

# AN3130

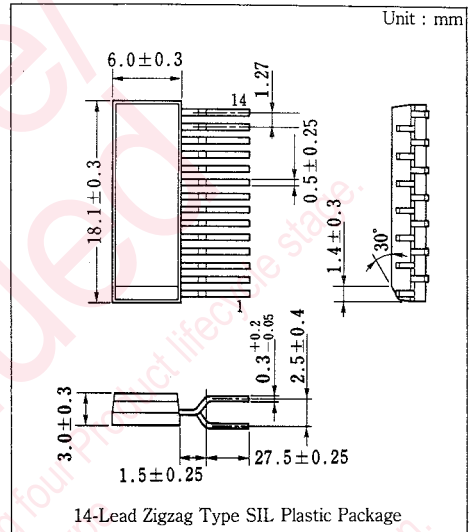
## RF Converter Circuit

### ■ Outline

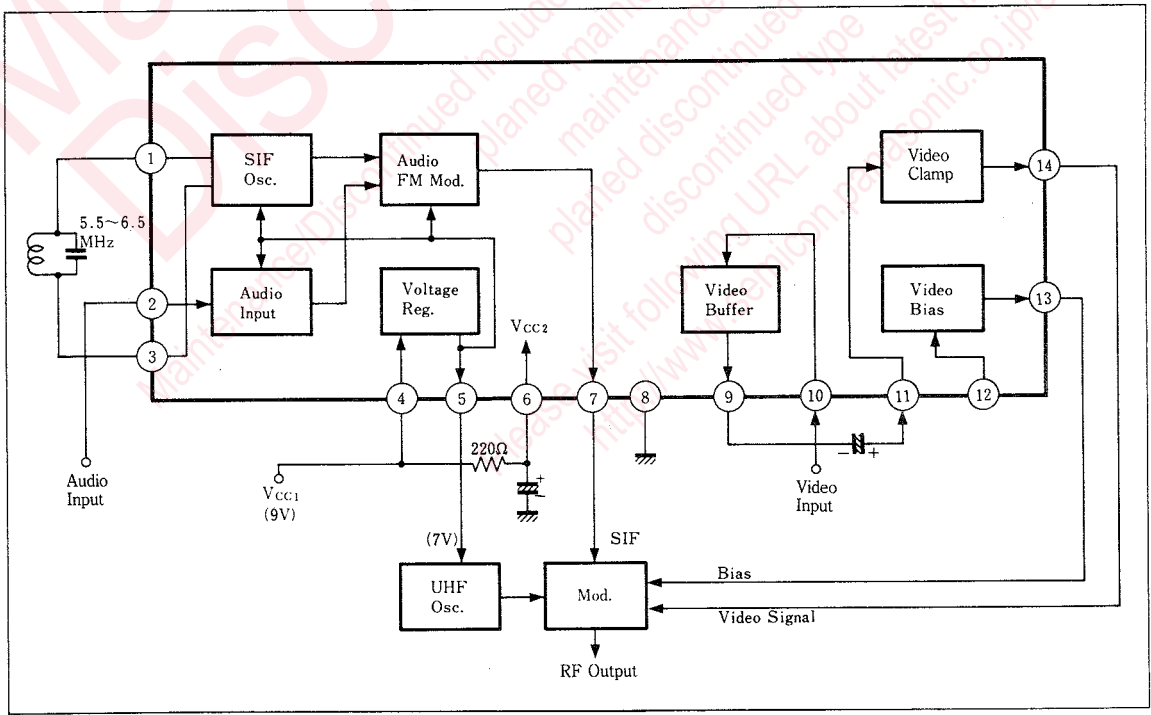
The AN3130 is an integrated circuit designed for an RF converter intended for a PAL region.

### ■ Features

- Incorporating a video buffer amp., sync. is not shortened.
- Voltage regulator.
- Variable video bias is supplied.



### ■ Block Diagram



### ■ Pin

Pin No.	Pin Name	Pin No.	Pin Name
1	SIF Osc. (1)	8	GND
2	Audio Input	9	Video Buffer Output
3	SIF Osc. (2)	10	Video Input
4	Vcc1	11	Video Clamp Input
5	Voltage Reg. Output	12	Video Bias Adj.
6	Vcc2	13	Video Bias Output
7	SIF Output	14	Video Output

