SYREN



Operator's Manual

Version 0
20140224

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SYREN is a classic sounding tube preamp in a 500 series package, using a dual triode circuit with a 12AX7 tube

SYREN features a dual gain stage circuit and allows overdrive effects.
A switch selectable HI-z input is included. The low cut filter is at 90 Hz and is 24 db/ octave. The pad has -15 db and -25 db settings to allow a wide input range of signals.

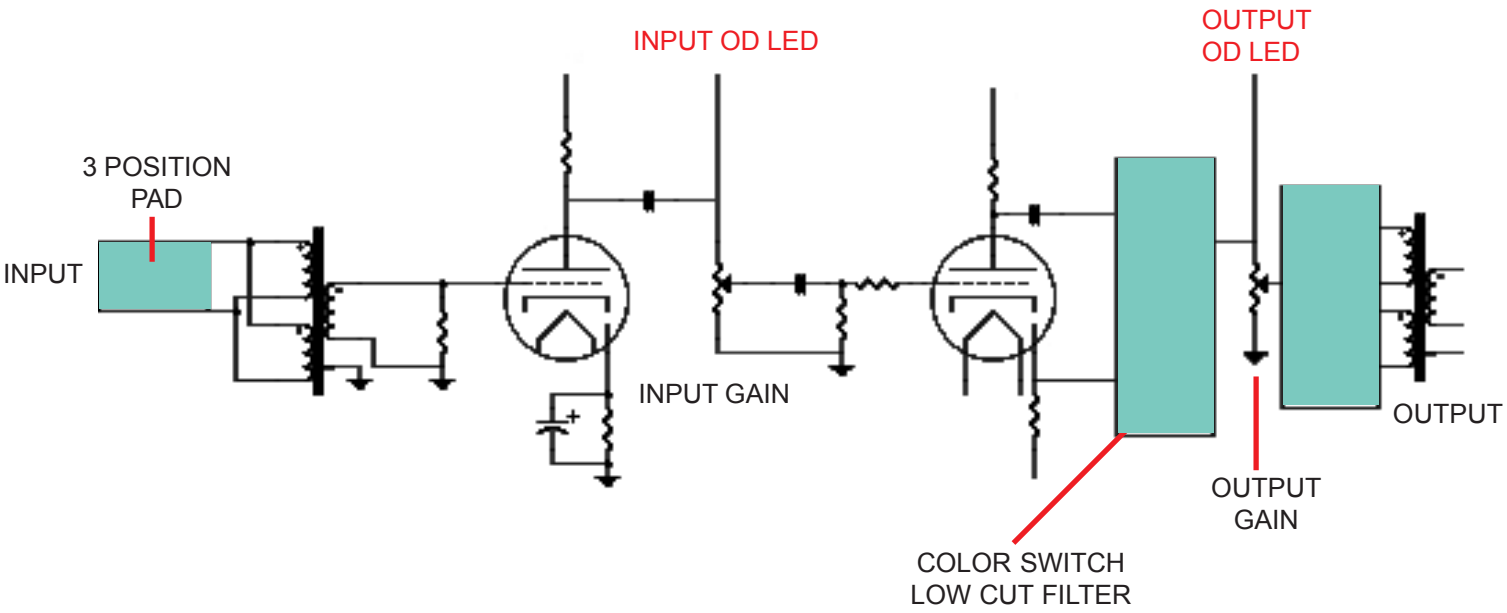
The audio path color is changed by modifying the second stage tube circuit so it has negative feedback or does not have negative feedback. This changes the interaction between the tube stages and thus the sound of the pre-amp. With negative feedback SYREN typically has a more accurate audio path with wider frequency response. Without negative feedback it has a more open warmer sound. The OPEN setting is more desired for over drive operation.

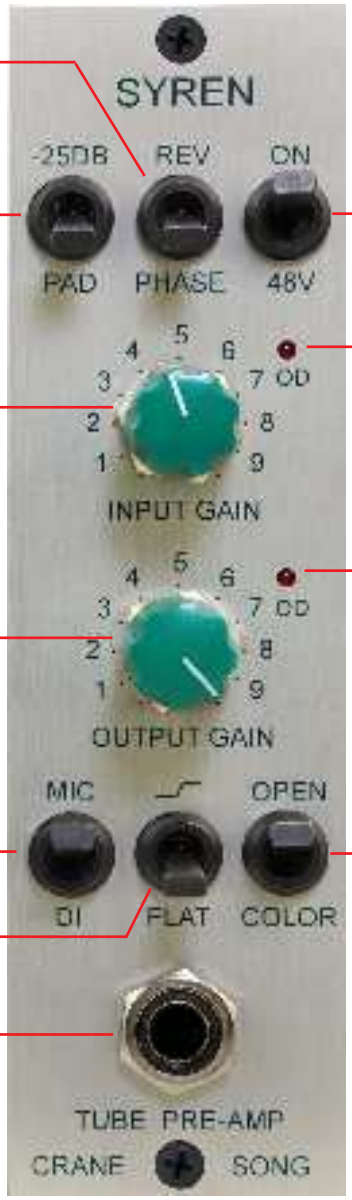
Because SYREN was designed for color and not specs the measured values will change greatly depending on the mode of operation. Turing the negative feedback off may or may not result in higher harmonic distortion, but will result in different harmonic content. The changing interaction between the tube stages makes the result difficult to predict. Gain settings, signal level, signal frequency and source impedance all contribute to the tube stage interaction.

The over load LEDs start to light at -6db with respect the tube compression or over load. With a little practice they will become useful in judging the gain settings. The LED's lighting a small amount does not mean distortion.

The input LED is an indicator of the drive level to the first stage, the only way to change this is with the PAD switch or changing the input signal level. The output gain LED is shows the level of the second tube stage before the OUTPUT GAIN pot. This is affected by the setting of the INPUT GAIN pot

SIGNAL FLOW


INPUT OD LED
OUTPUT
OD LED
3 POSITION
PAD
INPUT
INPUT GAIN
OUTPUT
OUTPUT
GAIN
COLOR SWITCH
LOW CUT FILTER



PHASE REVERSE

PAD 3 POSITIONS
OFF, -15 DB, -25 DB

PHANTOM POWER
OFF - ON

FIRST TUBE STAGE

INPUT GAIN

OVER DRIVE LED
STARTS TO TURN ON AT
-6DB FROM SOFT CLIP

SECOND TUBE STAGE

OUTPUT GAIN

SELECT HI-z OR MIC INPUT

COLOR SELECTION
IN THE OPEN SETTING
NEGATIVE FEEDBACK IS
OFF, THIS IS GOOD FOR
OVERDRIVE EFFECTS AND
NATURAL TUBE COLOR

LOW CUT 90Hz 24 DB / OCTAVE

HI-z INPUT

IN THE COLOR SETTING
NEGATIVE FEEDBACK IS ON
ON THE SECOBND TUBE
STAGE THIS HAS A
BRIGHTER SOUND

SPECIFICATIONS

Pad: 0, -15, -25 db steps
Max Gain: 65db
Filter: 90Hz 24 db/oct
Power: 100mA with self resetting fuses

At 40db of gain, 0dbu output and a 150 ohm source

Harmonic Distortion : 0.5% second harmonic
Noise: -84dbu
Frequency Response: 6Hz to 80Khz

Tube: 12AX7B, selected for low microphonics
Lundahl Mu metal shielded transformers for both input and output