

XQP 545 Optical Disrupter

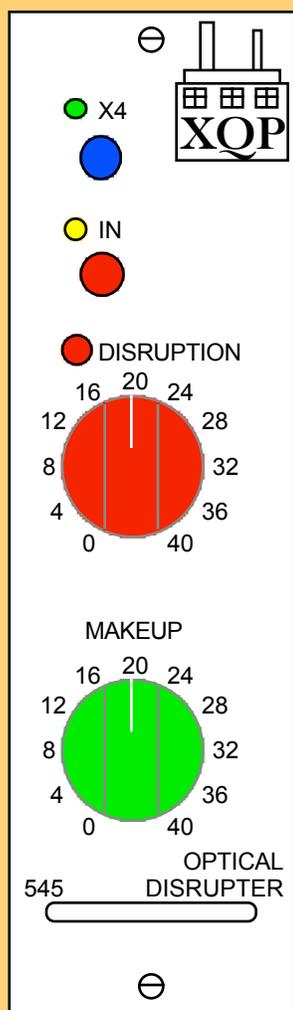
500 Series VPR Module

The XQP 545 Optical Disrupter provides compression that creates an asymmetrical waveform. The result is smooth, even-order harmonic distortion with no harsh clipping of the waveform.

The 531 is built with high-quality Analog Devices opamps in the signal path.

The XQP 545 is a not so distant cousin of the XQP 531 Optical De-esser.

Both utilize dual VACTROL® optoisolators for gain reduction.



X4 switch

Increases sidechain sensitivity by 4
Green LED indicates X4

IN switch

Silently activates disruption
Yellow LED indicates IN

DISRUPTION potentiometer

Adjusts the amount of disruption
Red LED lights with disrupting action

MAKEUP potentiometer

Allows restoration of gain lost to compression

SPECIFICATIONS

Input impedance: 43K Ω balanced
Output impedance: 50 Ω balanced
Frequency response: 4Hz - 55KHz (-3dB)
Max. output level: 22dBu
THD in bypass: <0.002% @ 1KHz
Noise: -80dBm, unweighted
Attack time: 10msec.
Release time: 18msec.
Max gain reduction: <20dB
Current requirement: 170mA @ \pm 16VDC



XQP

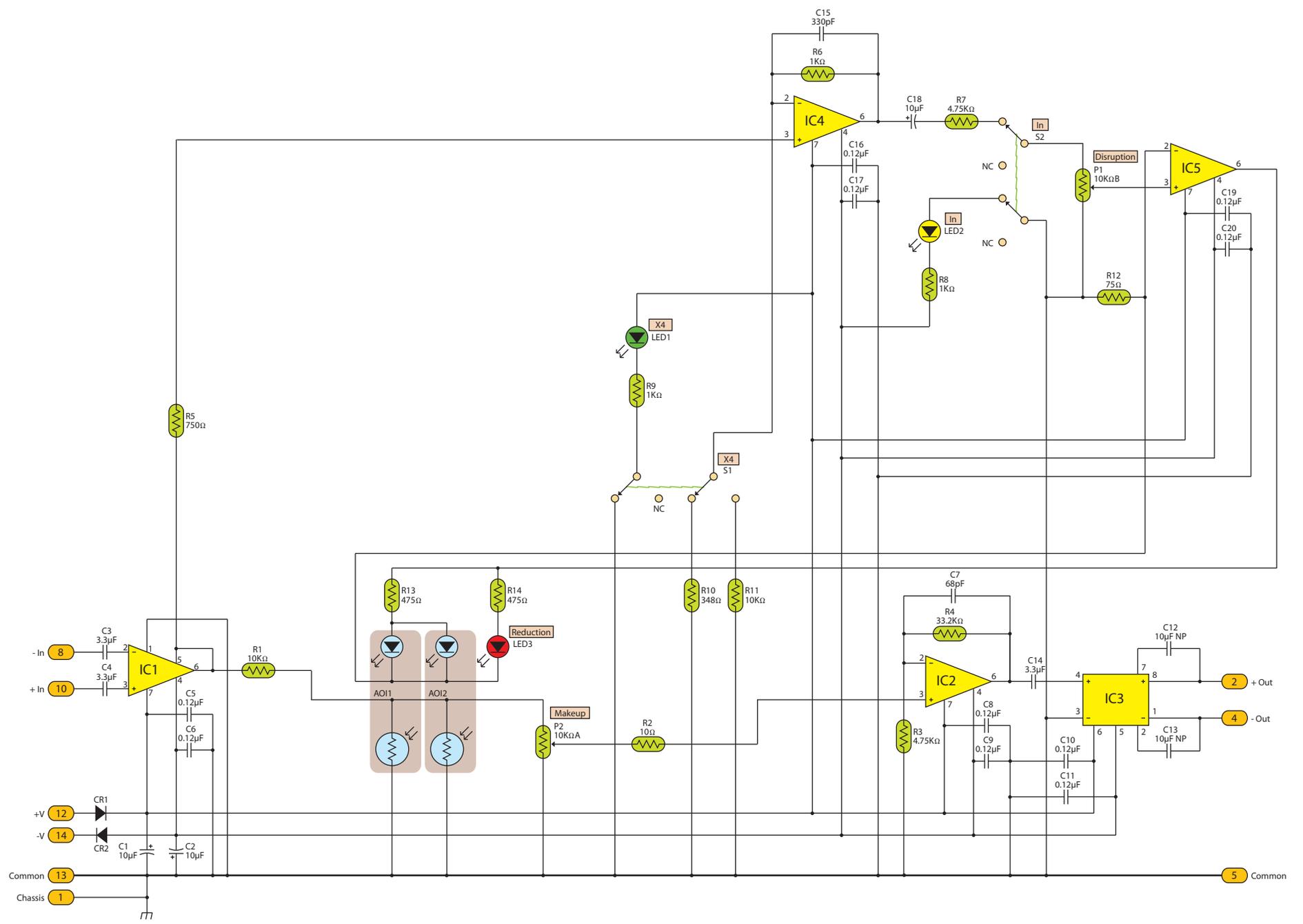
610 N. 14th Street
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580-231-1941
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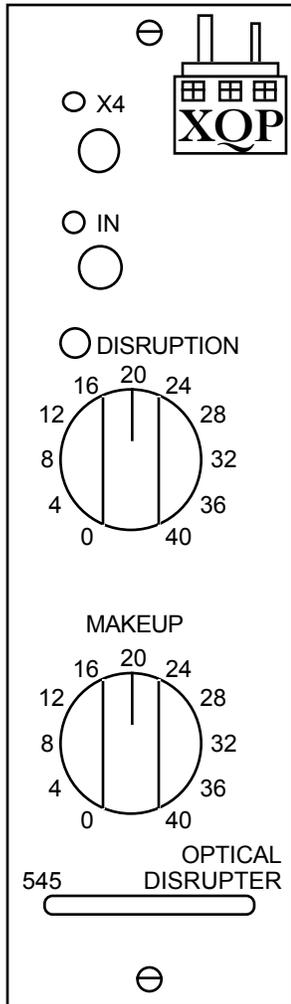
IC1: SSM2141
 IC2: OP37
 IC3: SSM2142
 IC4: LF351

