

## NTSC DECODER

The TDA3570 is a monolithic integrated colour decoder for the NTSC standard. It combines all functions required for the identification and demodulation of NTSC signals. Furthermore it contains a luminance amplifier, an RGB-matrix and amplifier. The amplifier supplies output signals up to 3,5 V peak-to-peak (picture information) enabling direct drive of the output stages. The circuit also contains an automatic picture setting switch to preset positions of both saturation and tint controls.

## QUICK REFERENCE DATA

Supply voltage	$V_{1-14}$	typ.	12 V
Supply current	$I_1$	typ.	43 mA
Luminance input signal (peak-to-peak value)	$V_{5-14(p-p)}$	typ.	1 V
RGB output signals (peak-to-peak value)	$V_{26,27,28-14(p-p)}$	typ.	3,5 V
Contrast control range		typ.	13 dB
Blanking pulse and black level gating input voltage	$V_{24,20-14}$	$\geq$	2 V
Chrominance input voltage (peak-to-peak value)	$V_{13-14(p-p)}$		10 to 300 mV
Saturation control range		$\geq$	40 dB
Tint control range		typ.	$\pm 45^\circ$

## PACKAGE OUTLINE

28-lead DIL; plastic

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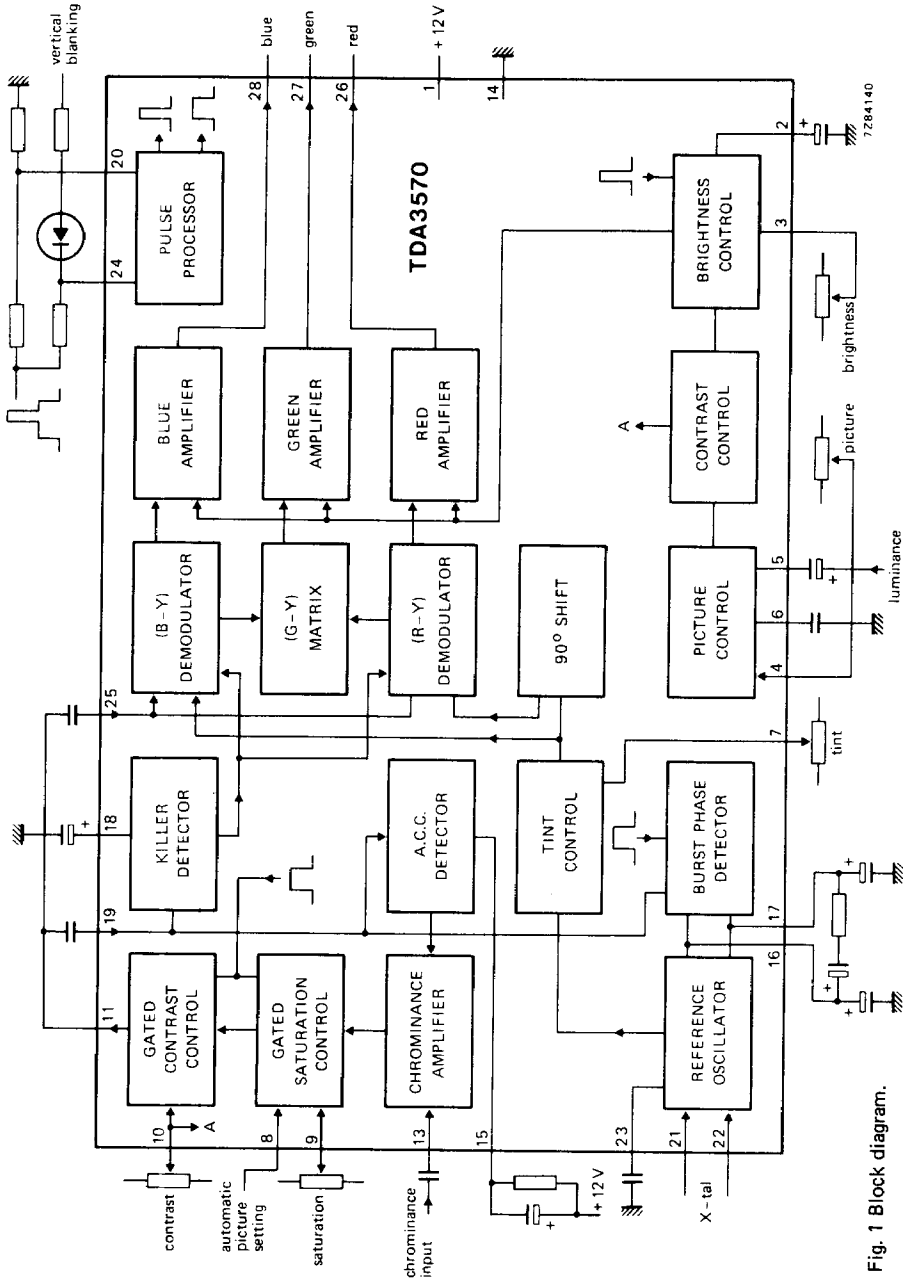


Fig. 1 Block diagram.

PHOTO BY MICHAEL J. ...

