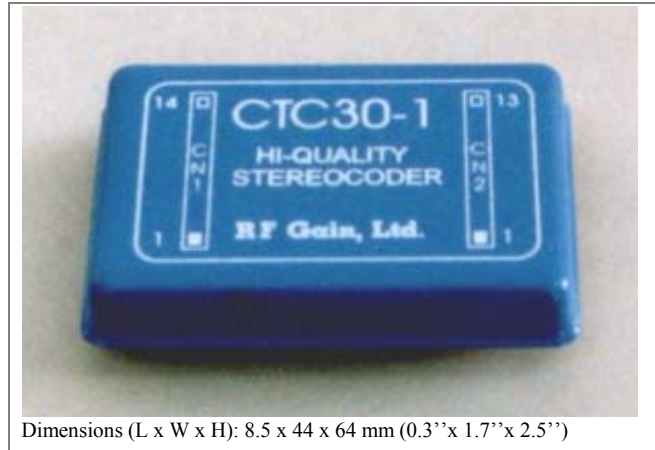


Stereo Encoder Module

The CTC30-01 has been designed to simplify the realization of stereo encoders both stand alone and internal to FM transmitters. Its excellent characteristics and its low cost make it the ideal component for this use. We have provided two using possibilities: the first without additional trimmers already gives excellent characteristics; the second one with five additional trimmers boosts the performances to the state of the art.

- Low cost
- Highest characteristics in small dimensions
- Easy to use
- No trimming required
- Typical Crosstalk < -70dB
- Very low distortion
- Excellent S/N ratio
- Demo-Board available (CTC30-01-DB)



Dimensions (L x W x H): 8.5 x 44 x 64 mm (0.3''x 1.7''x 2.5'')

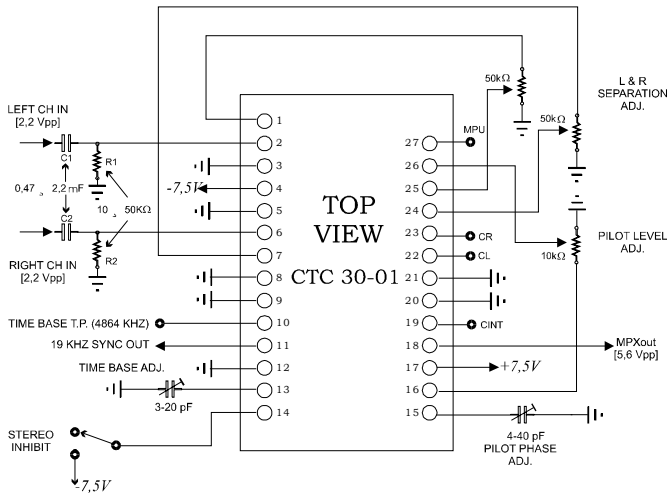
This picture is a mere example, it does not bind the provided product

TECHNICAL SPECIFICATIONS

MEASUREMENT	UNADJUSTED		ADJUSTED		UNIT
	MIN	TYP	MIN	TYP	
Stereo Separation 40÷5,000 Hz	55	65	65	>72	dB
Stereo Separation 40÷15,000 Hz	50	60	60	>65	dB
Frequency Response B=40÷14,970 Hz (without preemphasis) REF.= 400 Hz	±0.05	±0.02	±0.05	±0.02	dB
38 kHz Suppression	46	55	50	55	dB
Input Level		0 2,200		0 2,200	dBm Vpp
Output Composite Level		5,600 ±5%		5,600 ±5%	Vpp
Pilot Level		560 10		0÷730 0÷13	mVpp %
Distortion on Decoded Output 40÷5,000 Hz	0.05	0.03	0.05	0.03	%
19kHz Frequency Accuracy	2	1	1	0.5	Hz
Signal to Noise Ratio, rms	84	90	84	90	dB
Input Impedance	1,000		1,000		kΩ
Output Impedance		47		47	Ω
Output Load	2	10	2	10	kΩ
Input Overload	4	6	4	6	dB

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Full Specifications Application



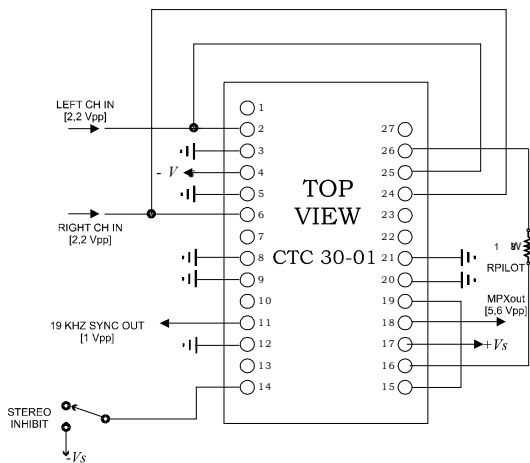
NOTE:

C1/R1 and C2/R2 are an optional network. Audio inputs can be driven from a previous d.c. coupled circuit. In this case, the common mode voltage, referring to ground, must be <50 mV, and the input to input d.c. differential voltage must be <5 mV.

The low frequency cut-off depends from the time constant C1/R1 and C2/R2.

$f_{lp} \approx 5\text{Hz}$ per $R1 = 33\text{k}\Omega$ and $C1 = 1\mu\text{F}$.

Minimum Components Application



$C = 10\text{nF}$ for $\tau = 50 \mu\text{s}$

$C = 15\text{nF}$ for $\tau = 75 \mu\text{s}$

NOTE:

Left and right channels must be driven in d.c. with an average tension, referring to ground, <50mV.

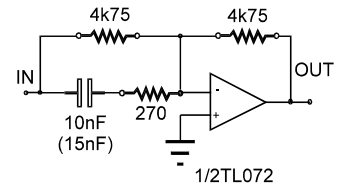
The input offset must be less than 5 mV. The source impedance must be $\leq 1\text{k}\Omega$.

$R_{pilot} = 18\text{k}\Omega$ per $V_{out} (\text{pilot}) \approx 560 \text{ mV}$ (10%), depending by power supply.

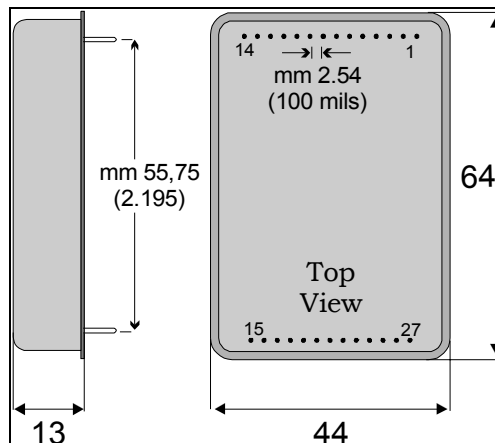
A preemphasis network must be inserted on each audio channel.

$+Vs / -Vs = +7.5 / -7.5V \pm 5\%$ (Max +8.5/- 8.5)

Active Preemphasis Network Example



PCB HOLES – TOP VIEW



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CTC30-01

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