

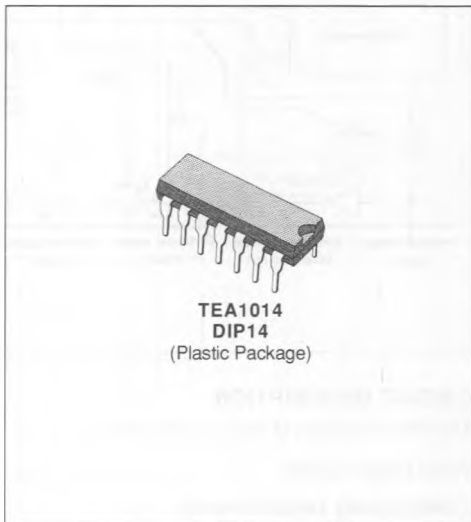
VIDEO AND AUDIO SIGNALS SWITCHING FOR THE PERI-TELEVISION PLUG

- VIDEO CROSSTALK : 60 dB TYPICAL
- LOW IMPEDANCE VIDEO OUTPUT 75Ω
- SHORT-CIRCUIT PROTECTION OF INPUTS AND OUTPUTS
- INTERNAL HORIZONTAL PLL TIME CONSTANT SWITCHING IN CASE OF VIDEO RECORDER RECEPTION

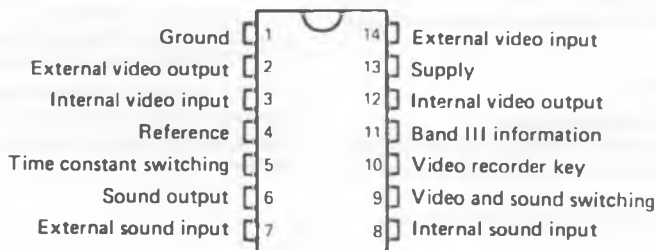
DESCRIPTION

This integrated circuit provides all video and sound switching allowing connections between the peri-TV plug and video, sound sections in the TV set.

Input and output signal characteristics follow the NFC 92250/EN 50049 norms.

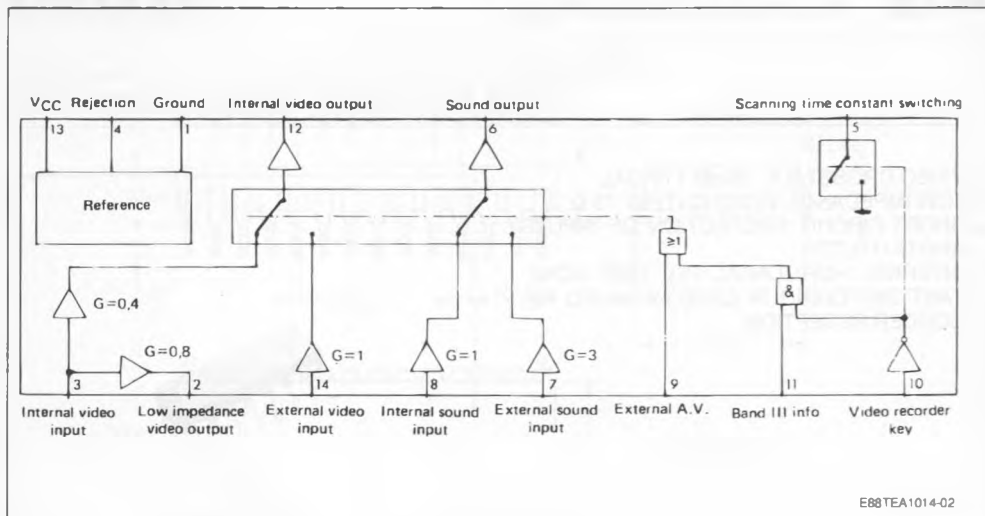


PIN CONNECTIONS



E88TEA1014-01

BLOCK DIAGRAM



CIRCUIT DESCRIPTION

The main functions of the I.C. are following :

VIDEO SWITCHING

2 electronically switched inputs :

- one 2.5 Vpp input for internal video.
- one 1 Vpp input for signal coming from the peri-TV plug.

2 outputs :

- 1 Vpp output (low impedance 75 Ω) for peri-TV plug.
- 1 Vpp output low impedance for video section of the TV set.

Each input and output is protected from ground short-circuit. The 75 Ω output is protected through a 75 Ω resistor.

