RANE **OPERATING / SERVICE MANUAL** **FSC 22**
STEREO COMPRESSOR

QUICK START

These virgin pages tremble at your touch. You're eyes, the first. Their desperate inquisitive scanning overwhelms. The summer air burns with anticipation. Do what you must, but what-ever you do, don't stop...PLEASE DON'T STOP...reading that is, at least this section before you torch it.

Here's some quick highlights:

Set the rear **INPUT TRIM** switch for the appropriate gain for your signal levels. Don't be thrown by the combo Input connectors; they take either ¼" TRS or 3-pin (XLR-type) plugs. Both Output connectors may be used at the same time if needed, e.g., splitting to different zones, etc.

Be sure the **SYSTEM MODE** switch is in its out (**DUAL**) position, as are the **BYPASS** switches. Initially press the **METER MODE** switch in. Now the meter reads Output Level in dBu—very useful during set-up. Remember to switch it out when through, so it returns to its main role of displaying Gain Reduction.

Set the **LEVEL** controls to "7" for unity gain—a good place to start. Use the **BYPASS** controls to A-B levels.

When used with true stereo program, press the **SYSTEM MODE** switch in to the **SLAVE** position. This causes both Channels to operate equally if either exceeds its **THRESHOLD** setting.

NEVER CONNECT ANYTHING EXCEPT AN RS 1 OR OTHER APPROVED RANE AC POWER SUPPLY TO THE RED CONNECTOR 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 an operational power supply *EXACTLY* like the one originally supplied with your unit. A Rane Model FRS 8 or RAP 10 power supply is acceptable as well.

SYSTEM CONNECTION

Locating the FSC 22 in your system depends on the application. When assembling a sound reinforcement system, place the FSC 22 between the equalizer (if used) and the active crossover, or the power amplifier if using passive crossovers.

In recording applications, locate the FSC 22 in the insert loops on the mixing console, or in series with the outputs before the recorder. Most consoles allow headphone monitor-ing of the processed signal (i.e., post inserts). A most useful feature.

When using the FSC 22 on mixdown, connect it to the output of the multichannel recorder, or in the inserts of the mixdown console.

Many recording situations require connecting the FSC 22 to the patch bay in the system. This makes it easy to move from one signal path to another, as new applications dictate.

Use only fully balanced wiring of this and all components, without signal ground ever connecting between units. All shields should be chassis, i.e., earth grounded. Consult Rane Note 110, an application guide available from Rane Corpora-tion or your local Rane dealer. This note details standard wiring conventions which help reduce noise and distortion.

Manual abstract:

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Here's some quick highlights: Set the rear INPUT TRIM switch for the appropriate gain for your signal levels. Don't be thrown by the combo Input connectors; they take either ¼" TRS or 3-pin (XLR-type) plugs. Both Output connectors may be used at the same time if needed, e.g., splitting to different zones, etc.

Be sure the SYSTEM MODE switch is in its out (DUAL) position, as are the BYPASS switches. Initially press the METER MODE switch in. Now the meter reads Output Level in dBu--very useful during set-up. Remember to switch it out when through, so it returns to its main role of displaying Gain Reduction. Set the LEVEL controls to "7" for unity gain--a good place to start.

Use the BYPASS controls to A-B levels. When used with true stereo program, press the SYSTEM MODE switch in to the SLAVE position. This causes both Channels to operate equally if either exceeds its THRESHOLD setting. @@@@@@@@In recording applications, locate the FSC 22 in the insert loops on the mixing console, or in series with the outputs before the recorder. Most consoles allow headphone monitoring of the processed signal (i.e., post inserts). A most useful feature. When using the FSC 22 on mixdown, connect it to the output of the multichannel recorder, or in the inserts of the mixdown console. Many recording situations require connecting the FSC 22 to the patch bay in the system.

This makes it easy to move from one signal path to another, as new applications dictate. Use only fully balanced wiring of this and all components, without signal ground ever connecting between units. All shields should be chassis, i.e., earth grounded. Consult Rane Note 110, an application guide available from Rane Corporation or your local Rane dealer. This note details standard wiring conventions which help reduce noise and distortion. FRONT PANEL DESCRIPTION 1. RATIO CONTROL. This rotary control determines the slope of the compressor for signals exceeding threshold.

Full counter-clockwise rotation of the RATIO control disables all Compressor activity. 2. DUAL FUNCTION METER. This six segment LED meter indicates either Gain Reduction or Output Level as determined by the position of the Meter Mode Switch. GAIN REDUCTION mode displays the amount of reduction (below unity) applied to the audio signal by the VCA.

OUTPUT mode displays the balanced output level in dBu, i.e. where 0dBu = 0.775 Vrms. 3.

