

(VIF + SIF) Circuit for B/W TV Applications

Maximum Ratings at $T_a = 25^\circ\text{C}$, $V_{CC} = 12\text{V}$				unit
Maximum Supply Voltage	V_{CC} max		14	V
Flow-out Current	I_{16} max		5	mA
Allowable Power Dissipation	P_d max	$T_a \leq 40^\circ\text{C}$	1.1	W
Operating Temperature	T_{opg}		-20 to +70	$^\circ\text{C}$
Storage Temperature	T_{slg}		-55 to +125	$^\circ\text{C}$

Operating Conditions at $T_a = 25^\circ\text{C}$				unit
Recommended Supply Voltage	V_{CC}		12	V
Operating Voltage Range	$V_{CC\text{ op}}$		9 to 13.2	V

Operating Characteristics at $T_a = 25^\circ\text{C}$, $V_{CC} = 12\text{V}$				min	typ	max	unit
Circuit Current	I_{17}	DC		47	58	74	mA
Maximum RF AGC Voltage	V_{10H}	DC		10.2	10.6	11.0	V
Minimum RF AGC Voltage	V_{10L}	DC			0	0.6	V
Quiescent Video Output Voltage	V_{16}	DC		5.7	6.1	6.5	V
Input Sensitivity	V_i	$f_m = 400\text{Hz}$, 40%AM, $V_o = 0.8\text{V}_{pp}$		30	36	42	dBu
AGC Range	GR	$f_m = 400\text{Hz}$, 40%AM, $V_o = 0.8\text{V}_{pp}$		57	64		dB
Maximum Allowable Input	V_i max	$f_m = 15\text{kHz}$, 78%AM, $V_o = 10\text{mV}_{rms}$		100	200		mVrms
Video Output Amplitude	$V_o(\text{Video})$	$f_m = 15\text{kHz}$, 78%AM, $V_o = 10\text{mV}_{rms}$		1.9	2.2	2.5	Vpp
Output S/N	S/N	10mV CW		48	54		dB
SIF Output Signal Voltage	$V_o(\text{SIF})$	P/S = 20dB		80	140	210	mVrm
Frequency Characteristic	f_c	-3dB		5	7		MHz
Input Resistance	r_i				1.5		k Ω
Input Capacitance	c_i				3.0		pF
SIF Limiting Voltage	$V_i(\text{Lim})$	-3dB			200	500	μVrms
Detection Output Voltage	$V_o(\text{Det})$	$V_i = 100\text{mV}_{rms}$, $f_m = 400\text{Hz}$, $\Delta f = \pm 25\text{kHz}$		450	680	850	mVrms
Total Harmonic Distortion	THD(Det)	$V_i = 100\text{mV}_{rms}$, $f_m = 400\text{Hz}$, $\Delta f = \pm 25\text{kHz}$			0.5	1.3	%
AM Rejection	AMR	30%AM		50	60		dB

RF AGC Output Circuit Configuration

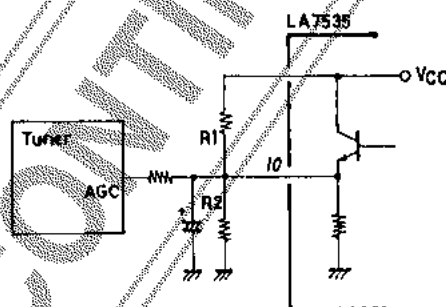


Fig. 1

The RF AGC output circuit is configured as shown Fig. 1. In general, the gain reduction characteristic of a tuner of forward type is as shown in Fig. 2. Control is exercised at more than V_1 . Obtain the ratio of R_1, R_2 referring to the specification for the tuner and fix V_1 .

$$V_1 = \frac{R_2}{R_1 + R_2} \times V_{CC}$$

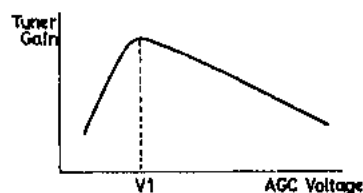


Fig. 2

The diagram illustrates the video section of a television receiver, featuring two integrated circuits: LA 7535 and LA 7806.