**RATINGS**

Limiting values in accordance with the Absolute Maximum System (IEC 134)

		min.	max.	
Supply voltage	$V_P = V_{1-14}$	0	14,4	V
Input saturation voltage	$V_{9-14}$	0	$V_P$	V
Input contrast voltage	$V_{10-14}$	0	$V_P$	V
Input tint voltage	$V_{7-14}$	0	$V_P$	V
Input picture voltage	$V_{4-14}$	0	$V_P$	V
Input brightness voltage	$V_{3-14}$	0	$V_P$	V
Input sandcastle current	$I_{20}$	-30	-	mA
Input blanking pulse voltage	$V_{24-14}$	-6	$V_P$	V
Power dissipation at $T_{amb} = 70\text{ }^\circ\text{C}$			750	mW
Storage temperature	$T_{stg}$	-40 to +	125	$^\circ\text{C}$
Operating ambient temperature	$T_{amb}$	-20 to +	70	$^\circ\text{C}$

**CHARACTERISTICS**

$V_{1-14} = 12\text{ V}$ ;  $V_{5-14(p-p)} = 1\text{ V}$ ;  $V_{13-14(p-p)} = 150\text{ mV}$ ;

$T_{amb} = 25\text{ }^\circ\text{C}$ ; measured in Fig. 2

Supply voltage	$V_{1-14}$	typ.	12	V
Supply current	$I_1$	typ.	43	mA

**Luminance**

Input voltage (positive-going sync pulse; peak-to-peak value)	$V_{5-14(p-p)}$	typ.	1	V
Video gain	$G_V$	typ.	5	
Contrast control voltage range	$V_{10-14}$		0 to 12	V
Contrast control range		typ.	13	dB
Brightness control voltage range	$V_{3-14}$		8 to 10	V
Black level range	$V_{26,27,28-14}$		0 to 7	V*
Max. output voltage	$V_{26,27,28-14}$	typ.	7	V
Blanking and gating pulse	$V_{24-14}$	typ.	$\geq 2$	V
Input impedance (pin 24)	$ Z_{24-14} $	typ.	1,5	k $\Omega$
Black level clamp and burst gating pulse	$V_{20-14}$	typ.	$\geq 2$	V
Input impedance (pin 20)	$ Z_{20-14} $	typ.	3	k $\Omega$
Input circuit: 3 pF in parallel with 9 k $\Omega$				
Output circuit: emitter followers with internal $R_E = 2,2\text{ k}\Omega$				
Picture control voltage	$V_{4-14}$		0 to 12	V

\* Usable range depends on the output signal amplitude.



APPLICATION INFORMATION

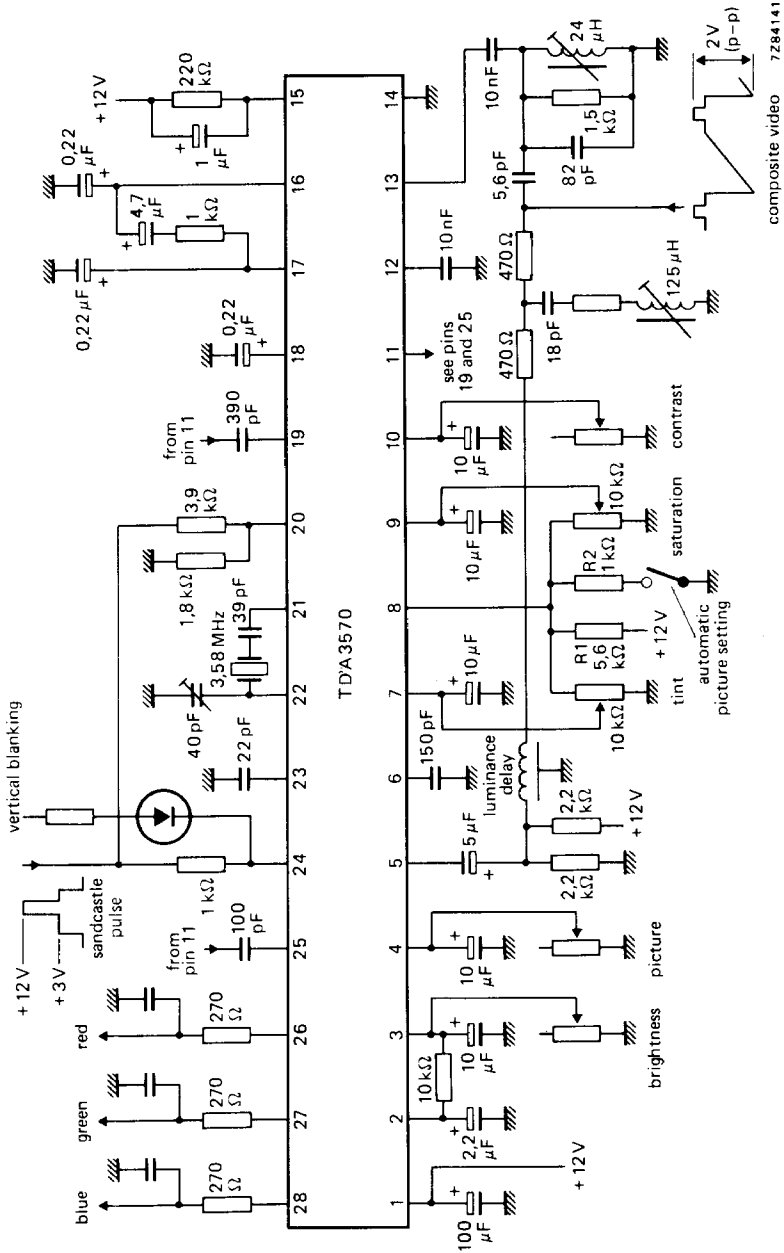


Fig. 2 Application circuit.

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