

# AN3122

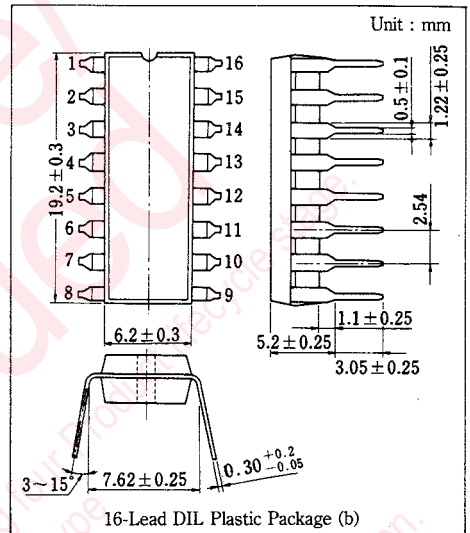
## RF Converter Circuit

### ■ Outline

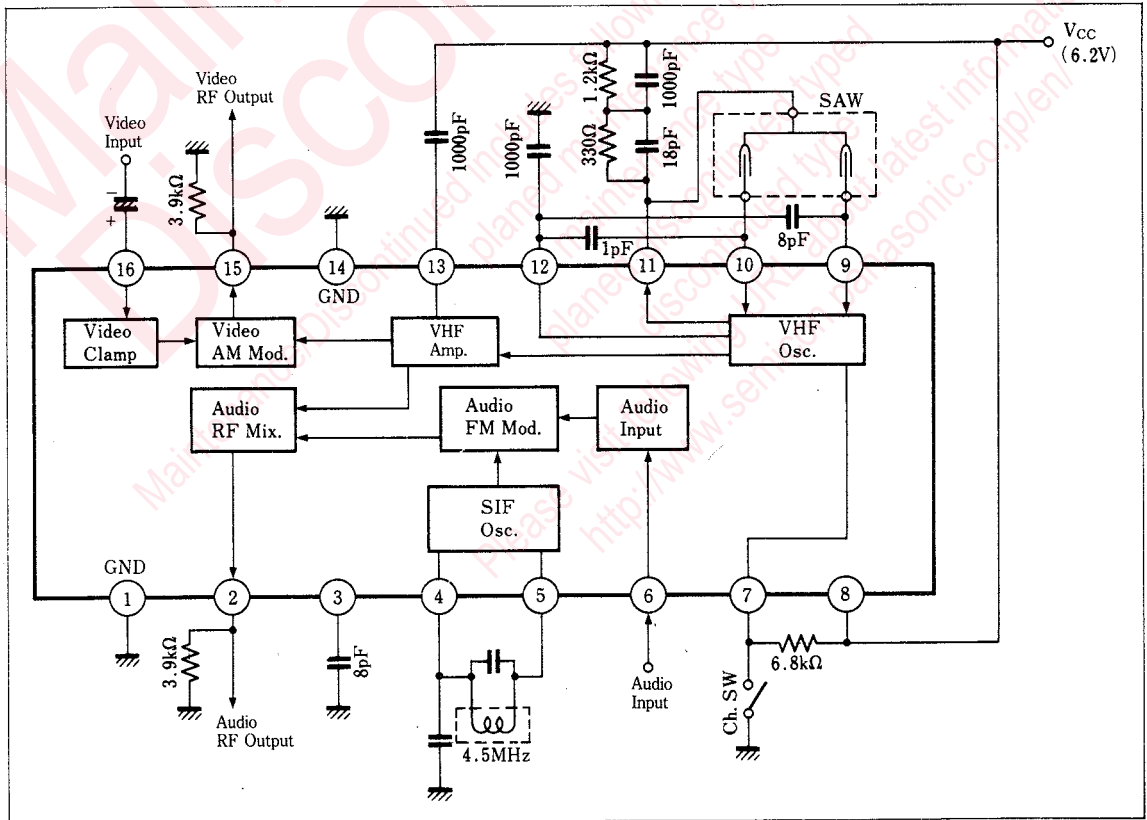
The AN3122 is an integrated circuit designed for VHF band RF converter.

### ■ Features

- VHF oscillator requires no adjustment.
- Low power consumption.
- Incorporates a white clip circuit.



### ■ Block Diagram



### ■ Pin

Pin No.	Pin Name	Pin No.	Pin Name
1	GND	9	VHF Osc. Base (1)
2	Audio RF Output	10	VHF Osc. Base (2)
3	Audio Level Control	11	VHF Osc. Collector
4	SIF Osc. (1)	12	VHF Osc. Emitter
5	SIF Osc. (2)	13	VHF Amp. By-pass
6	Audio Input	14	GND
7	ch. SW.	15	Video RF Output
8	Vcc	16	Video Input

