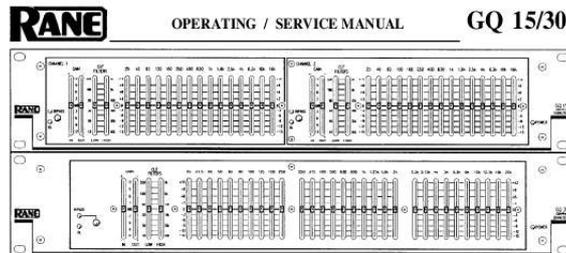




# Your PDF Guides

You can read the recommendations in the user guide, the technical guide or the installation guide for RANE GQ 30. You'll find the answers to all your questions on the RANE GQ 30 in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

**User manual RANE GQ 30**  
**User guide RANE GQ 30**  
**Operating instructions RANE GQ 30**  
**Instructions for use RANE GQ 30**  
**Instruction manual RANE GQ 30**



#### QUICK START

This section is for all of us who hate to read manuals. For those of us who want to just do it. But this attitude inevitably gets us into trouble. So in the interest of keeping you out of trouble, we present this abbreviated overview of your equalizer. Please read at least this much. Thank you.

Hook-up is intuitive. Just follow the silkscreened instructions on the rear of the unit. All three Inputs are wired in parallel (they do not sum); and all three Outputs are wired in parallel. Use any ONE Input and any or all Outputs. Using the GQ 15/GQ 30 in an Insert Loop of a mixer is extremely easy. Simply connect them together using a single stereo cable (1/4" TRS) between the mixer's Insert Loop and the GQ 15/GQ 30's PATCH I/O jack. This jack is wired for the tip = send, ring = return convention used by many mixer manufacturers. CAUTION: USE EITHER THE PATCH I/O OR THE INPUT AND OUTPUT CONNECTORS — DO NOT USE BOTH.

Anyone familiar with other graphic equalizers finds the GQ 15/GQ 30 just as familiar.

Setting the IN and OUT GAIN controls to the same physical positions gives unity gain through the equalizer. That is, moving both slider handles together (keeping them aligned) always maintains overall unity gain from input to output. Many strange gain structure conditions may be handled with these controls. FOR BEST NOISE PERFORMANCE ALWAYS POSITION BOTH CONTROLS AS FAR TOWARD THE TOP OF THE UNIT AS POSSIBLE WITHOUT LIGHTING THE Q1 INDICATORS. See the Operating Instructions on the back page for more information. Setting curves is as easy as it is on all Rane graphics thanks to our unique interpolating constant-Q circuitry. For more information on setting up your curves correctly, again, see the back page.

Set the CUT FILTERS controls for the desired low- and high-cut frequencies. Sliding them fully downward essentially defeats these functions.

NEVER CONNECT ANYTHING EXCEPT AN APPROVED RANE POWER SUPPLY TO THE RED THING THAT LOOKS LIKE A TELEPHONE JACK ON THE REAR OF THE UNIT. This is an AC input and requires special attention if you do not have a power supply EXACTLY like the one originally packed with your unit. See the full explanation of the power supply requirements elsewhere in this manual.

#### SYSTEM CONNECTION

When first connecting the GQ 15/GQ 30 to other components, LEAVE THE POWER SUPPLY FOR LAST. This gives you a chance to make mistakes and correct them without damaging your fragile speakers, ears and nerves.

INPUTS: All three inputs are wired in parallel and are actively balanced (true instrumentation amplifiers). Each works equally well. Choose strictly from a favorite hardware point-of-view, there will be no performance trade-offs. The wiring convention adheres to American, British and International standards of pin 2, +, or tip being hot, pin 3, -, or ring being return, and pin 1, COMMON GND, or sleeve being signal ground. Unbalanced operation involves using only pin 2, +, or tip as signal and pin 1, COMMON GND, or sleeve as ground. It is not necessary to short any terminals or pins to any others. Due to the true instrumentation nature of the inputs, there is no gain reduction if pin 3, or -, is left open; however, if pin 3 gets shorted, it won't hurt anything either. Use pin 1, the shell, or the COMMON GND point on the barrier strip for shield ground. (See Rane Note 110 for further information).

*continued*



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**Manual abstract:**

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This is an AC input and requires special attention if you do not have a power supply EXACTLY like the one originally packed with your unit. See the full explanation of the power supply requirements elsewhere in this manual. SYSTEM CONNECTION When first connecting the GQ 15/GQ 30 to other components, LEAVE THE POWER SUPPLY FOR LAST. This gives you a chance to make mistakes and correct them without damaging your fragile speakers, ears and nerves. INPUTS. All three inputs are wired in parallel and are actively balanced (true instrumentation amplifiers). Each works equally well. Choose strictly from a favorite hardware point-of-view, there will be no performance trade-offs. The wiring convention adheres to American, British and International standards of pin 2, +, or tip being hot, pin 3, , or ring being return, and pin 1, COMMON GND, or sleeve being signal ground. Unbalanced operation involves using only pin 2, +, or tip as signal and pin 1, COMMON GND, or sleeve as ground.

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OVERALL BYPASS SWITCH & INDICATOR This pushbutton switch activates the "hard-wire" bypass function. When engaged (red BYPASS LED on), all three pins of the input connectors directly connect to the same pins on the output connectors (hard-wired). Engaging this switch converts the GQ 15/GQ 30 into a relatively expensive patch cord, but one with pretty lights. 3. INPUT AND OUTPUT GAIN CONTROLS.