LA 7535 (Video Processor):

- Tuner:** Connected to the LA 7535.
- SAW (Surface Acoustic Wave):** Filter connected to the LA 7535.
- VIF (Video Intermediate Frequency):** Connected to the LA 7535.
- SIF (Sound Intermediate Frequency):** Connected to the LA 7535.
- RF AGC Forward:** Connected to the LA 7535.
- RF AGC VR:** Variable Resistor connected to the LA 7535.
- 4.5MHz:** Crystal connected to the LA 7535.
- 4.5MHz Trap:** Connected to the LA 7535.
- Video Out:** Output of the LA 7535.
- de-emphasis:** Connected to the LA 7535.
- AF Amp (Audio Frequency Amplifier):** Connected to the LA 7535.

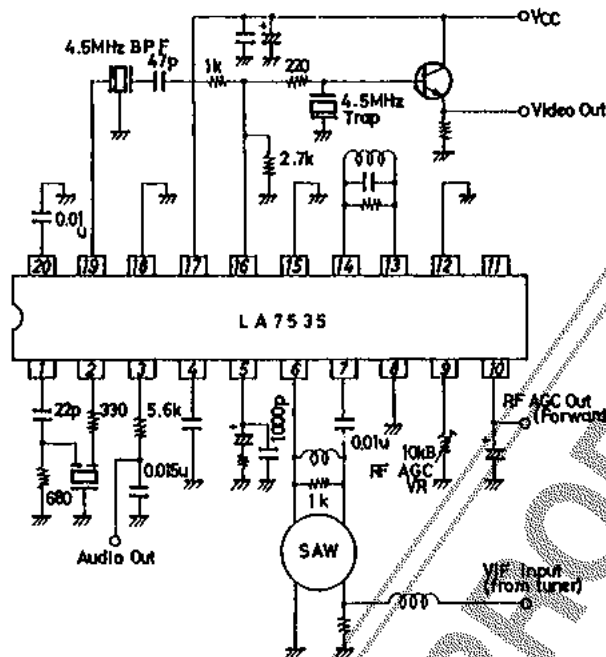
LA 7806 (Video Processor):

- Sync Sep. (Sync Separator):** Connected to the LA 7806.
- AFC (Automatic Frequency Control):** Connected to the LA 7806.
- Vert. Osc. (Vertical Oscillator):** Connected to the LA 7806.
- Horiz. Osc. (Horizontal Oscillator):** Connected to the LA 7806.
- Vert. Driver:** Connected to the LA 7806.
- Vert. Blank:** Connected to the LA 7806.
- Horiz. Driver:** Connected to the LA 7806.
- Vert. Out:** Output of the LA 7806.
- ODY (Output Driver):** Connected to the LA 7806.

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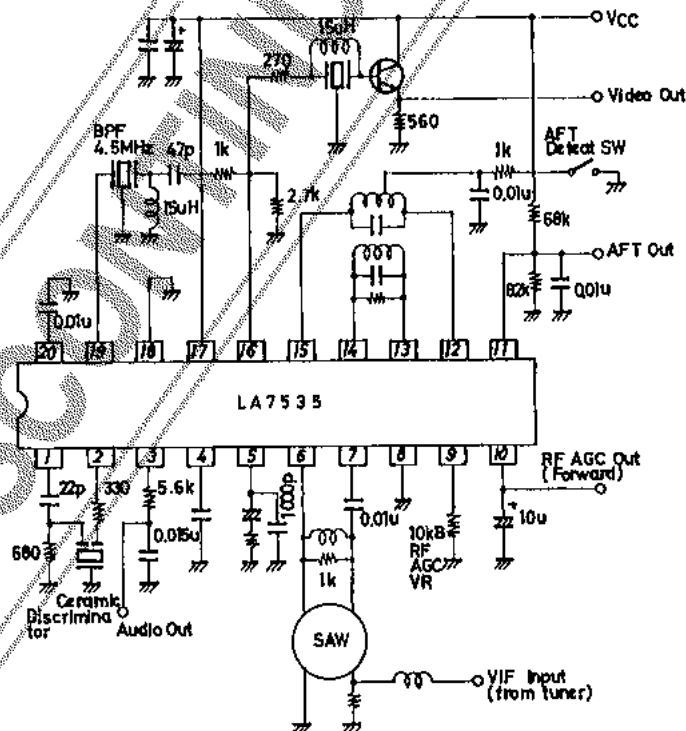
LA7535

3. B/W TV use



When the AFT circuit is not used, connect pins 12, 15 to GND.

4. Low-cost CTV use



The application circuit diagrams and circuit constants herein are included as an example and provide no guarantee for designing equipment to be mass-produced. The information herein is believed to be accurate and reliable. However, no responsibility is assumed by SANYO for its use; nor for any infringements of patents or other rights of third parties which may result from its use.