

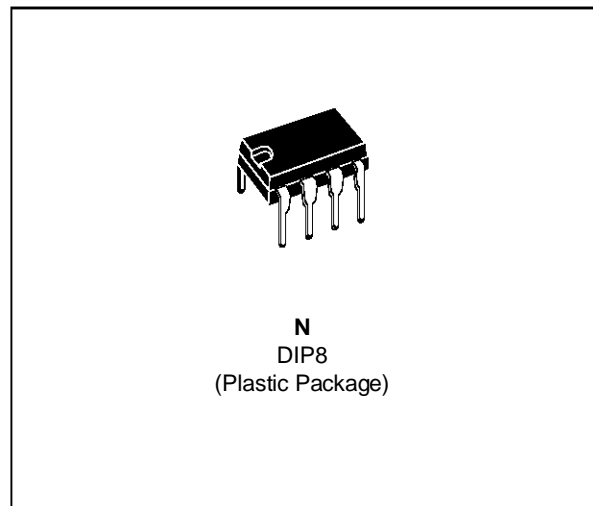
**PREAMPLIFIER FOR INFRARED  
REMOTE CONTROL SYSTEMS**

**DESCRIPTION**

The TDA2320 is a monolithic integrated circuit in Dip package especially designed to amplify the IR signal in remote controlled TV or radio sets. It directly interfaces the digital control circuitry.

The TDA2320 incorporates a two-stage amplifier with excellent sensitivity and high noise immunity. It can work with a single 5V supply voltage and flash or carrier transmission modes as provided for example by the M709A/M710A/MOS transmitters.

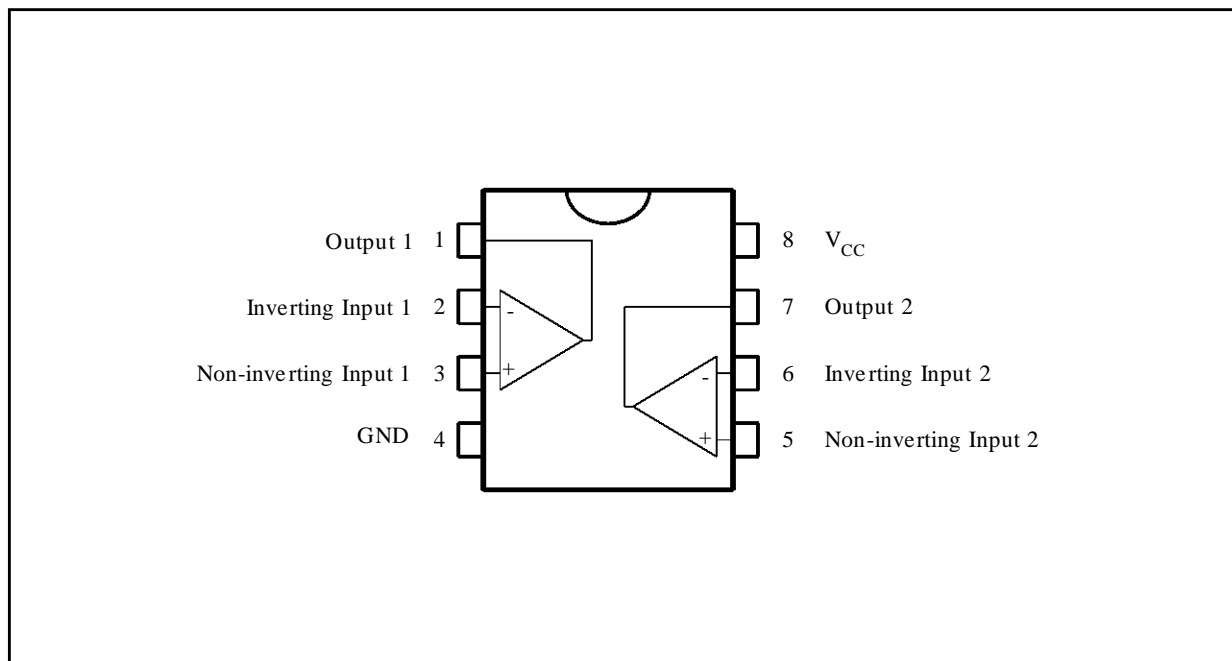
The TDA2320 is particularly intended to be used in conjunction with the M104 and M206 + M3870 remote control receivers.