AUDIO SWITCHING

Two electronically switched inputs :

- 300 mV rms input coming from internal audio.
- 100 mV rms input coming from the peri-TV plug
- one low impedance output 300 mV rms.

Inputs and outputs are also protected against ground short-circuit.

SWITCHING LOGIC

The logic takes into account the informations on 3 pins.

- Internal or external video and sound (pin 8 peri-TV plug)
- Band III information
- Video recorder key.

External Video and Audio signals are selected in two cases.

- When there is a voltage information coming from peri-TV plug.
- When the video recorder key is selected (on TV front panel) and programmed on band III.

This I.C. includes an internal switch (open collector transistor) which commutes the time constant of the horizontal PLL circuit in case of video recorder reception.



THERMAL DATA

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ELECTRICAL OPERATING CHARACTERISTICSV_{CC} = 12 V ; T_{amb} = + 25 °C (unless otherwise specified)

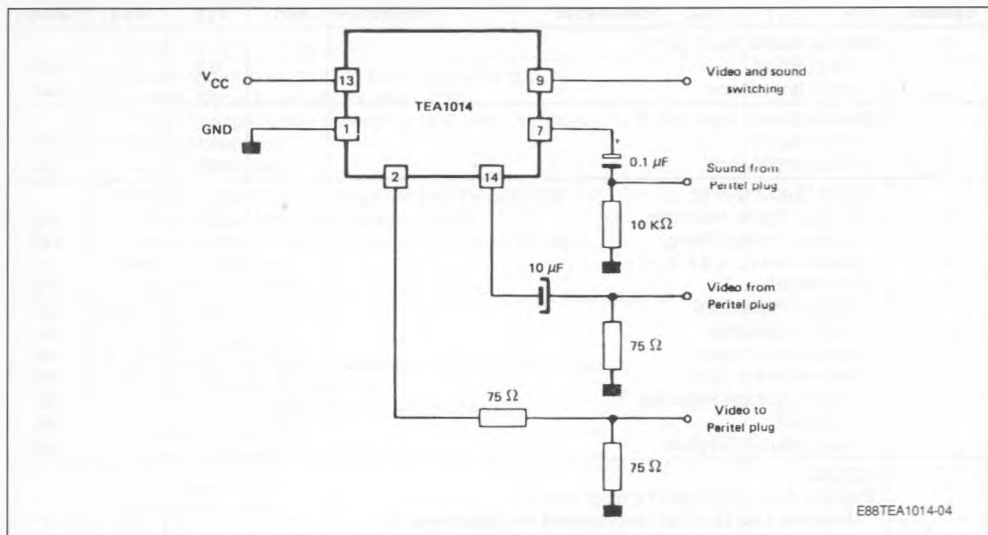
Symbol	Parameter	Min.	Typ.	Max.	Unit
	Supply Current, with no Load		37	50	mA
	Internal Video Input (coming from picture FI) (pin 3) Video Signal Amplitude (positive video) Input Voltage Range (referred to D. C. input Voltage) Input Impedance Input Capacitance	- 2.9 5	2.5	6.8 + 3.9 5	V _{pp} V kΩ pF
	External Video Input (coming from peri-TV plug) (pin 14) Video Signal Amplitude (positive video) Input Voltage Range (referred to D. C. input Voltage) Input Impedance Input Capacitance	- 1.2 5	1	2.8 + 1.6 5	V _{pp} V kΩ pF
	TV Video Output (pin 12) Signal Amplitude Output Voltage Swing (referred to D. C. output Voltage) Output Dynamic Impedance D. C. Output Voltage (without input signal) Loading Resistance Video Bandwidth (- 1 dB)	- 1.2 300 6	1 3.5	2.8 + 1.6 10	V _{pp} V Ω V Ω MHz
	Gain/internal Video Gain/external Video	- 9.5 - 1.5	- 8 0	- 6.5 + 1.5	dB dB
	External Video Output (low impedance) (pin 2) Signal Amplitude (on 150 Ω grounded) Output Voltage Swing Dynamic Output Impedance D. C. Output Voltage (without input signal) Minimum Loading Resistance (electrical performance non specified) Gain/internal Video	- 2.4 75 - 3.5	2 10 3.5	5.5 + 3.1	V _{pp} V Ω V Ω dB
	Output Video Signals Characteristics Video Rejection between two Inputs (1 MHz) Differential Group Delay Linearity Distortion Luma (test line 17) Chroma (test line 331) Intermodulation Luma-chroma (test line 331) Supply Voltage Rejection	- 55 45	 2 2 5	20	dB ns % % % dB

