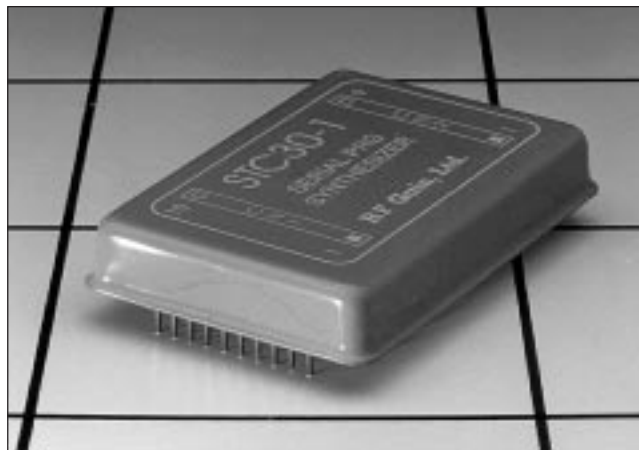


The CTC30-01 has been designed to simplify the realization of stereo encoders both stand alone and internal to FM transmitters. Its excellent characteristics and its low cost make it the ideal component for this use. Two options are provided: the first without additional trimmers gives excellent characteristics; 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 = -70 dB**
- **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")

TECHNICAL SPECIFICATIONS

Measurement	Unadjusted		Adjusted		Unit
	Min	Typ	Min	Typ	
Stereo Separation 20 - 5,000 Hz	55	65	65	>72	dB
Stereo Separation 20 - 15,000 Hz	50	60	60	>65	dB
Frequency Response B=20÷15,000 Hz (without preemphasis) REF.= 400 Hz	±0.05	±0.02	±0.05	±0.02	dB
38 kHz Supression	46	55	50	55	dB
Input Level		0 2,200		0 2,200	dBm mVpp
Output Composite Level		5,600 ±5%		5,600 ±5%	mVpp
Pilot Level		560 10		0 - 730 0 - 13	mVpp %
Distortion on Decoded Output 20÷5,000 Hz	0.05%	0.03%	0.05%	0.03%	
19kHz Frequency Accuracy	2	1	1	0.5	Hz
Signal to Noise Ration, 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

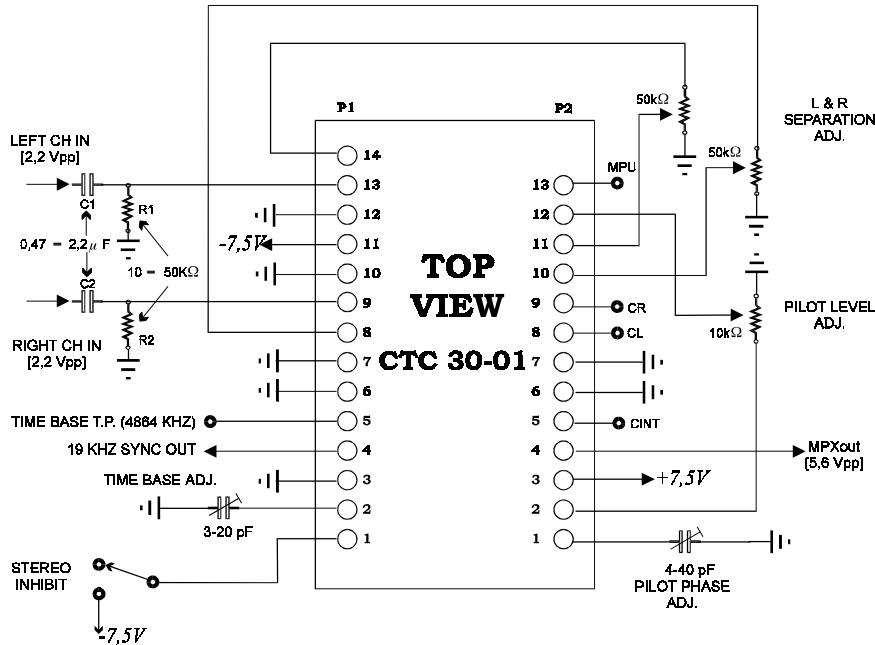
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The specifications of this item are subject to change without notice and RF Gain, Ltd. assumes no liability for the use of the information contained herein.

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FULL SPECIFICATIONS APPLICATION

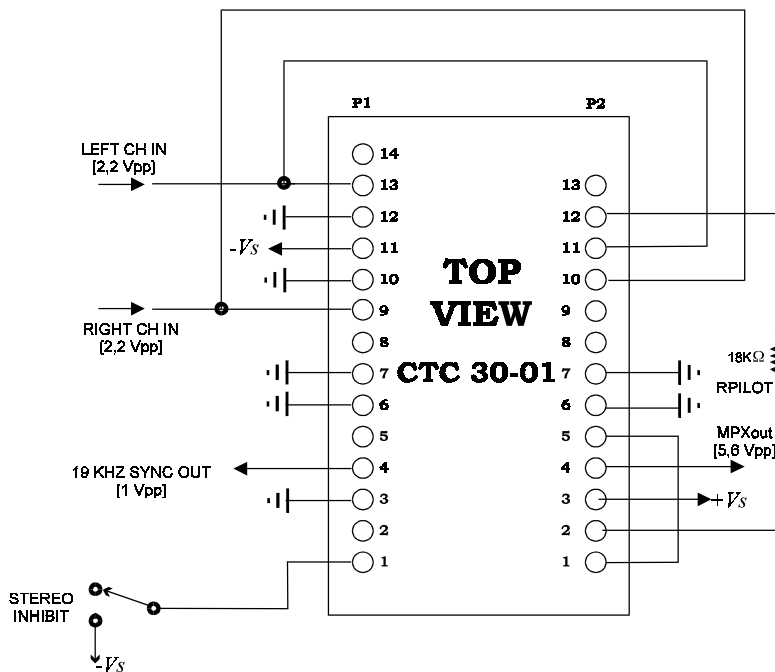


NOTE:

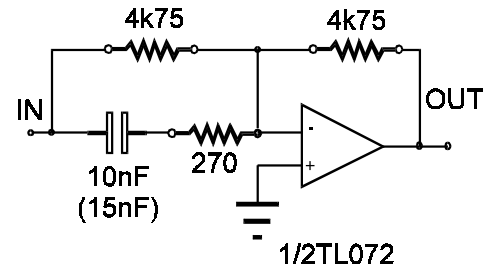
C1/R1 and C2/R2 are an optional network. Audio inputs can be driven from a previous d.c. coupled circuit. In this case, the common mode voltage, referring to ground, must be <50 mV, and the input to input d.c. differential voltage must be < 5 mV.

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



Active Preemphasis Network Example



$C = 10\text{nF}$ per $\tau = 50 \mu\text{s}$
 $C = 15\text{nF}$ per $\tau = 75 \mu\text{s}$

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.
 $+V_s / -V_s = +7.5 / -7.5 \pm 5\%$ (Max +8.5/- 8.5)