming required for a specific installation of this product.

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P/N: 2900-300405   Rev: 1