

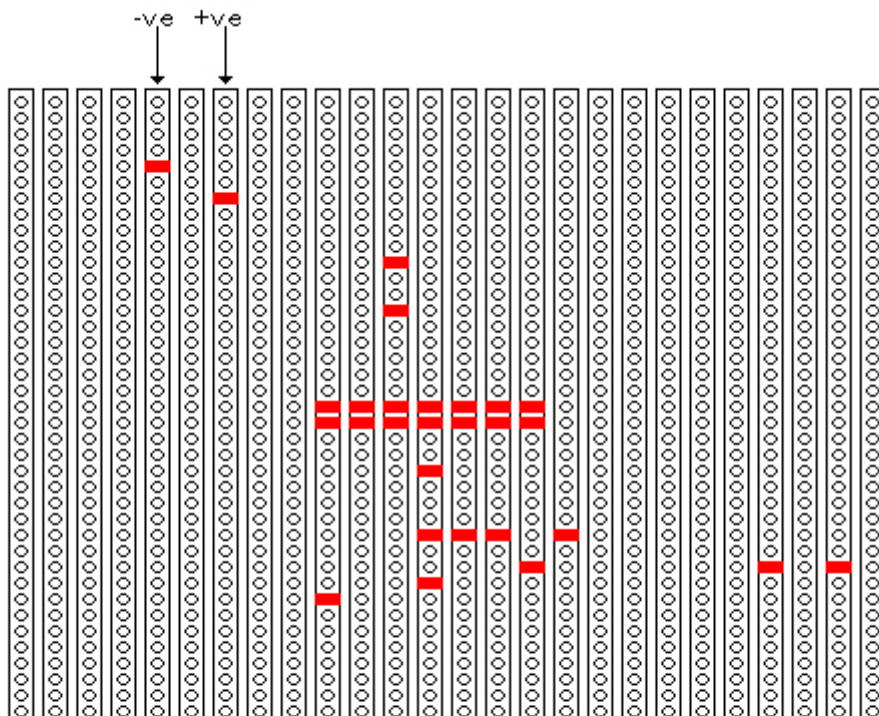
# Processador de Voz Dinâmico Tucson

Artigo original: <http://www.lucidia.co.uk/radio/direct.htm>

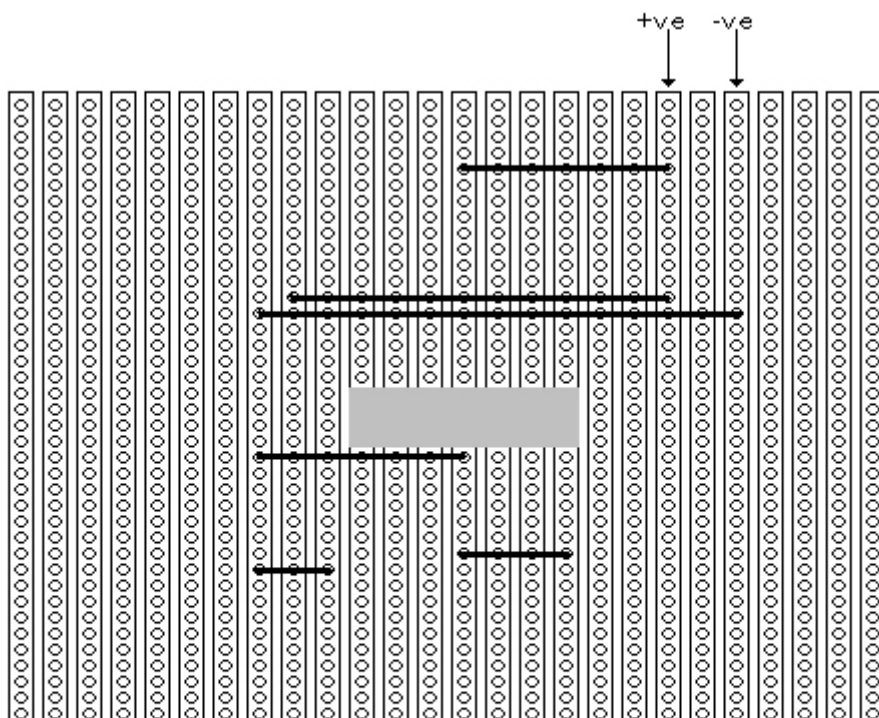
## Instruções de Montagem

Siga as instruções da página (<http://www.cbcintl.com/docs/dsp-instruct.pdf>) sobre a instalação dos componentes. Neste caso, descreveremos a montagem em placa de trilhas universal.