ELECTRICAL OPERATING CHARACTERISTICS (continued) $V_{CC} = 12\text{ V}$; $T_{amb} = +25\text{ }^{\circ}\text{C}$ (unless otherwise specified)

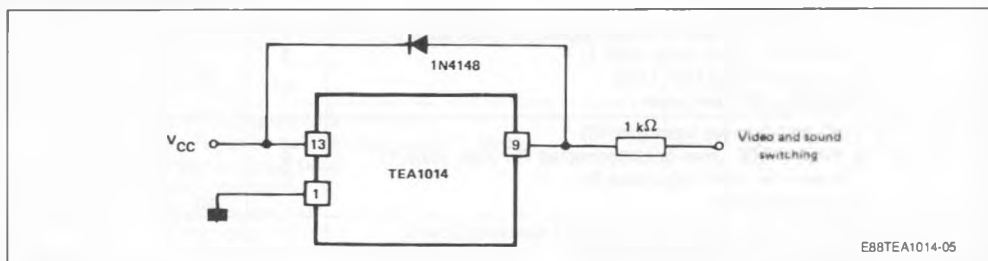
Symbol	Parameter	Min.	Typ.	Max.	Unit
	Internal Sound Input (pin 8) Input Signal Input Impedance		0.3 20	2	V_{eff} k Ω
	External Sound Input (pin 7) Input Signal Input Impedance		0.1 20	0.7	V_{eff} k Ω
	Sound Output (pin 6) Output Signal Amplitude Output Voltage Swing Distortion ($V_O = 0.6 V_{eff}$) Bandwidth Output Impedance Load Impedance Gain/internal Input Gain/external Input Supply Voltage Rejection Crosstalk Video/sound Crosstalk	16 2 - 1.5 8 60 - 60 - 60	 0.3 2 40 0 9.5	0.5 + 1.5 11	V_{eff} V_{eff} % kHz Ω k Ω dB dB dB dB dB
	LOGIC External A. V. Input (peri-TV plug) (pin 9) Unactive Low Level or Unconnected Pin (logic state 0) – (TV receiving) Active High Level (logic state 1) (ext. receiving) Input Impedance	0 9	 10	3 V_{CC}	V V k Ω
	"Band III" Input (pin 11) Unactive Low Level or Unconnected Pin (logic state 0) Active High Level (logic state 1) Input Impedance High Level Input Current Low Level	0 9	 10	+ 3 V_{CC} 1	V V k Ω μA
	Video-recorder Key Input (pin 10) Unactive High Level or Unconnected Pin (logic state 1) Active Low Level (logic state 0) Input Impedance	9 0	 10	V_{CC} 3	V V k Ω
	Open Collector Output (time-constant switching) (pin 5) Leakage Current (open collector) Maximum Low Level Voltage ($I(5) = 4\text{ mA}$)			1 1.5	μA V

SAFETY INFORMATION FOR CRITICAL APPLICATIONS

Typical Connection Between Peritel Plug and TEA2014.

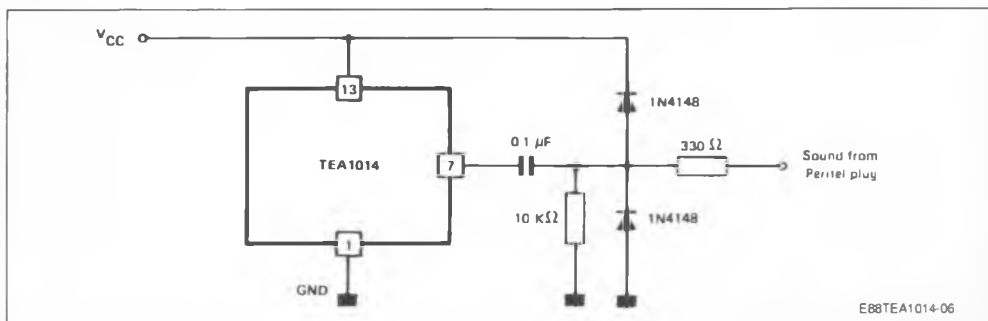


Voltage on pin 9 must not exceed the V_{CC} voltage on pin 13. In case of risk of over voltage, use the protection as described as below :



All connections to Peritel plug are terminated by low impedance loads (75 W), except the external sound input.

In case of risk of electrostatic discharge, use the protection as described as below.



PACKAGE MECHANICAL DATA

14 PINS – PLASTIC DIP