These slide controls set the relative IN and OUT gain structures. The range of each control is  $\pm 12$  dB; however, note they are labelled opposite to each other, i.e., the top of the IN control reads +12 dB while the top of the OUT controls reads -12 dB. Configured this way, whenever they are held and moved together the overall gain through the GQ 15/GQ 30 stays at unity.

Positioning these controls (together) as far toward the top of the panel as possible (without lighting the OL indicator) yields the best signal-to-noise performance. 4. LOW & HIGH CUT FILTER CONTROLS. These sliders set the corner frequency of the bandlimiting filters. The frequencies shown represent the -3 dB points for each filter. When the sliders are located at their bottom positions, the filters are at the lowest and highest extremes. 5. FILTER LEVEL CONTROLS. These slide controls set the individual levels of the interpolating constant-Q filters. The 45 mm travel allows excellent resolution for all settings.

The grounded center-detent design of these sliders ensures all filters are off when positioned to their centers. 6. @@@@It does not require pin 1, or signal ground. @@Ground is used only for shielding. Again, have a look at Rane Note 110 for more detail. EXPANDING. @@@@PATCH I/O.

@@@@@The GQ 15 is designed for all line-level signals. @@Do not directly connect microphones into the GQ 15. @-3-pin INPUT Connector.

Pin 2 is positive, pin 3 is negative and pin 1 is signal ground. For unbalanced operation, use pin 2 as hot and pin 1 as return. 2. INPUT Expand Connector.

@@Tip is positive, Ring is negative and Sleeve is signal ground.

3. Terminal Strip Input and Output. @@Used for primary inputs and outputs or additional patch connections. 4. OUTPUT Expand Connector.

@@As before, Tip is hot, Ring is not and Sleeve is signal ground. 5. 3-pin OUTPUT Connector. Pin 2 is positive, pin 3 is negative and pin 1 is signal ground.

6. PATCH I/O Connector. @@@@THESE ARE NOT SUMMING INPUTS. USE ONLY ONE AT A TIME. 7. GROUND LIFT Switch.

@@Normally, this switch should be in the LIFT position. @@@@8. Remote Power Supply Input. The unit is supplied from the factory with a Model RS 1 Remote Power Supply suitable for connection to this input jack. The power requirements of the unit call for an 18-24 volt AC center-tapped transformer only. THIS IS NOT A DC INPUT. IT IS NOT A TELEPHONE JACK NEVER USE A POWER SUPPLY WITH YOUR UNIT OTHER THAN THE ONE SUPPLIED OR A REPLACEMENT APPROVED BY RANE CORPORATION. Using any other type of supply may damage the unit and void the warranty. 9. Chassis Ground Point.

A 6-32 threaded hole used for chassis grounding purposes. See the CHASSIS GROUNDING note on the last page for details. OPERATING INSTRUCTIONS Before attempting any equalization of audio with the GQ 15/GQ 30, it is important to optimize the IN and OUT GAIN control settings. Improper gain distribution is a common cause of headroom loss and increased noise in audio systems. The GQ 15/GQ 30 provides you with an overall BYPASS switch & indicator as well as an OL (overload) LED as useful tools for optimizing this gain set-up.

The BYPASS switch is useful for making quick A-B comparisons, i.e., comparing equalized (BYPASS out, LED off) versus unequalized (BYPASS in, LED on) sound. To do this freely, without danger of system damage, requires you set the level through the GQ 15/GQ 30 to approximately unity. Failure to do so can produce alarming results.



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The input and output gain ranges of the GQ 15/GQ 30 go from -12dB to + 12dB The GQ 15/GQ 30 is always unity gain in bypass, so if you add or reduce gain (beyond EQ make-up gain) the level differences between BYPASS in/out can be startling. Therefore you want to set the GAIN controls for equal in/out loudness levels. To get started, make the following initial set-up adjustments: 1. BYPASS switch depressed (equals bypassed condition = red LED on). 2. Both GAIN controls positioned at the top of the panel, i.e., IN @ + 12 and OUT @ -12. 3. All slide controls center-detent positions (0dB boost/cut).

4. Apply a signal to the system. 5. Check that the OL indicator is not on. If the OL LED is on, move both GAIN controls down just enough for it to go out. The GQ 15/GQ 30 stays unity gain from input to output because you kept both controls at equal settings, thus ensuring the input is attenuated enough to keep it out of overload and the output gain is making up for it. For optimum noise performance always take as much gain as possible through the INPUT stages, i.e., position the IN GAIN slider as close to +12dB (the OUT GAIN slider toward -12dB -- keep them together) as possible. If the OL LED is not on, then leave the GAIN controls in their center-detent positions.

Do not increase the gain above this point until you do enough cutting with the EQ controls to warrant adding make-up gain. 6. Release the BYPASS switch and you are ready to start equalizing the system. Since acoustic compensation and tone contouring are two of the most common uses for equalization, here are a few words on each: ACOUSTIC COMPENSATION. @@@@ It is a very good idea to always start the equalization process with the adjustable CUT FILTERS positioned all the way down.

This guarantees full frequency control until you need to bandlimit it, at which time you move the appropriate control upwards to restrict the bandwidth. Use the BYPASS switch to compare equalized with unequalized sound. Compare the two and set the equalizer as best you can using controlled noise sources, sweep signals, or source material that you are VERY familiar with. Try to avoid adding too much low end. This is an area where equalizers are frequently abused, causing lots of unnecessary stress on amplifiers and speakers.

This is particularly important when using any sort of vented enclosure low frequency drivers. Too much level applied to a woofer below the.



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