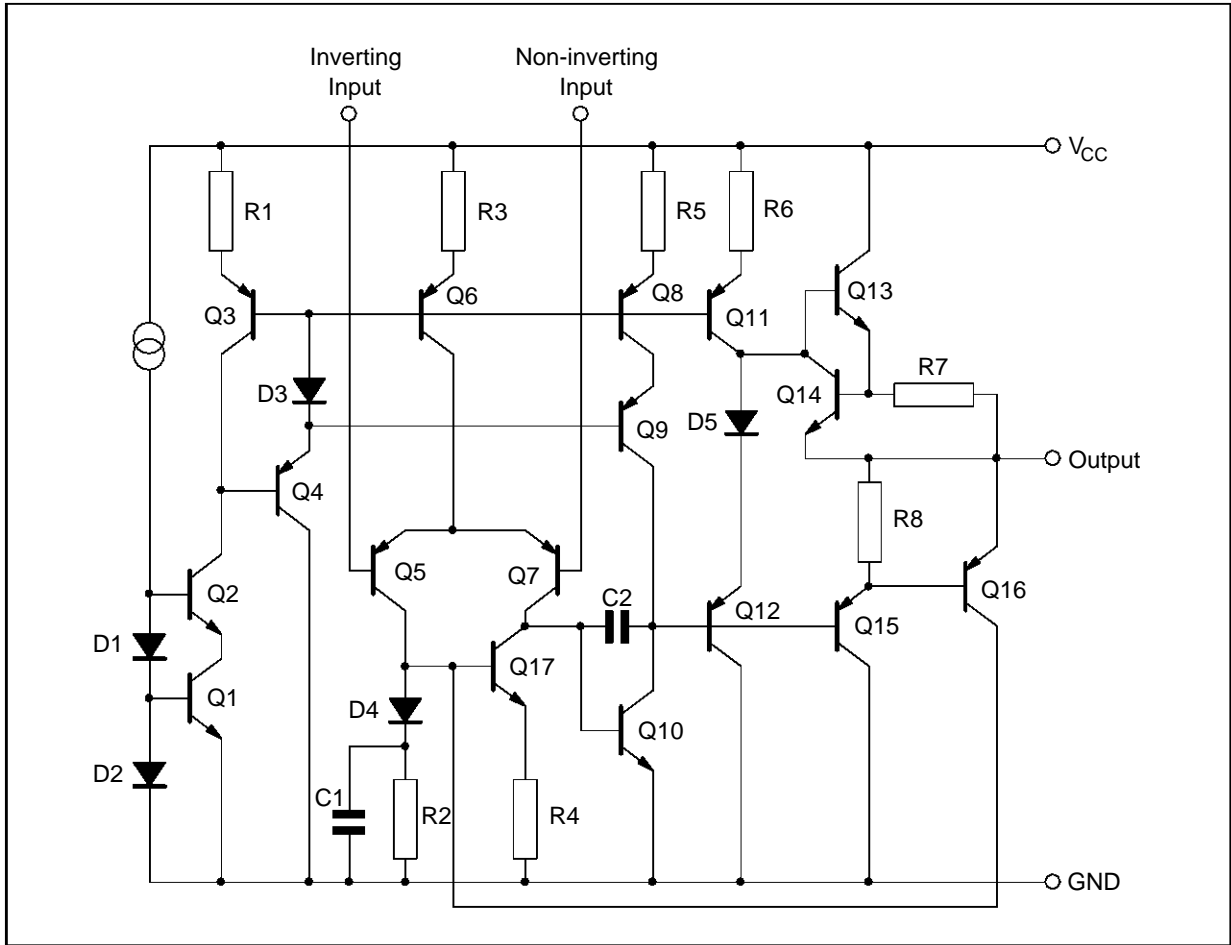
**ORDER CODES**

Part Number	Temperature Range	Package
		N
TDA2320	-40°C, +105°C	•

**PIN CONNECTIONS (top view)**



**SCHEMATIC DIAGRAM (1/2 TDA2320)**



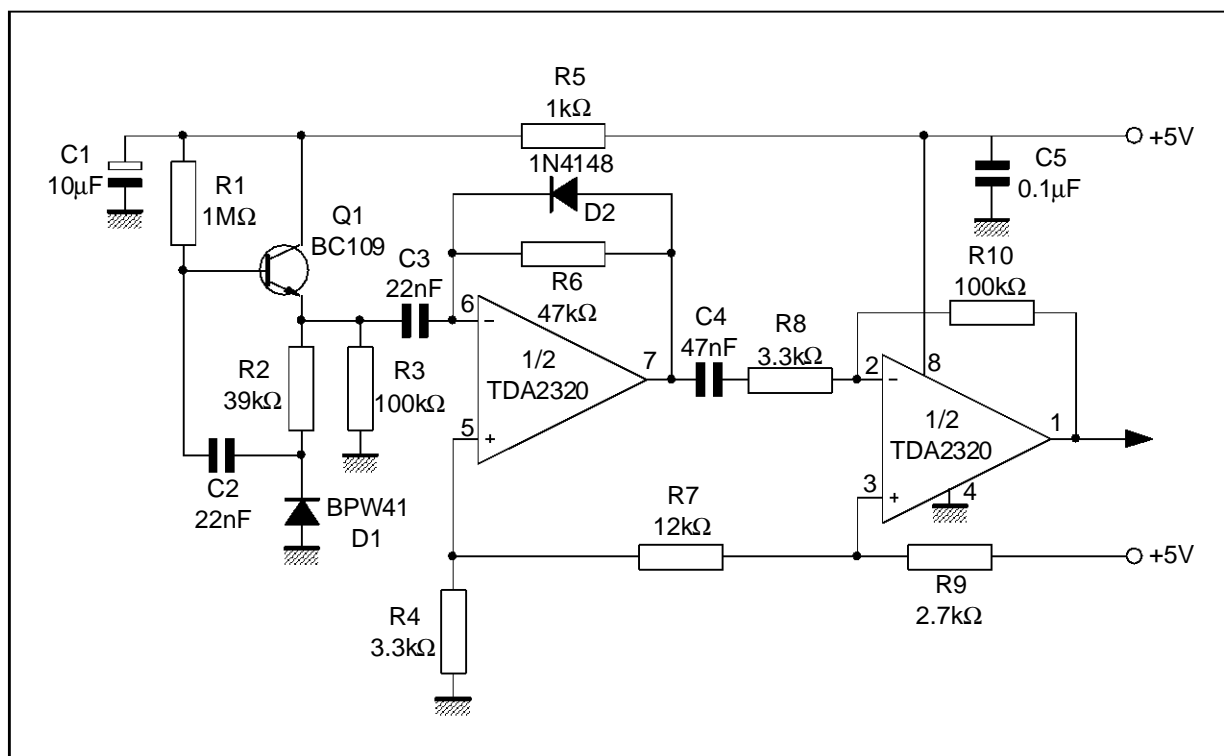
**ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value	Unit
$V_{CC}$	Supply Voltage	20	V
$P_{tot}$	Total Power Dissipation at $T_{amb} = 70^{\circ}C$	400	mW
$T_{stg}, T_j$	Storage and Junction Temperature	-40 to 150	$^{\circ}C$

**ELECTRICAL CHARACTERISTICS**

$V_{CC} = 5V$ ,  $T_{amb} = 25^{\circ}C$  (unless otherwise specified) (refer to the test circuits)

Symbol	Parameter	Min.	Typ.	Max.	Unit
$V_{CC}$	Supply Voltage	4		20	V
$I_{CC}$	Supply Current $V_{CC} = 20V$		0.8	2	mA
$I_{ib}$	Input Bias Current		100	500	nA
$V_{io}$	Input Offset Voltage $R_s < 10k\Omega$		0.5		mV
$I_{io}$	Input Offset Current		15		nA
$A_{vd}$	Large Signal Voltage Gain $f = 1kHz$ $f = 100kHz$	64	70 30		dB
$V_{OPP}$	DC Output Voltage Swing		2.5		V
GBP	Gain-bandwidth Product $f = 100kHz$	1.5	3		MHz
SR	Slew Rate $R_L = 2k\Omega$		1.5		V/ $\mu s$
$e_n$	Equivalent Input Noise Voltage $f = 40kHz$ $R_s = 10k\Omega$		20		$\frac{nV}{\sqrt{Hz}}$
SVR	Supply Voltage Rejection Ratio $f = 100Hz$		80		dB

