

# AN5560

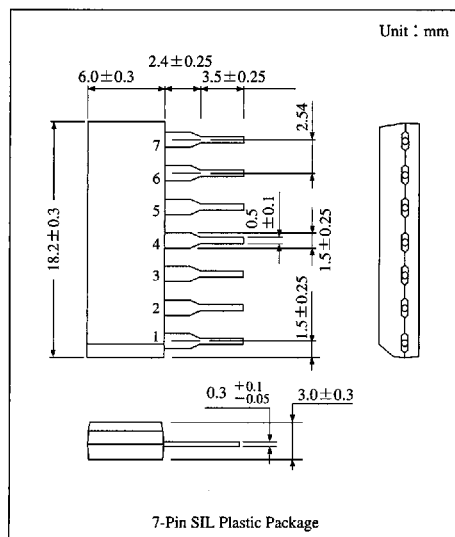
## 50Hz and 60Hz Detection IC for TV

### Overview

The AN5560 is an integrated circuit designed for TV-vertical synchronous signal 50Hz/60Hz-detector.

### Features

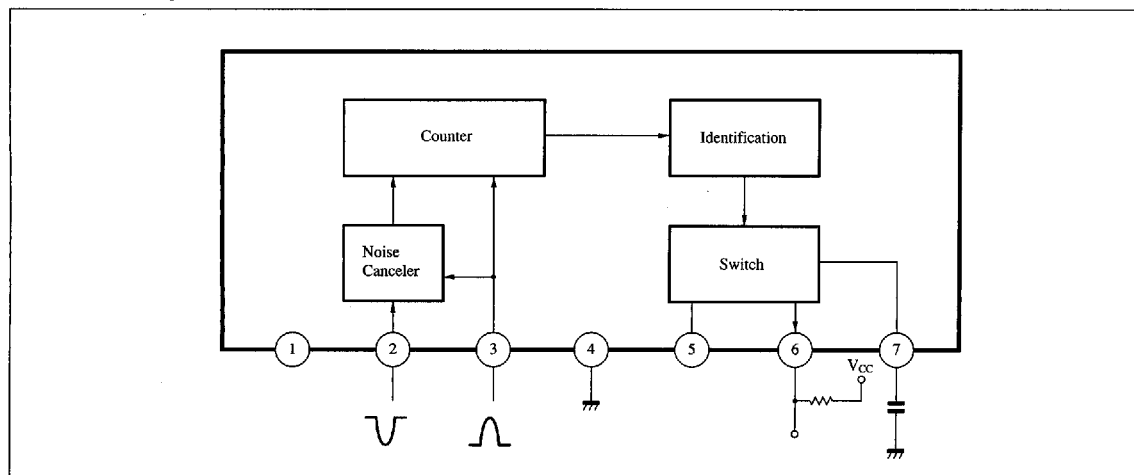
- AN5560 detects whether vertical synchronous signal-identification-frequency is 50Hz or 60Hz by taking in horizontal and vertical synchronous signals
- Detected frequency is indicated by high-, and low-DC voltage
- It is possible to change the identified output-DC levels by manual switch.



### Pin Descriptions

Pin No.	Pin name
1	V <sub>CC</sub>
2	Vertical pulse input
3	Horizontal pulse input
4	GND
5	Manual switch
6	50/60Hz identified output
7	Output hold

### Block Diagram



■ Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating		Unit
Supply voltage	V <sub>CC</sub>	14.4		V
Circuit voltage	V <sub>2-4</sub>	0	V <sub>1-4</sub> +0.4	V
	V <sub>3,5-4</sub>	0	V <sub>1-4</sub>	V
	V <sub>6-4</sub>	0	24	V
Circuit current	I <sub>2</sub>	-0.8	5	mA
	I <sub>6</sub>	—	20	mA
Power dissipation (Ta=70°C)	P <sub>D</sub>	695		mW
Operating ambient temperature	T <sub>opr</sub>	-20 to +70		°C
Storage temperature	T <sub>stg</sub>	-55 to +150		°C

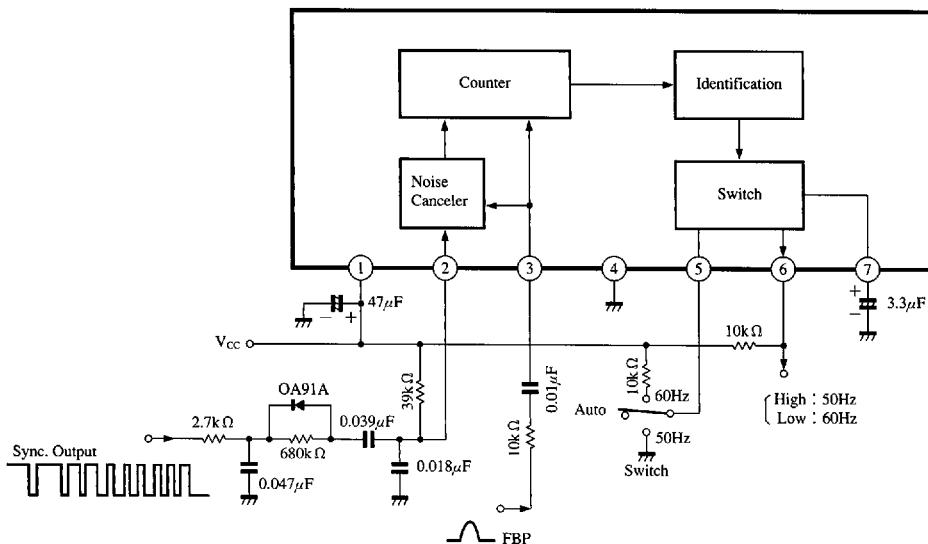
■ Electrical Characteristics (V<sub>CC</sub>=12V, Ta=25°C)

Parameter	Symbol	Condition	min	typ	max	Unit
Total current	I <sub>tot</sub>		7.5	10.0	12.5	mA
50/60 identified output auto50	V <sub>Auto50</sub>	V <sub>CC</sub> =12V, f=50Hz, Pin⑤=Open	11.9	—	12.0	V
50/60 identified output auto60	V <sub>Auto60</sub>	V <sub>CC</sub> =12V, f=60Hz, Pin⑤=Open	—	—	0.3	V
50/60 identified output manual50	V <sub>manual50</sub>	V <sub>CC</sub> =12V, Pin⑤=GND	11.9	—	12.0	V
50/60 identified output manual60	V <sub>manual60</sub>	V <sub>CC</sub> =12V, Pin⑤=R10kΩ	—	—	0.3	V
Horizontal frequency input range	f <sub>H</sub>		15.6	—	16.0	kHz
Vertical frequency input range 50Hz	f <sub>V50</sub>		f <sub>H</sub> /346	f <sub>H</sub> /312	f <sub>H</sub> /284	Hz
Vertical frequency input range 60Hz	f <sub>V60</sub>		f <sub>H</sub> /282	f <sub>H</sub> /260	f <sub>H</sub> /243	Hz
Horizontal pulse input level	v <sub>fH</sub>	v <sub>fH</sub> Pin③Open	2	—	5	V
Vertical pulse input level	v <sub>fV</sub>	v <sub>fV</sub>	0	—	V <sub>CC</sub> -3.0	V
Horizontal pulse width	t <sub>w(fH)</sub>		4	—	12	μs
Vertical pulse width	t <sub>w(fV)</sub>		150	—	500	μs

ICs for TV

Note) Operating supply voltage range : V<sub>CC(opr)</sub> = 9.6 to 14.4V

■ Application Circuit



■ 6932852 0014346 230 ■

Panasonic