



Your PDF Guides

You can read the recommendations in the user guide, the technical guide or the installation guide for RANE FAC 28. You'll find the answers to all your questions on the RANE FAC 28 in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

- User manual RANE FAC 28
- User guide RANE FAC 28
- Operating instructions RANE FAC 28
- Instructions for use RANE FAC 28
- Instruction manual RANE FAC 28

RANE Professional Audio Products Data Sheet

FAC 28 Active Crossover

General Description

Rane's Flex Series FAC 28 Active Crossover is possibly the first commercially available 8th-order Linkwitz-Riley circuit. Based upon Rane's proprietary state-variable tracking circuitry, both outputs are always in phase and locked in frequency. With 48dB/octave filter slopes, the crossover region is so narrow that all drivers benefit. The response is 48dB down just one octave away from the crossover frequency. This allows drivers to be operated only in their most linear regions. Beyond their linear limits all frequencies are attenuated so quickly that driver nonlinearities and interaction cease to be significant.

This narrowing of the crossover region also reduces the problems associated with time correcting speaker systems. Any misbehavior is restricted to such a small frequency band that simply correcting the phase differences between drivers is usually sufficient for most systems. For this reason, the FAC 28 provides a variable phase correction circuit to adjust for driver phase differences caused by misaligned speakers. This control varies the respective phase shift between outputs from 0 to 180 degrees. Combined with the built-in polarity

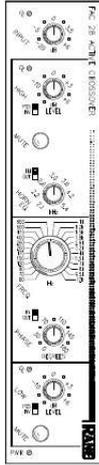
switches, complete phase correction control exists. When system requirements demand outboard digital time delay, the bypass switch removes the variable phase correction circuitry completely.

Equalization for constant-directivity horns is built-in and variable between 2.1kHz and 5.4kHz, covering all recommended boost points. The bypass switch allows complete removal of this circuitry when not required.

Frequency selection is done via the front panel 24-position selector switch. This switch drives P.E.T. switches for silent and precise control of each frequency point, guaranteeing the accuracy and repeatability of plug-in card designs while maintaining the flexibility of front panel control.

The mono two-way design of the FAC 28 ensures maximum flexibility. As requirements change, additional FAC 28s quickly expand the system. Each job is designed with exactly the right amount of crossover modules. Gone is the cost and frustration of buying more crossover than is needed, or making do with too little.

FAC 28
ACTIVE CROSSOVER



Features

- 8th-ORDER LINKWITZ-RILEY
- BAND MUTING SWITCHES
- 48dB/OCTAVE FILTER SLOPES
- 24 CROSSOVER FREQUENCIES
- MONO TWO-WAY
- LOW FILTER 15Hz 24dB/OCT
- VARIABLE PHASE CORRECTION
- SEPARATE IN/OUT LEDs
- CD HORN VARIABLE EQ
- FULLY BALANCED IN/OUTS
- PHASE POLARITY SWITCHES

Parameter	Specification	Limit	Units	Conditions/Comments
Crossover: Alignment	Linkwitz-Riley			Exclusive 8th-Order State-Variable
----- Slopes	48dB/Octave			
----- Range	60-12kHz			24-Position Selector Switch
Variable Phase Correction	0-180	5%	deg	Relative Phase Between Outputs
CD Horn Equalization	Variable 2.1kHz-5.4kHz	5%	Hz	+3dB Corner Frequency
Phase Polarity Switches	Yes			Both Outputs
Input Gain Range	-20 to +6	0/+2	dB	Balanced Out1
Output Gain Ranges	Off to +6	0/+2	dB	Balanced Out1
Band Muting Switches	Yes			Both Outputs
Low Filter	15Hz, 24dB/Oct, Butterworth	3%	Hz	Internal Bypass
Frequency Response	15-85kHz	+0/-3	dB	
THD+Noise	0.04	0.1	%	+4dBu, 20-20kHz
IM Distortion (SMPTE)	0.04	0.1	%	60Hz/7kHz, 4:1, +4dBu
Signal-to-Noise Ratio	106/90 (re +20dBu/+4dBu)	2	dB	20kHz Noise Bandwidth; Unity Gain
Maximum Current	350		mA	RMS current from remote supply



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Manual abstract:

The response is 48dB down just one octave away from the crossover frequency. This allows drivers to be operated only in their most linear regions. Beyond their linear limits all frequencies are attenuated so quickly that driver nonlinearities and interaction cease to be significant. This narrowing of the crossover region also reduces the problems associated with time correcting speaker systems. Any misbehavior is restricted to such a small frequency band that simply correcting the phase differences between drivers is usually sufficient for most systems. For this reason, the FAC 28 provides a variable phase correction circuit to adjust for driver phase differences caused by misaligned speakers. This control varies the respective phase shift between outputs from 0 to 180 degrees. @@@@The mono two-way design of the FAC 28 ensures maximum flexibility. As requirements change, additional FAC 28s quickly expand the system. @@@@Identical modules make life simpler.

Next, interconnect is easy. @@Use the 3-pin connectors for the main input and the final outputs. Use the 1/4" TRS connectors for all inter-module wiring. @@In each case (until you get to the last FAC 28), the upper-half of the unit is not used. So setting and changing the system during set-up involves only using the bottom row of controls in their natural order.

For example, a 4-way system requires 3 modules. From left-to-right: the bottom controls of the 1st module adjust the Subwoofer output; the bottom controls of the 2nd module adjust the Low Mid output; and the bottom controls of the 3rd module controls the High Mid output, while the top of the 3rd module controls the High output. Monoed sub-woofer applications require summing of two LF outputs before driving the sub-woofer power amplifier. The LF Summing input of the FAC 28 facilitates this requirement. Simply patching one LF output to this input produces a monoed sub-woofer output.

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