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You can read the recommendations in the user guide, the technical guide or the installation guide for RANE DC 24. You'll find the answers to all your questions on the RANE DC 24 in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

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RANE OPERATORS MANUAL DC 24 DYNAMIC CONTROLLER



QUICK START

Shredded, this document makes excellent packing material. In its present form, it makes interesting and useful reading. If you run out of patience quickly, at least read this part to make sure you don't exterminate everything in a two mile radius by doing something wrong.

In a nutshell, to use the DC 24 as a conventional dual channel compressor/limiter, ensure that the **CROSSOVER ENGAGE** switch on the rear is in its *out* position. Attach one or two channels of inputs and outputs to the respective connectors on the rear. With all **RATIOS** *down*, **LIMITER THRESHOLD** all the way *up* and the **LEVEL** controls in *center-detent* you have an expensive patch cord. Make sure the **BYPASS** switches are *out* and set the **GATE** and **COMPRESSOR** for the desired ratios and thresholds. Turning the **LIMITER THRESHOLD** down decreases the level at which limiting occurs. The **GATES** and **COMPRESSORS** may both be activated by the source material applied to Channel 1 if the **DUAL/SLAVE** switch is pressed *in*. This is a normal condition for true stereo program material.

To use the DC 24's crossover handsplit mode, be sure the rear panel **CROSSOVER ENGAGE** switch is *in*. Connect the input to **CH 1/CROSSOVER IN**. With the rear panel **OUTPUTS** switch set to **SEPARATE**, split outputs are available at the **CH 1/LOW OUT** and **CH 2/HIGH/COMBINE OUT** jacks. With the **OUTPUTS** switch at **COMBINE**, use only the **CH 2/HIGH/COMBINE OUT** jack for a mono sum of high and low channels.

NEVER CONNECT ANYTHING EXCEPT AN RS 1 OR OTHER APPROVED RANE AC POWER SUPPLY TO THE THING THAT LOOKS LIKE A TELEPHONE JACK ON THE REAR OF THE DC 24. This is an AC input and requires some special attention if you do not have an operational power supply **EXACTLY** like the one that was originally packed with your unit.

DC 24 CONNECTION

Placing the DC 24 within the chain of events in your system varies slightly depending on application. If you are assembling a sound reinforcement system, the DC 24 would typically be placed between the equalizer (you do use one, don't you?) and the active crossover, or the power amplifier if passive crossovers (or the DC 24 crossover) are used.

In recording applications, the DC 24 may be used in conjunction with insert loops on the mixing console or in series with the outputs en route to the recorder. Most consoles allow headphone monitoring of the processed signal if the device is connected to the inserts. A most useful feature. If the DC 24 is

used on mixdown, it may be connected to the output of the multichannel recorder or again on inserts of the mixdown console.

Many recording situations require that the DC 24 be connected to the patch bay in the system so it may be easily moved from one signal location to another. This call should be made based upon the requirements of the application.

Wiring of this and all components should follow the Sound System Interconnection RaneNote included in this manual. This note details standard wiring conventions which should be used to prevent noise and distortion. Also see the Chassis ground point on page Manual-3.

WEAR PARTS: This product contains no wear parts.

Manual-1



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Manual abstract:

4 1.6 2 1.2 3 1.1 1 4 CH 1 OUTPUT LOW 0 -6 +6 CROSSOVER 200 400 150 800 125 1.2k 2k MODE 100 4k 90 6k 75 70 7k DUAL SLAVE FREQUENCY GATE / EXPANDER -20 -30 -40 -50 10 -10 0 3 2 1 456 7 8 COMPRESSOR -20 -10 0 -30 -40 -48 20 LIMITER 0 -6 +6 0 3 6 12 BYPASS -12 +12 10 1.4 1.6 2 1.2 3 1.1 1 4 CH 2 OUTPUT HIGH 0 -6 +6 BYPASS -12 +12 DC 24 DYNAMIC CONTROLLER 1 THRESHOLD (:1) RATIO 10 THRESHOLD (:1) RATIO 10 -20 +20 24 THRESHOLD GAIN REDUCTION SIG LEVEL OL THRESHOLD (:1) RATIO 10 THRESHOLD (:1) RATIO 10 -20 +20 24 THRESHOLD GAIN REDUCTION SIG LEVEL OL QUICK START Shredded, this document makes excellent packing material. In its present form, it makes interesting and useful reading.