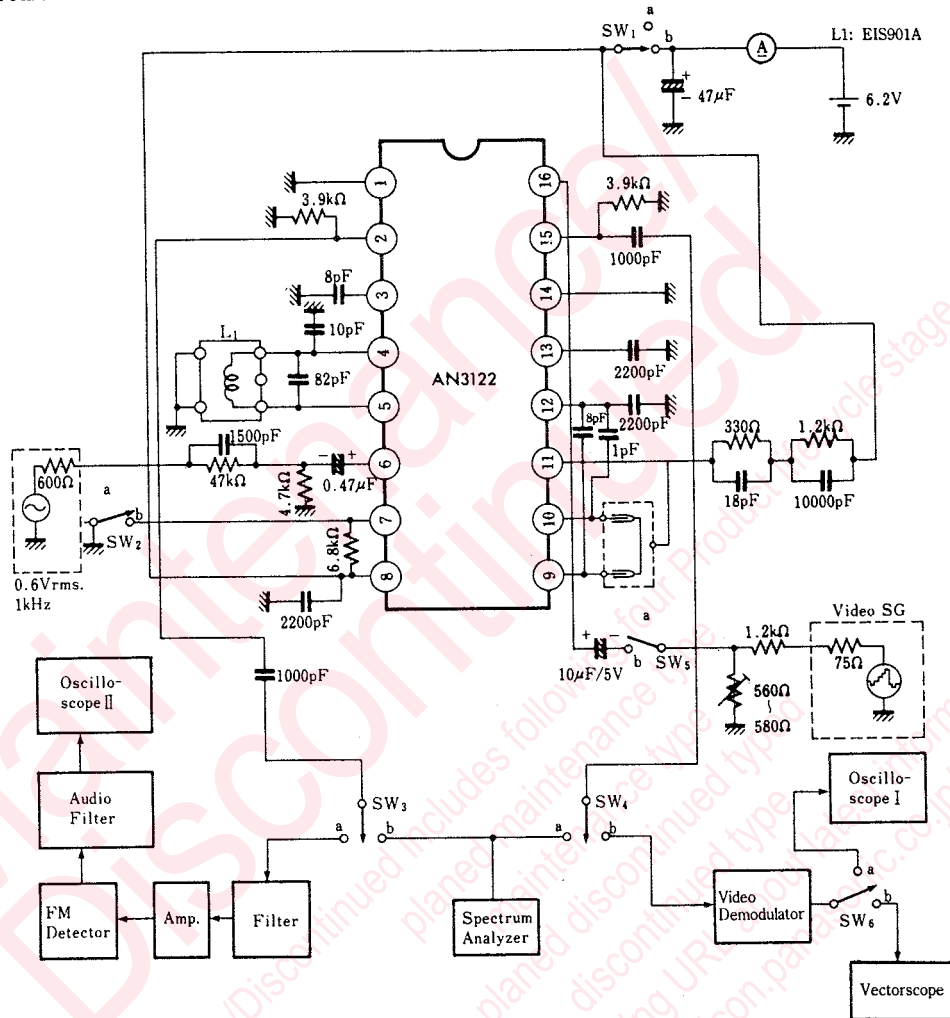
### ■ Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Rating	Unit
Supply voltage	V <sub>CC</sub>	9	V
Supply current	I <sub>CC</sub>	45	mA
Power dissipation	P <sub>D</sub>	400	mW
Operating ambient temperature	T <sub>opr</sub>	-20~+75	°C
Storage temperature	T <sub>stg</sub>	-55~+150	°C

### ■ Electrical Characteristics (Vcc=6.2V, Ta=25°C)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Supply current	I <sub>CC</sub>	1		17	22	29	mA
Video carrier wave output level	V <sub>P</sub>	1		84	86	88	dBμ
Max. video modulation degree	m <sub>max.</sub>	1		90	93		%
Video modulation degree	m	1	V <sub>in</sub> =0.48V <sub>p-p</sub>	70	75	80	%
Sync. distortion	Sync	1		-8.5		+4	%
Differential gain	DG	1	m=75%	-5		+5	%
Differential phase	DP	1	m=75%	-5		+5	deg.
Video modulation degree inter-channel difference	Δm	1		-3		+3	%
Sound sub-carrier wave output level	V <sub>S</sub>	1		75.5		79.5	dBμ
Sound FM modulation sensitivity	Δf <sub>FM</sub>	1	A <sub>in</sub> =600mV <sub>rms</sub>	±19.9	±25.0	±31.3	kHz
Sound S/N ratio	SN <sub>S</sub>	1		55			dB

Test Circuit 1



Measuring Conditions List

Item	Switch Operation						Measuring Instrument
	SW1	SW2	SW3	SW4	SW5	SW6	
$I_{CC}$	b	a/b	-	-	-	-	DC ammeter
$V_P$	b	b	a	a	b	-	Spectrum analyzer
$m_{max}$	b	b	a	a	b	-	Spectrum analyzer
$m$	b	b	a	a	b	-	Spectrum analyzer
Sync	b	b	-	b	b	a	Oscilloscope I
DG	b	b	-	b	b	b	Vectorscope
DP	b	b	-	b	b	b	Vectorscope
$\Delta m$	b	b	a	a	b	-	Spectrum analyzer
$V_S$	b	b	b	a	a	-	Spectrum analyzer
$\Delta f_{FM}$	b	b	a	-	a	-	FM linear detector
$SN_S$	b	b	a	-	-	-	Oscilloscope II

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