METER MODE PUSHBUTTON. The out, or disengaged, position selects GAIN REDUCTION meter mode. The in, depressed, or engaged, position selects OUTPUT meter mode. 4. THRESHOLD LED. This yellow LED illuminates any time the input signal exceeds the THRESHOLD setting. 5. THRESHOLD CONTROL. The position of this rotary knob determines above what input level the Compressor/Limiter functions. 6.

BYPASS LED. A red LED indicating the BYPASS switch is engaged. 7. BYPASS SWITCH. A passive switch used to bypass all active circuitry in this channel. Press in to Bypass. @@8. SYSTEM RESPONSE SWITCH. Use this pushbutton to select the desired attack/ release response. Out chooses SLOW; in chooses FAST.

9. SYSTEM MODE SWITCH. @@@@In the out (DUAL) position, both Channels operate independently. 10. OUTPUT LEVEL CONTROLS. @@Up to 10dB of gain is available. @@11. OVERLOAD LEDS. @@Occasional flickering is okay, continuous is not. 12.

POWER INDICATOR LED. Hey, if it's lit, you're fit; if not, call a doc. @@INPUT CONNECTORS. @@@@2. INPUT TRIM SWITCH. In its +4dBu position, the input gain is unity. @@@@@@@@3. OUTPUT CONNECTORS. These connectors follow the polarity convention outlined above. @@4.

GROUND LIFT SWITCH. @@5. REMOTE POWER SUPPLY INPUT. @@@@THIS IS NOT A DC INPUT. IT IS NOT A TELEPHONE JACK. @@@@6. CHASSIS GROUND POINT. A 6-32 screw is used for chassis grounding purposes. @@If any of the following procedures do not produce the required results, take a step backwards and check your wiring. PRE-FLIGHT CHECKLIST: Before proceeding, set all controls to the following recommended positions: 1. REMOTE POWER...Off 2. RATIO.

..Full CCW 3. METER MODE..

. In (OUTPUT) 4. THRESHOLD...Full CW 5. BYPASS...Out 6.

SYSTEM RESPONSE...Out (SLOW) 7. SYSTEM MODE...Out (DUAL) 8. OUTPUT LEVEL..

.Full CCW 9. INPUT TRIM...

+4dBu or 10dBV, as required 10. GROUND LIFT...LIFT With all of the preceding properly set, turn the Remote Power on.

Gradually rotate the LEVEL controls CW until sound is heard. Use the BYPASS switch to set the LEVEL control for unity gain operation (around "7" for balanced use). At unity gain, cycling the BYPASS switches with audio passing through the unit should yield no difference in level or sound dynamics. The OUTPUT meters indicate the output level in dBu. Once gain is correct, release the METER MODE pushbutton to convert the meter to GAIN REDUCTION use. COMPRESSION. Set the THRESHOLD control for the desired level at which you want compression to begin. You should see the THRESHOLD LED illuminate as signal goes above and below this level. Use the RATIO control to set the required gain reduction slope. Watch the meter to observe the gain reduction action for all signals above the THRESHOLD setting.

LIMITING. Rotate the RATIO control fully CW to its "MAX" position. This produces a limiting slope of at least 10:1. Assuming your input signal has peaks in excess of 20dBu, you should be able to set the THRESHOLD control CCW to see some gain reduction occur on the meter simultaneously with a randomly illuminating THRESHOLD LED. You should begin to hear the difference. Leave these controls at whatever Limit level is appropriate. STEREO. When using the FSC 22 as a true stereo processor, e.g., Left signal in Channel 1 and Right signal through Channel 2, it is a good idea to operate the unit in the SLAVE mode to prevent large balance and image shifts.

While in the SLAVE mode, both Channels attenuate equally whenever either one exceeds THRESHOLD, thereby maintaining the stereo image. For addtional information on compressor operation, please ask your dealer or the Rane factory for a copy of Rane Note 130, "The DC 24 Users Guide". IMPORTANT NOTE CHASSIS GROUNDING Rane commercial equalizers are supplied with a rear mounted ground-lift switch. @@@@@@Here are some things to try: 1. @@2.

If your equipment is in a rack, verify that all chassis are tied to a good earth ground, either through the line cord grounding pin or the rack screws to another grounded chassis. 3. Units with outboard power supplies do NOT ground the chassis through the line cord. Make sure that these units are grounded either to another chassis which is earth grounded, or directly to the grounding screw on an AC outlet cover by means of a wire connected to a screw on the chassis with a star washer to guarantee proper contact. Please refer to Rane Note 110 (supplied with your unit and available on request at no charge if you lose it) for further information on system grounding.