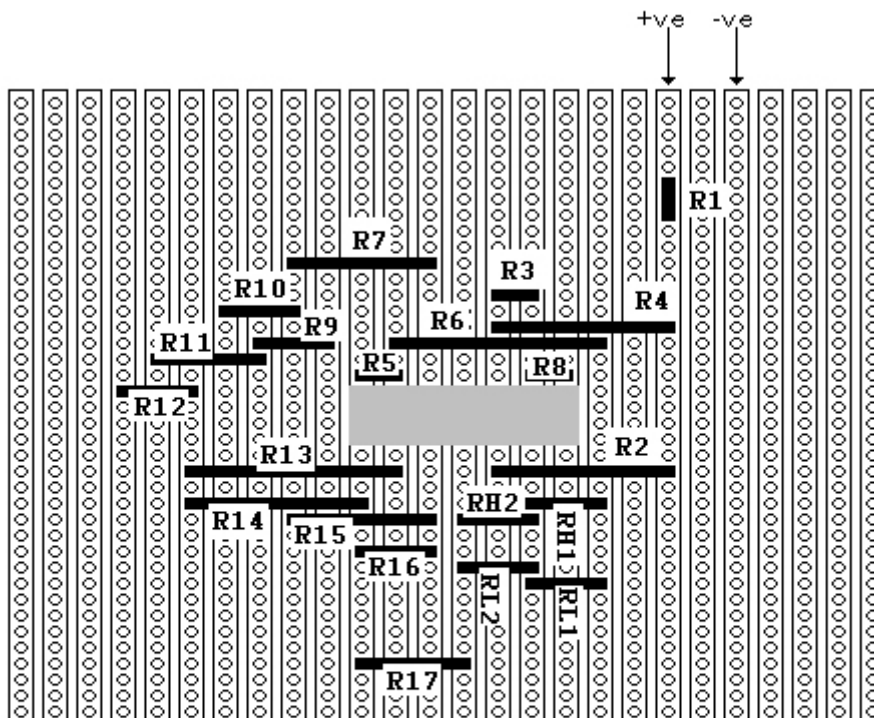
- Utilize uma placa universal de 26 trilhas por 32 furos (ou maior)
- Corte as trilhas nos pontos vermelhos, conforme o diagrama abaixo



Instale os fios dos *jumpers* primeiro



Depois os resistores

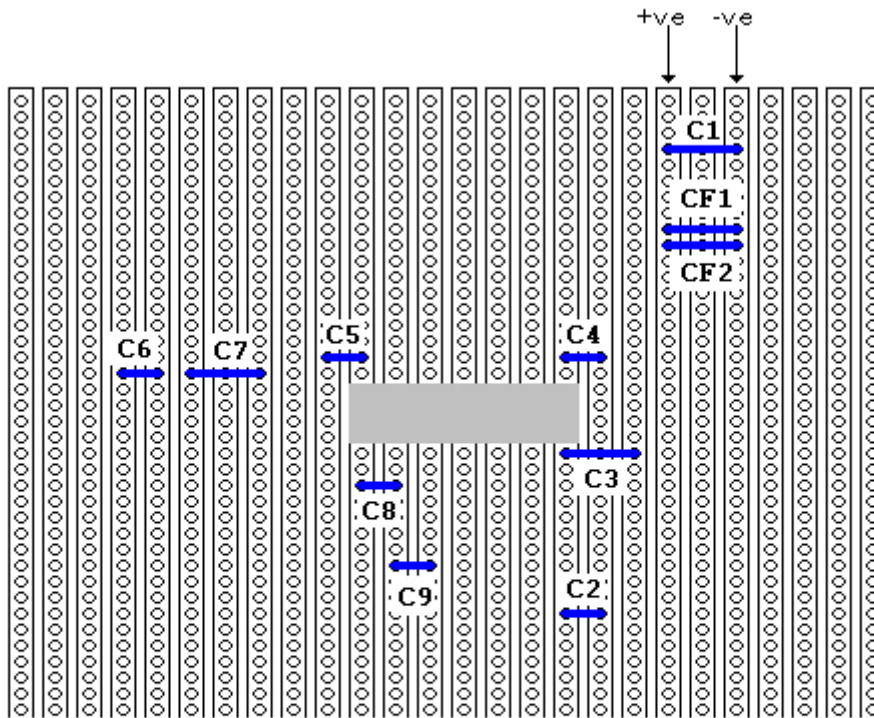


- R1 - 330 Ohm 1/2 Watt
- R2 - 1k Ohm
- R3 - 220 Ohm
- R4 - 1k Ohm
- R5 - 10k Ohm
- R6 - 1k Ohm
- R7 - 47kOhm
- R8 - 1M Ohm
- R9 - 1k Ohm
- R10 - 10k Ohm
- R11 - 1k Ohm
- R12 - 100k Ohm
- R13 - 180k Ohm
- R14 - 470k Ohm
- R15 - 1k Ohm
- R16 - 10k Ohm
- R17 - 10k Ohm

