

# **TUBE-TECH HLT 2A** **Stereo High- and Low shelving, T- filter** **& Low- and High cut**

## **Description:**

The TUBE-TECH HLT 2A is a stereo unit, featuring low and high cut filters, low and high shelving filters and a T-filter.

The shelving filters are designed around a high gain tube amplifier. The T-filter is a passive filter placed between the shelving filters and the output amplifier. All three sections are supplied with a in/out switch. The low and high cut filters are also passive with a slope of 6dB/octave.

A bypass switches the whole filter section out of the amplifier circuit, keeping the output stage in the circuit.

The T-filter is like a seesaw. When the low end goes up, the high end goes down and visa versa.

When the potentiometer is turned clockwise, the high frequencies are boosted and the low frequencies are attenuated.

When the potentiometer is turned counter clockwise, the low frequencies are boosted and the high frequencies are attenuated

The unit is all tube based except for the power supply.

Input and output have fully floating transformers.

All DC voltages are stabilized, except the anode voltage for the output stage.

## **CONTROLS:**

### **LOW CUT:**

Low cut Hz: There are choices of five frequencies: 18, 25, 40, 60, 85 Hz and an off position  
The slope of the filter is 6dB/octave

### **LOW SHELIVING:**

+/- dB: The gain control is continuously variable from +12dB to -12 dB.

Freq. Hz: There are choices of six frequencies: 18, 37, 80, 180, 370 and 800 Hz.  
The frequency is where the boost or cut is 9 dB when the gain is at max.

LOW SHELIVING/OUT: Switches the GAIN in or out, resetting the gain to 0 dB.

### **HIGH SHELIVING:**

+/- dB: The gain control is continuously variable from +12 dB to -12 dB.

FREQ. kHz: There are a choice of six frequencies: 1, 2, 5, 10, 15, 22 kHz.  
The frequency is where the boost or cut is 9 dB when the gain is at max.

HIGH SHELIVING/OUT: Switches the GAIN in or out, resetting the gain to 0 dB.

### **T- filter:**

+/- dB: A T-filter is like a seesaw. When the low end goes up, the high end goes down and visa versa.  
When the potentiometer is turned clockwise, the high frequencies are boosted and the low frequencies are attenuated.  
When the potentiometer is turned counter clockwise, the low frequencies are boosted and the high frequencies are attenuated  
The amount of boost is +4 db and the attenuation is -7 dB

Center Freq. kHz: There is three centre frequencies of the filter: 0,5- 1- 2 kHz.

## **HIGH CUT:**

High Cut kHz: There are choices of five frequencies 12, 15, 18, 20, 25 kHz and an off position. The slope of the filter is 6dB/octave

## **T FILTER**

HIGH CUT /OUT: Switches the T-filter and the High cut filter in or out, resetting the gain to 0 dB.

## **BYPASS:**

IN /OUT: The switch bypasses the whole filter section, leaving only the amplifiers in the circuit

## **ADJUSTMENT PROCEDURE:**

### **CAUTION:**

**Before making any adjustment let the unit heat-up at least 30 min.**

**Always check the DC voltages at the power supply.**

### **ADJUSTMENT OF PSU:**

- 1) The DC voltage in TP1 shall be +280V +/- 15V
- 2) The DC voltage in TP2 shall be +240V +/- 5V.
- 3) The DC voltage in TP3 shall be +35V +/- 1V.

### **ADJUSTMENT OF BASIC GAIN:**

- 1) Apply a signal of 1 kHz, 0,0 dBU to the input of the unit.
- 2) Turn all three gain controls at "**0**" and all three switches on "**OUT**".
- 3) Set the "BYPASS" switch in "IN"
- 4) Adjust the preset **GAIN** P1 (CH1) and P101 (CH2) (located on amp/psu PCB) to an output reading of 0,0 dBU.
- 5) Set the "BYPASS" switch in "OUT"
- 6) Adjust the preset **GAIN** P2 (CH1) and P102 (CH2) (located on amp/psu PCB) to an output reading of 0,0 dBU.

## SPECIFICATIONS HLT 2A:

<b>Input impedance:</b>	>10 k $\Omega$
<b>Output impedance:</b>	< 60 $\Omega$
<b>Frequency response (-3dB):</b>	5 Hz - 55 kHz
<b>Distortion (THD+n @ 40 Hz):</b>	
0 dBU:	< 0,10 %
10 dBU:	< 0,10 %
Max output (1% THD+n):	> +26 dBU
Max input (1% THD+n):	> +25 dBU
<b>Noise (Rg=200<math>\Omega</math>):</b>	
22Hz-22kHz:	< -85 dBU
CCIR-468-4:	< -75 dBU
<b>CMRR (@ 10kHz):</b>	< -60dB
<b>Gain:</b>	0dB
<b>X-talk (@ 10kHz):</b>	>40 dB
<b>FILTERS:</b>	
Low cut:	18, 25, 40, 60, 85 Hz, 6db/octave
Low shelving:	18, 37, 80, 180, 370, 800 Hz
Gain:	+/-12dB
High shelving:	1, 2, 5, 10, 15, 22 kHz
Gain:	+/-12dB
T.-filter:	0,5, 1, 2kHz
Gain:	+4/-7 dB
High cut:	12, 15, 18, 20, 25 kHz, 6db/octave
Tracking between channels:	+/-0,3 dB
<b>Tubes:</b>	2x ECC82, 4x ECC83
<b>Dimensions:</b>	H: 2 units, W: 19", D: 165 mm
<b>Weight:</b>	4,3kg (Net) 5,5kg (Shipping)
<b>Power requirements:</b>	115V/230V, 50-60Hz, 30-45W

All specifications at RL=600 $\Omega$

Lydkraft reserves the right to alter specifications without prior notice