IC5: LF351
 CR1: 1N4004
 AO1: VTL5C1
 AO2: VTL5C1

XQP
 545 Optical Disrupter
 Version 1.9 9/4/10
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XQP 545 Owner's Guide



INTRODUCTION

Thank you for purchasing the XQP 545 Optical Disrupter. The 545 is compressor that creates an asymmetrical waveform in the low frequencies. There is no clipping, because an amplifier stage is not being overdriven. Instead, the LEDs in the dual VACTROL® optoisolators are driven by an AC signal which modulates the audio during gain reduction in a manner that produces even-order harmonic distortion.

The 545 is a VPR module (hopefully you are already aware of this) designed to fit into the common 500 series racks originated by API. It follows the standard API pinout.

VPR Alliance approval pending as of 7/30/10.

1. Chassis
2. + Output
- 3.
4. - Output
5. Audio Common
- 6.
- 7.
8. - Input
- 9.
10. + Input
- 11.
12. + 16 VDC
13. Power Ground
14. - 16 VDC
- 15.

OPERATION

The 545 is simple to use. The amount of gain reduction is adjusted with the DISRUPTION control in conjunction with the X4 switch. The X4 switch multiplies the sensitivity of the sidechain by a factor of four, allowing the 545 to be used effectively on low level signals. Low frequencies are affected most significantly, with the effect becoming increasingly less active as frequency rises. Because the resulting distortion is the desired effect, a traditional gain reduction meter is not included. Your ears should be the judge to determine the amount of effect to apply. Compression can be viewed as a byproduct of distortion as in traditional cases. The red LED lights up when gain reduction is taking place in the same manner as the LEDs in the optoisolators, providing an indicator that gain reduction is taking place.

The MAKEUP control is an output level control to allow the user to restore level lost in gain reduction. As with the DISRUPTION control, the numbers 0 - 40 do not refer to dB or anything like that. They are simply a divisible set of numbers which make recall of settings easy.

Finally, the IN switch activates the sidechain. Disengaging this switch silently bypasses the unit, although the audio path remains active.

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We think you will find the 545 a very unique tool for adding creative distortion to a sound source. Subtle amounts can be used to create a slight thickening, ala tape saturation. But quite noticeable distortion can be achieved on most sources containing information in the low frequency region.

WARRANTY

The XQP 545 Optical Disrupter is warranted for ten years from the date of purchase. You do not have to fill out the enclosed warranty card, but we would appreciate the info. You may also register your 545 online at www.xqpaudio.com.

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