

QUICK START

This section is provided as a convenience for those in a rush. If you are experienced with this unit or other Rane products, these few words should help refresh your memory.

Inputs may be microphone or line level. The choice between the two is made by setting the push-buttons on the rear of the unit near the **INPUTS**. Follow the silk-screening for proper wiring hookup.

Once **INPUTS** and **OUTPUTS** are satisfactorily connected, adjust the Input gain using a combination of the front panel **MASTER LEVELS** and the rear panel **GAIN** switches. Set the level as high as possible without causing the **A** and **B OVERLOAD** indicators to illuminate steadily for high input levels. If 1 x 16 Mono operation is required, use only one **INPUT** and activate the **MONO** switch so the **MONO LED** illuminates. You may also use both **A** and **B INPUTS** for a stereo signal and the DA 216 will sum the signal before distribution. If 1 x 8 **STEREO** operation is chosen, select **STEREO**. This mode may also be used for two independent mono zones as a 1 x 8 mono distribution amplifier.

Never connect anything except an approved Rane power supply to the thing that looks like a telephone jack on the rear of the DA 216. This is an AC input and requires special attention if you do not have a power supply *exactly* like the one that was originally packed with your unit. See the full explanation of the power supply requirements elsewhere in this manual.

DA 216 CONNECTION

When connecting the DA 216 to other components in your system for the first time, leave the power supply for last. This gives you a chance to make mistakes and correct them without damage to your fragile speakers, ears and nerves.

INPUTS

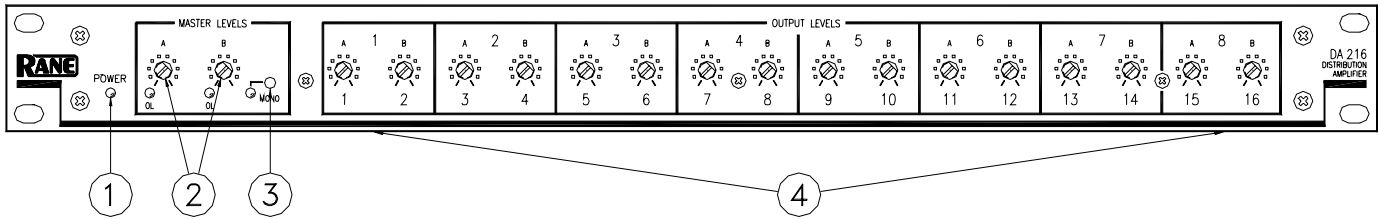
The two Inputs on the DA 216 are balanced. They may also be used in an unbalanced configuration. Use only shielded cable for Inputs. This wire should always be two-conductor plus shield, even for unbalanced operation. Balanced Inputs should be connected to both the “+” and “-” terminals. Tie the shield to chassis ground for normal use. In some cases it may be appropriate to not connect the shield,

however when using Phantom Power, this ground connection is required. For unbalanced wiring use 2 conductor shielded cable connecting the hot side of the input cable to “+” and the cold side to the “-” terminal. The shield must connect to the ground terminal. For best noise rejection, run fully balanced wiring and connect the shield at both ends to help insure proper grounding. If a microphone is being connected to the unit, the shield may be connected to the case of the mic as well as to the ground terminal on the unit.

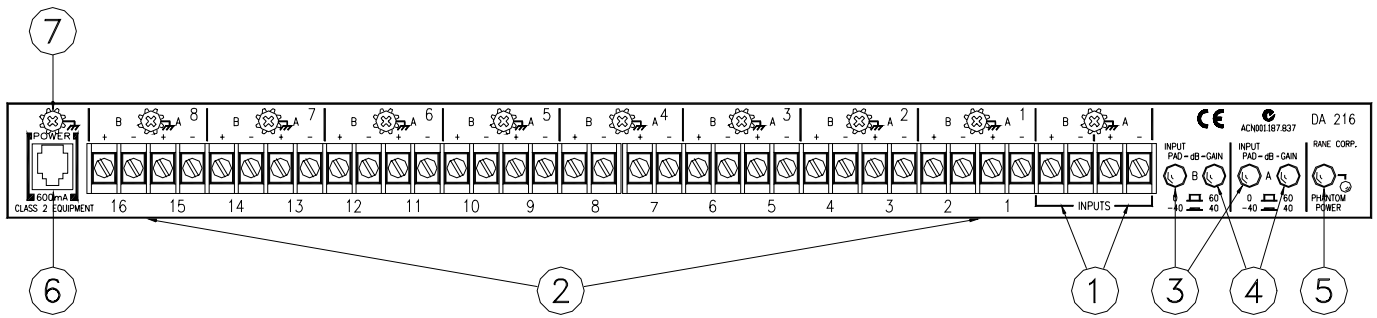
OUTPUTS

The DA 216’s **OUTPUTS** are balanced. The same wiring conventions as the Inputs apply. For unbalanced **OUTPUT** connections, do *not* tie the unused terminal [i.e. “-”] to GND.

DA 216 FRONT PANEL



- 1. POWER indicator.** When this yellow LED is illuminated, the following information should be correct. If darkness is present at this location, most or all of the below will be speculation at best.
- 2. MASTER LEVELS.** These screwdriver adjustable controls set the Gain of each Input to be routed to bus A or B for Stereo operation, or to the odd and even buses for Mono use. The OVERLOAD LEDs illuminate whenever the input section approaches clipping.
- 3. MONO switch.** This switch is accessed through its hole in the front panel. Any small tool that fits in the hole can actuate the switch. The associated LED illuminates when in the MONO mode.
- 4. OUTPUT LEVELS.** Each pair of OUTPUT controls sets the individual Channel Output levels. The DA 216 is a combined stereo or mono unit, depending on the status of the MONO switch. Stereo outputs are labeled in white, mono outputs are labeled in gray.