RL1, RL2, RH1 - 1k Ohms

RH2 - 100 Ohms

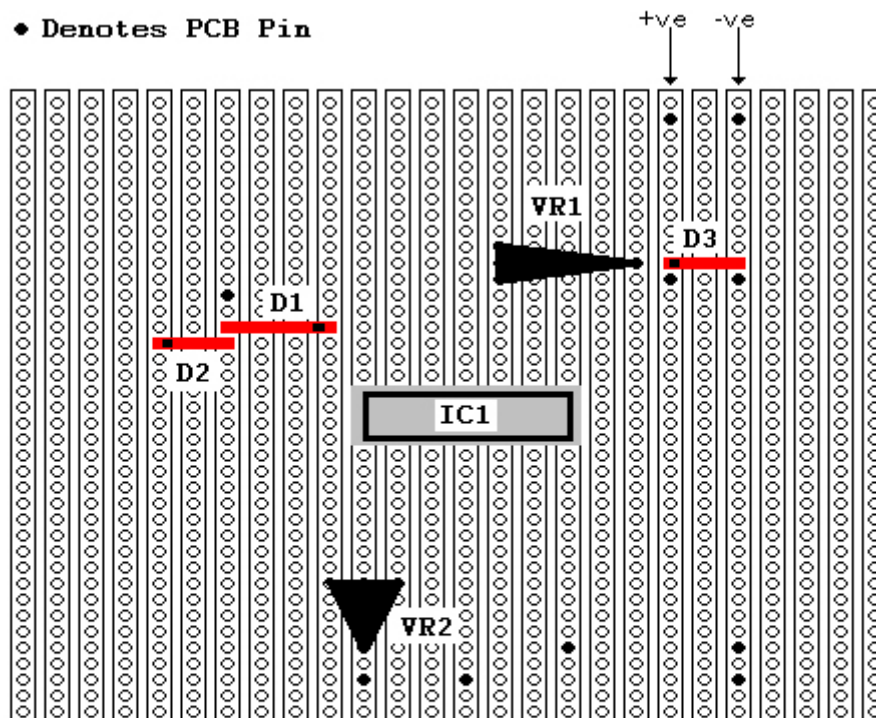
Depois os capacitores



C1 - 0.01uF (10 K)  
C2 - 4.7uF X 25 volts  
C3 - 4.7uF X 25 volts  
C4 - 0.002uF (2 K)  
C5 - 4.7uF X 25 volts  
C6 - 0.47uF X 25v  
C7 - 0.002uF (2 K)  
C8 - 150pF  
C9 - 4.7uF X 25 volts