**APPLICATION CIRCUIT****FLASH MODE PREAMPLIFIER**

APPLICATION INFORMATION

Figure 1 : Application Circuit for Carrier Transmission Mode

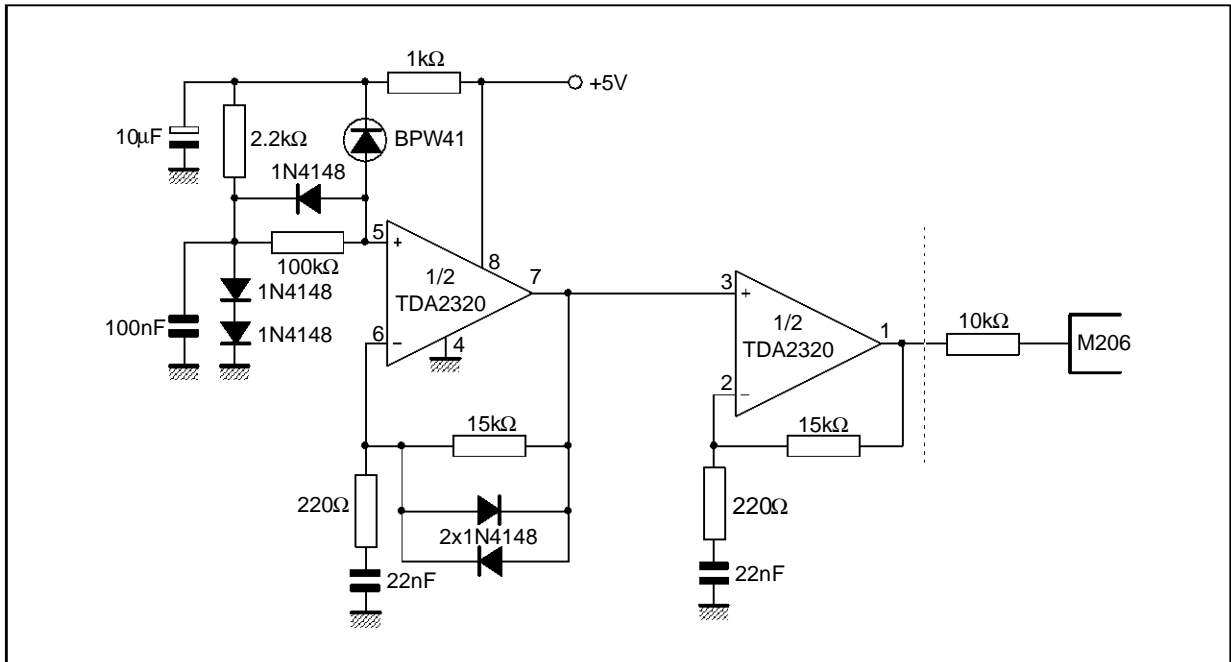


Figure 2 : IR Transmitter Using M709 or M710

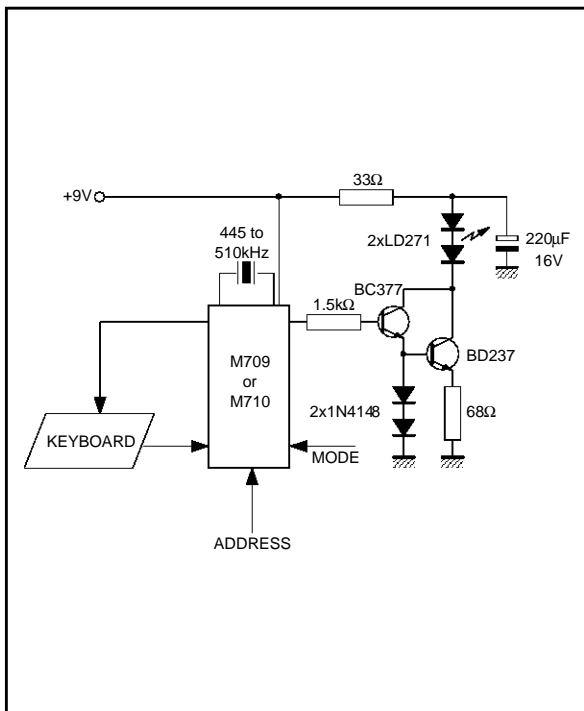
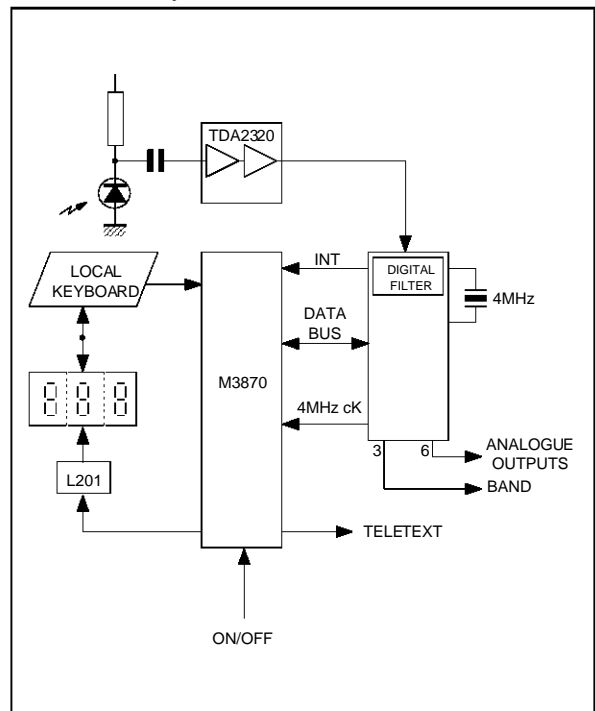
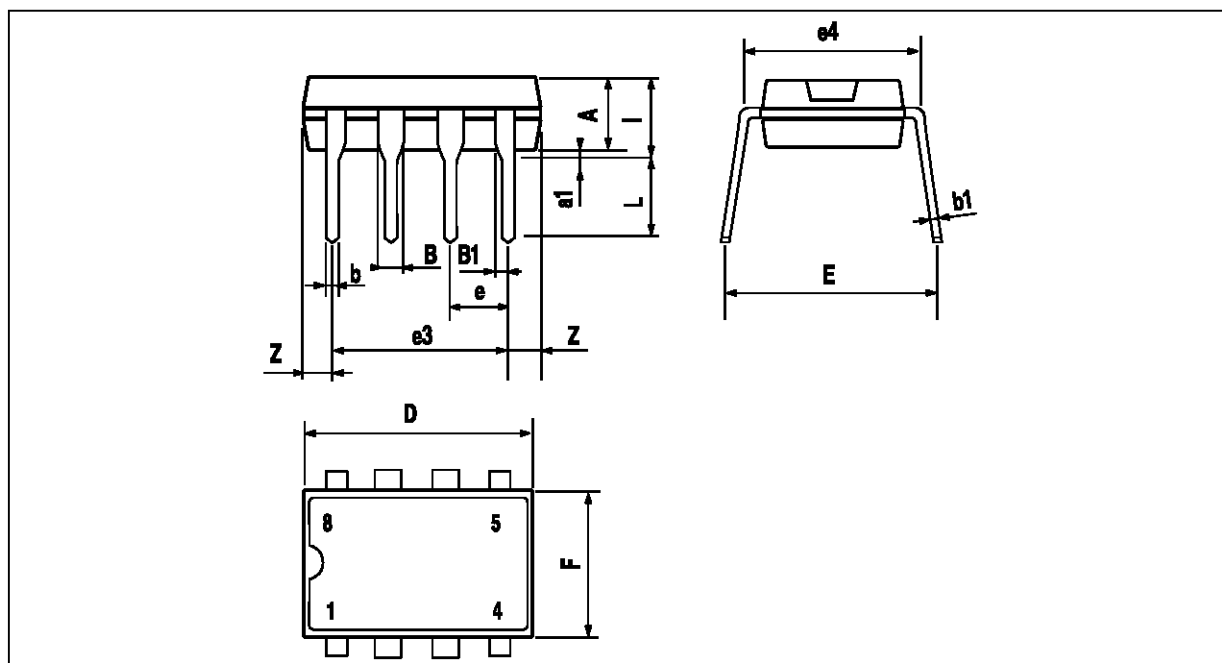


Figure 3 : MMC II - PLL TV Frequency Synthesizer



## PACKAGE MECHANICAL DATA

8 PINS -PLASTIC DIP



PM-DIP8.EPS

Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A		3.32			0.131	
a1	0.51			0.020		
B	1.15		1.65	0.045		0.065
b	0.356		0.55	0.014		0.022
b1	0.204		0.304	0.008		0.012
D			10.92			0.430
E	7.95		9.75	0.313		0.384
e		2.54			0.100	
e3		7.62			0.300	
e4		7.62			0.300	
F			6.6			0.260
i			5.08			0.200
L	3.18		3.81	0.125		0.150
Z			1.52			0.060

DIP8.TBL

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