If you run out of patience quickly, at least read this part to make sure you don't exterminate everything in a two mile radius by doing something wrong. In a nutshell, to use the DC 24 as a conventional dual channel compressor/limiter, ensure that the CROSSOVER ENGAGE switch on the rear is in its out position. Attach one or two channels of inputs and outputs to the respective connectors on the rear. With all RATIOS down, LIMITER THRESHOLD all the way up and the LEVEL controls in center-detent you have an expensive patch cord. Make sure the BYPASS switches are out and set the GATE and COMPRESSOR for the desired ratios and thresholds.

Turning the LIMITER THRESHOLD down decreases the level at which limiting occurs. The GATES and COMPRESSORS may both be activated by the source material applied to Channel 1 if the DUAL/SLAVE switch is pressed in. This is a normal condition for true stereo program material. To use the DC 24's crossover bandsplit mode, be sure the rear panel CROSSOVER ENGAGE switch is in. Connect the input to CH 1/CROSSOVER IN.

With the rear panel OUTPUTS switch set to SEPARATE, split outputs are available at the CH 1/LOW OUT and CH 2/HIGH/COMBINE OUT jacks. @@@@In recording applications, the DC 24 may be used in conjunction with insert loops on the mixing console or in series with the outputs en route to the recorder. Most consoles allow headphone monitoring of the processed signal if the device is connected to the inserts. A most useful feature. If the DC 24 is used on mixdown, it may be connected to the output of the multichannel recorder or again on inserts of the mixdown console. Many recording situations require that the DC 24 be connected to the patch bay in the system so it may be easily moved from one signal location to another. This call should be made based upon the requirements of the application. Wiring of this and all components should follow the Sound System Interconnection RaneNote included in this manual. This note details standard wiring conventions which should be used to prevent noise and distortion. Also see the Chassis ground point on page Manual-3.

WEAR PARTS: This product contains no wear parts. Manual-1 FRONT PANEL DESCRIPTION 1 GATE EXPANDER POWER -30 -40 -50 10 -20 -10 0 8 COMPRESSOR 7 8 1 10 (:1) RATIO -20 -10 0 -30 -40 -48 20 10 12 0 3 6 8 CROSSOVER GATE EXPANDER -20 -30 -40 -50 10 -10 0 3 2 1 10 (:1) RATIO 456 7 8 10 0 3 6 LIMITER 0 -6 +6 3 2 456 10 1.4 1.6 2 1.2 3 1.1 1 10 (:1) RATIO 4 CH 1 OUTPUT LOW 0 -6 +6 COMPRESSOR -20 -10 0 -30 -40 -48 20 LIMITER 0 -6 +6 12 -20 +20 BYPASS -12 +12 24 THRESHOLD THRESHOLD THRESHOLD GAIN REDUCTION SIG LEVEL OL 400 200 150 800 125 1.2k 2k MODE 100 90 4k 75 6k 70 7k DUAL FREQUENCY SLAVE 10 1.4 1.6 2 1.2 3 1.

1 1 10 (:1) RATIO 4 CH 2 OUTPUT HIGH 0 -6 +6 12 -20 +20 BYPASS -12 +12 DC 24 DYNAMIC CONTROLLER 24 THRESHOLD THRESHOLD THRESHOLD GAIN REDUCTION SIG LEVEL OL 2 3 4 5 6 7 9 11 13 3 4 5 6 7 9 11 1 POWER switch: It has been a tradition at Rane Corporation to say something clever about the POWER switch on all its products. Certain government restrictions now eliminate our option of continuing this tradition. Pity. 2 POWER indicator LED: This solid-state yellow illumination device lights up to let the operator know Item 1 (above) is working and the thing is plugged in. 3 GATE / EXPANDER THRESHOLD control: allows the operator to set the input level below which the Gate/Expander operates.