1. **INPUT terminals.** Attach either Microphone or Line level sources here. Connect balanced sources to the respective “+” and “-” terminals, and tie the shield using the nearest chassis grounding terminal above the screw terminals. Connect unbalanced sources with two conductor shielded cable connected to “+” and “-”, with the shield connected to chassis ground. *Refer to the Sound System Interconnection section later in this manual.*
2. **OUTPUT terminals.** Balanced OUTPUTS are provided for each channel. Connect two conductor shielded cable to “+” and “-” terminals. Tie the shield to ground, or leave open—your choice. For unbalanced use, **do not tie “-” to GND.** *Doing so results in improper operation. To obtain a 1-in-32-out single-ended distribution amp, use the “+” and GND for the “primary” output and connect the “-” and GND for the “secondary” output. (Note: The “secondary” outputs will be inverted. If driving a balanced input circuit, swap the “+” for “-” terminals to invert the signal for correct polarity.)*
3. **INPUT PAD switch.** In the 0 dB (*out*) position, the respective input stage is set for microphone input levels. In the -40 dB (*in*) position, line level signals are accepted and Phantom Power for this input is disabled if activated.
4. **GAIN.** The gain switches change the gain by 20 dB and are used along with the MASTER LEVELS to trim input gain for optimum dynamic range. See OPERATING INSTRUCTIONS on page Manual-4.
5. **PHANTOM POWER switch.** When activated (*in*), 15 VDC Phantom Power appears at each 0 dB PAD selected INPUT, and the PHANTOM POWER LED illuminates.
6. **POWER input connector.** *Use only a model RS 1, RAP 10, or other remote AC power supply approved by Rane.* The DA 216 is supplied with a remote power supply suitable for connection to this input jack. Consult the factory for replacement or substitution.
7. **Chassis ground points.** 6-32 screws are used for chassis grounding purposes. Attach the shields of the audio cables to these points. See the **CHASSIS GROUNDING** note below.

IMPORTANT NOTE

CHASSIS GROUNDING

The DA 216 is supplied with an external power supply (the RS 1). **This power supply does not ground the unit.** On the rear chassis is provided a 6-32 screw to allow for attachment of the grounding wire. This chassis ground point must be connected to earth ground either through another product which utilizes a three-prong grounded AC power cord or by attaching the wire to a known earth ground, (the screw on a grounded AC outlet.)

OPERATING INSTRUCTIONS

This product serves two similar yet different functions. In 'stereo' mode (MONO switch and LED deactivated), it will split two inputs into *eight pairs* of outputs. The A and B INPUTS may be adjusted via the two recessed MASTER LEVEL controls. All sixteen OUTPUTS (eight pairs) may be set as necessary through the use of the sixteen recessed OUTPUT level controls. *The MASTER LEVEL controls adjust the level of all OUTPUTS together without disturbing their relative levels.*

In 'MONO' mode, one INPUT (either) drives all sixteen OUTPUTS, again with separate MASTER and OUTPUT level controls. When driving both INPUTS with different signals, the DA 216 becomes a two channel mixer. (A useful example is combining background music with paging signals.) The two MASTER LEVEL controls adjust the mix ratio.

MIC LEVEL

For optimum noise performance with microphones, obtain as much gain as possible in the Input stage of the DA 216.

1. Select the appropriate INPUT PAD to 0 dB.
2. Set the appropriate GAIN switch on the rear to 60 dB.
3. Check that the OL light (and ensuing distortion) occasionally blinks with the highest expected level of signal. If it does not come on during the loudest mic signal peaks, turn the MASTER LEVEL control clockwise. If it is "on" more than intermittently, turn the MASTER LEVEL control counterclockwise. If it is still on, change the rear panel GAIN switch to 40 dB. Adjust the MASTER LEVEL control so the peaks barely flash the OL LED.

LINE LEVEL

In the LINE level configuration, unity gain is probably a good place to start.

1. Select the appropriate INPUT PAD to -40 dB.
2. Set the appropriate GAIN switch on the rear to 40 dB.
3. Set the MASTER LEVELS fully clockwise, 5 o'clock.
4. Set the OUTPUT LEVELS halfway, straight up, noon.
3. Check that the OL light (and ensuing distortion) occasionally blinks with the highest expected level of signal. If it does not come on during the loudest mic signal peaks, change the rear panel GAIN switch to 60 dB. If it is "on" more than intermittently, turn the MASTER LEVEL control counterclockwise so the peaks barely flash the OL LED. Further gain control may be taken if necessary from the OUTPUT LEVELS.

POWER SUPPLY

As noted elsewhere in this manual, *Never use a power supply with your DA 216 other than the one supplied from the factory or an exact replacement obtained or approved from Rane Corporation.* This unit's power supply input is designed for an AC supply, delivering 18 volts from a center-tapped transformer capable of supplying at least the current demanded by this product. Using any other type of supply may damage the product and void the warranty, which at two years (three if you send in the warranty card) parts and labor is worth safeguarding, don't you think?