CF1 - 0.1uF (100 K)  
CF2 - 22uF X 25 volts

Depois os demais componentes



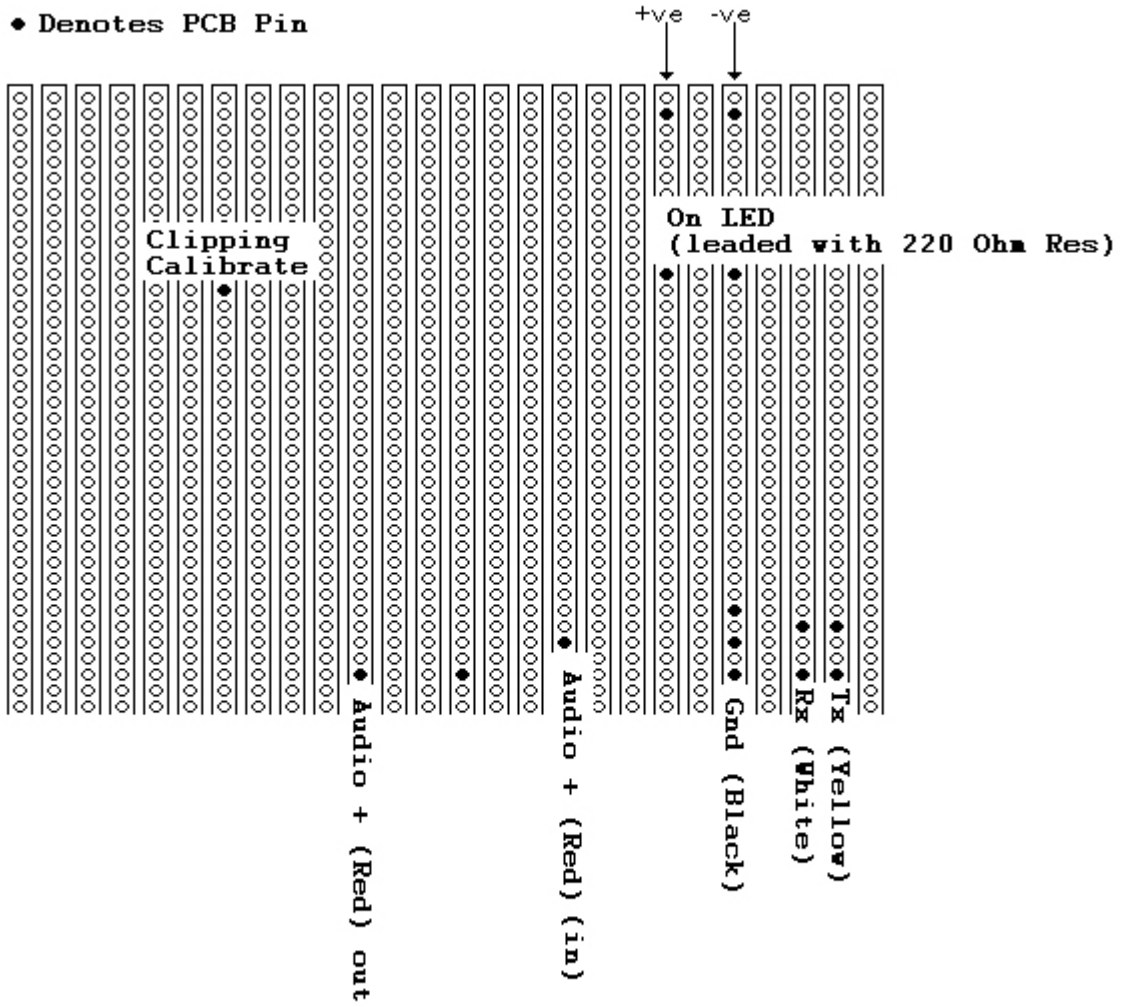
D1, D2 - 1N914

D3 - 1N4735A (zener 6,2 volts)

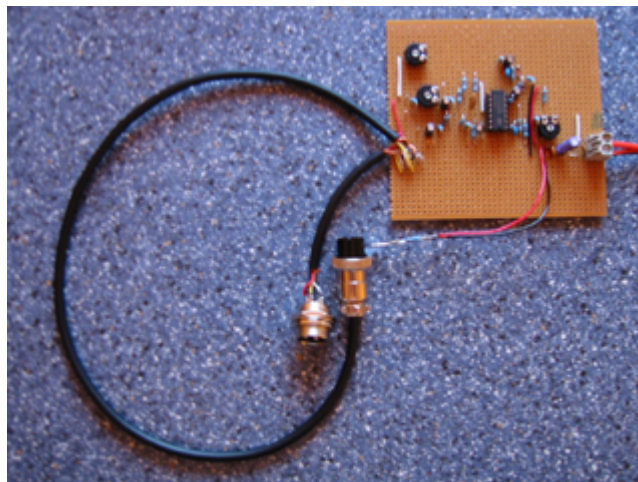
IC1 - LM324

VR1, VR2 – trimpots 10k Ohms

Finalmente os fios de entrada e saída de áudio e de alimentação.



Aspecto final :



Os testes, ajustes e instalação deverão ser feitos conforme as instruções da CBC, que estão na página <http://www.cbcintl.com/docs/dsp-instruct.pdf> . A caixa deste processador de voz deverá ser metálica, e os cabos de conexão deverão ser blindados.

## Lista de Componentes

Lista de componentes para o projeto de compressor DSP Project.