The LED illuminates yellow any time the input signal falls below the threshold level set by this control. 4 GATE / EXPANDER RATIO control: determines the Ratio to be applied to the Gate/Expander function. Increased clockwise rotation increases the circuit slope. The full counter-clockwise position disables the Gate/Expander. 5 COMPRESSOR THRESHOLD control: determines above what input level the Compressor functions.

Full clockwise rotation disables the Compressor entirely. The LED illuminates yellow any time the input signal exceeds the threshold level set by this control. 6 COMPRESSOR RATIO control: determines the slope of the Compressor once it has exceeded the indicated threshold. Full counter-clockwise rotation of the RATIO control disables all Compressor activity. @@Full clockwise rotation of this knob disables all Limiter activity. @@@@See OPERATING INSTRUCTIONS on page Manual-4. @@In the center detent, gain will be unity. @@@@In the out (DUAL) position, both channels operate independently. @@@@Inserting an equalizer in this loop enables greater compression of boosted equalizer frequencies. The standard convention is used of Tip=Send & Ring=Return.

6 INPUT GAIN TRIM switches: In its +4 dBu position, the input gain of the respective channel is unity. In the -10 dBV position, the input gain is increased by 12 dB (although mathematically suspicious, it really is 12 dB, not 14 dB) to compensate for certain recording devices. This switch must be in the +4 dBu position for front panel calibration accuracy. 7 CROSSOVER ENGAGE switch: In its in position, this switch places the low pass portion of the audio signal on CH 1 /LOW OUT, and the high pass portion on CH 2 / HIGH / COMBINE OUT. 8 SEPARATE / COMBINE OUTPUT switch: In the COMBINE mode, the outputs of channel 1 and channel 2 are added together and delivered to the CH 2/HIGH/COMBINE OUT connector. This feature is supplied to allow an input to be split by the crossover, high pass and low pass delivered to separate processor channels, and recombined at the output of the unit. The COMBINE mode has no effect on the output of channel 1. 9 Remote POWER supply input: The DC 24 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 DC 24 call for an 18-24 volt AC center-tapped transformer only. This is not a telephone jack.

Never use a power supply with your DC 24 other than the one supplied or an exact replacement obtained from Rane Corporation. Using any other type of supply may damage the unit and void the warranty. 0 Chassis ground point: A #6-32 screw is used for chassis grounding purposes.



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If, after hooking up your system, it exhibits excessive hum or buzzing, there is an incompatibility in the grounding configuration between units somewhere.
Your mission is to discover how your particular system wants to be grounded.

Here are some things to try: 1. Try combinations of lifting grounds on units that are supplied with ground lift switches or links. 2. @ @ 3. @ @ @ @ @ Refer to the "Sound System Interconnection" RaneNote (supplied with this manual) for further grounding information.

Manual-3 OPERATING INSTRUCTIONS Once all of the inputs and outputs are properly connected in accordance with the preceding section, normal operation of the DC 24 should be achievable. If any of the following procedures do not appear to produce the required results, take a step backwards and check your wiring. PRE-FLIGHT CHECKLIST Before proceeding, it's a good idea to turn the control knobs to the following positions: 1. POWER...off 2. GATE / EXPANDER THRESHOLD...

full CCW 3. GATE / EXPANDER RATIO...full CCW 4. COMPRESSION THRESHOLD...full CCW 5. COMPRE 2conductor shielded cable.
3. The CH 2 BYPASS switch now operates in the COMBINE mode. RESOURCES For additional explanations, tips and assistance, see "The DC 24 Users Guide" and "Good Dynamics Processing." Both of these RaneNotes are available on the Rane website. ©Rane Corporation 10802 47th Ave. W., Mukilteo WA 98275-5098 TEL 425-355-6000 FAX 425-347-7757 WEB www.rane.com Manual-4 103166 .



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