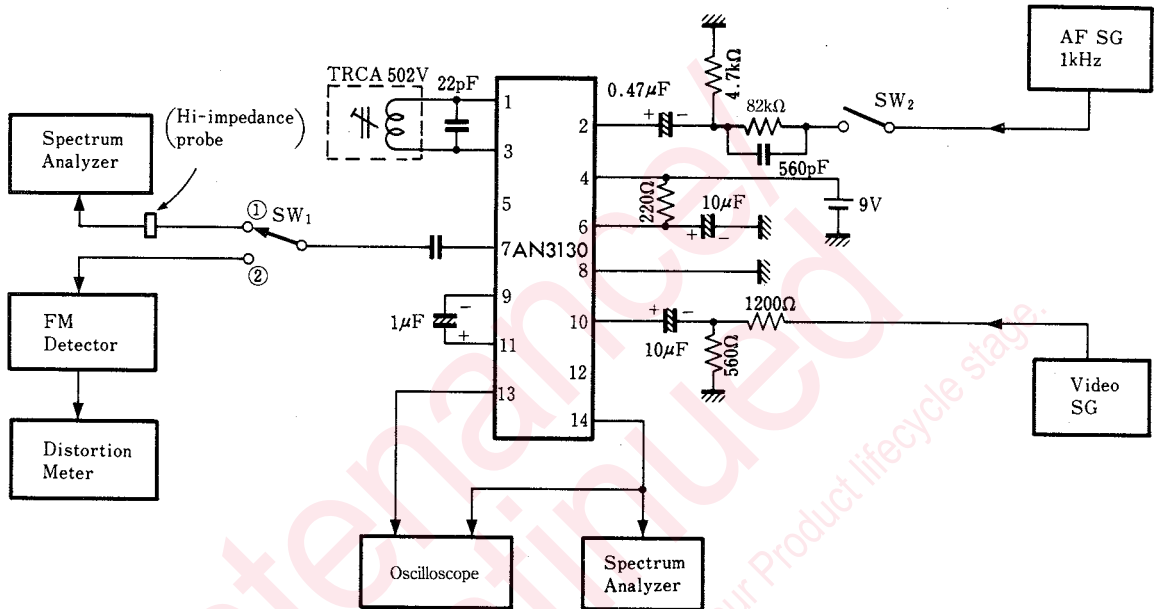
### ■ Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Rating	Unit
Supply voltage	V <sub>CC</sub>	12	V
Supply current	I <sub>CC</sub>	50	mA
Power dissipation	P <sub>D</sub>	600	mW
Operating ambient temperature	T <sub>opr</sub>	-20 ~ +70	°C
Storage temperature	T <sub>stg</sub>	-55 ~ +150	°C

### ■ Electrical Characteristics (Ta=25°C)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit.
Supply current	I <sub>CC</sub>	1		12	16.5	21	mA
Stabilized power output	V <sub>s</sub>	1		6.5	7.0	7.5	V
Stabilized power stability	ΔV <sub>s</sub>	1	V <sub>CC</sub> =8~10V	-0.2		+0.2	V
Video modulation degree	m	1	Pin⑫ Open	77.5	82.5	87.5	%
Video output amplitude	v <sub>o</sub>	1	V <sub>in</sub> =0.6V <sub>P-P</sub>	0.58	0.60	0.62	V <sub>P-P</sub>
Sync. distortion	Sync	1		-3.0		0	%
Sag	Sug	1		-4		+4	%
SIF frequency	f <sub>s</sub>	1		5.40	5.50	5.60	MHz
SIF output level	V <sub>SIF</sub>	1	Pin⑦ Open	108	109	110	dBμ
Sound FM modulation sensitivity	Δf <sub>FM</sub>	1		±35	±50	±65	kHz
Sound FM modulation distortion	THD	1				1.0	%

Test Circuit 1



Measuring Conditions List

Item	Input Condition		Measuring Method	SW	
	Video SG	AF SG		1	2
m	10-step wave 2V <sub>P-P</sub>	—	$m = \frac{b}{a} \times 100$ $V_0 = b$	—	—
V <sub>0</sub>	10-step wave 2V <sub>P-P</sub>	—		—	—
Sync	S/V=3/7 2V <sub>P-P</sub>	—	Sync. distortion = $\frac{1}{3} (7 \cdot \frac{\text{Sync.}}{\text{Video}} - 3) \times 100$	—	—
Sug	Square wave 2V <sub>P-P</sub>	—	Sag = $\frac{\text{Sag}}{\text{Total amplitude}} \times 100$	—	—
f <sub>s</sub>	—	—	Measure the output signal frequency of the Pin ⑦.	①	—
V <sub>SIF</sub>	—	—	Measure a 5.5 MHz output level with a spectrum analyzer.	①	—
Δf <sub>FM</sub>	—	400Hz 0.5V <sub>rms</sub>	Read a modulation degree.	②	ON
THD	—	400Hz 0.5V <sub>rms</sub>	Measure with a distortion gauge.	②	ON

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