### Resistores

R1 - 330 Ohm 1/2 Watt  
R2 - 1k Ohm  
R3 - 220 Ohm  
R4 - 1k Ohm  
R5 - 10k Ohm  
R6 - 1k Ohm  
R7 - 47kOhm  
R8 - 1M Ohm  
R9 - 1k Ohm  
R10 - 10k Ohm  
R11 - 1k Ohm  
R12 - 100k Ohm  
R13 - 180k Ohm  
R14 - 470k Ohm  
R15 - 1k Ohm  
R16 - 10k Ohm  
R17 - 10k Ohm

RL1, RL2, RH1 - 1k Ohms

RH2 - 100 Ohms

VR1, VR2 – trimpots 10k Ohms

### Capacitores

C1 - 0.01uF (10 K)  
C2 - 4.7uF X 25 volts  
C3 - 4.7uF X 25 volts  
C4 - 0.002uF (2 K)  
C5 - 4.7uF X 25 volts  
C6 - 0.47uF X 25v  
C7 - 0.002uF (2 K)  
C8 - 150pF  
C9 - 4.7uF X 25 volts

CF1 -0.1uF (100 K)  
CF2 - 22uF X 25 volts

## Diodos

D1, D2 - 1N914

D3 - 1N4735A (zener 6,2 volts)

## IC

IC1 - LM324

Página original do projeto:

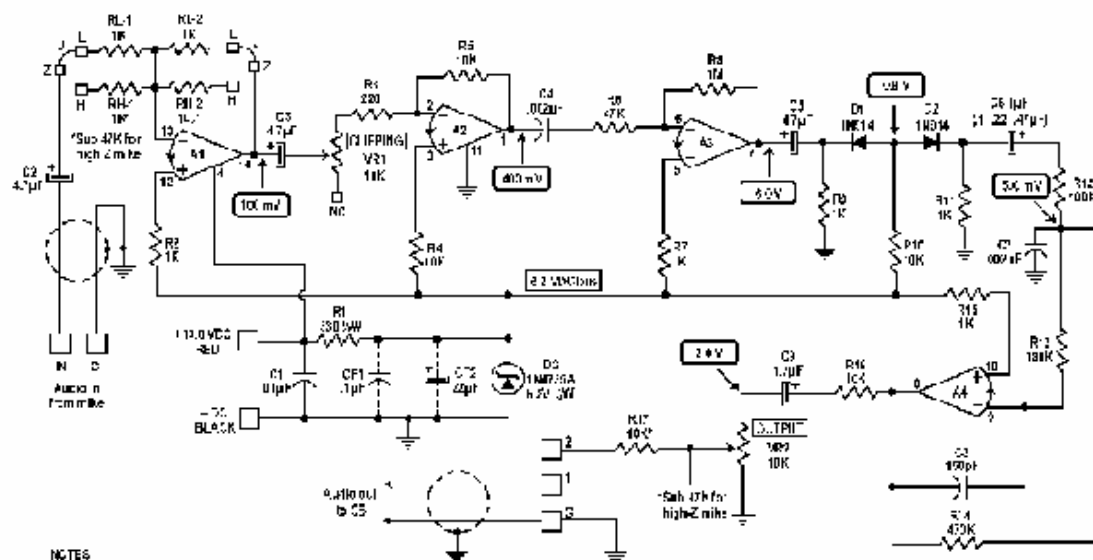
<http://www.cbciintl.com/DSP.htm>

<http://www.cbciintl.com/docs/dsp-instruct.pdf>

<http://www.lucidia.co.uk/radio/direct.htm>

## Diagrama Esquemático :

### Schematic Circuit Diagram



#### NOTES

1. All resistors are  $\Omega$  unless otherwise noted.
2. C4 characteristic is 0.01  $\mu$ F and 1  $\mu$ F for most natural voice quality.
3. C5 may be 0.47  $\mu$ F or 1  $\mu$ F electrolytic or 0.1  $\mu$ F or 0.22  $\mu$ F dielectric provided for 200 Hz pass.
4. C6, C7 are optional filtering, not supplied. (See text.)
5. I.P.T. and A.U.T. must have correct junctions for otherwise low impedance to eye with 100 Hz and 10 kHz at 0 dBm (1000  $\mu$ V).

= Approximate peak-peak levels using standard system 0 dBm, 200 mV r.m.s. (1.414 V peak) and V.P.P. turned at the way up.

U1, U2, U3: LM324,  $V_{CC} = 15.75 \text{ VDC} \pm 20 \text{ mA}$ .

LM324 IC:

Pin 4 = 15.75 VDC

Pin 11 = 0.1 VDC

All other pins approximately equal to the Zener voltage: 6.20 VDC