

SANYO

No.2865

LA7535

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

The LA7535 is an IC that contains the VIF section and SIF section on a single chip and has the RF AGC of forward type most suitable for B/W TV use. The LA7535 can be used in conjunction with the LA7806 or LA7808 to provide the B/W TV function. The LA7535 is provided with two pins for IF AGC, permitting higher AGC speed. Since the LA7535 has the AFT function, it may be also applied for use in low-cost CTV applications.

If you want to use a version with the RF AGC of reverse type, the LA7530N is available.

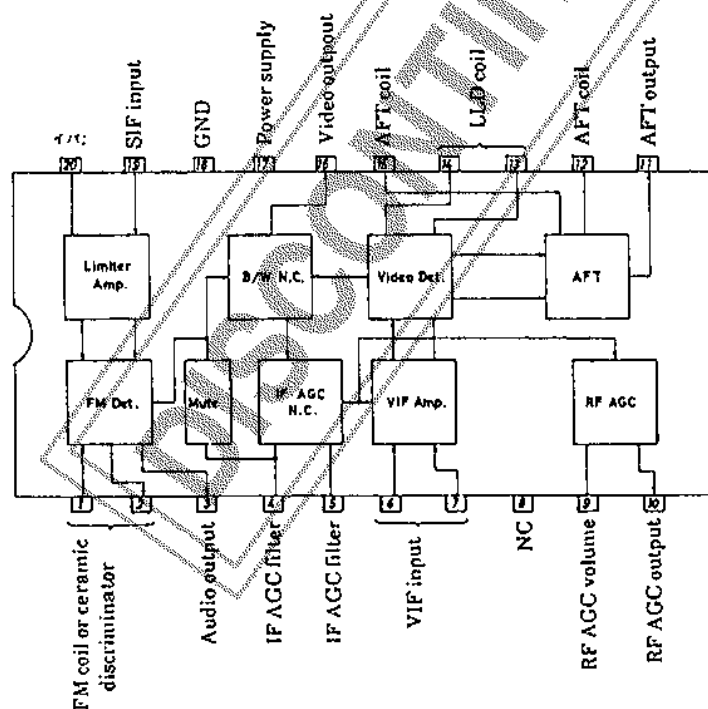
Functions

- VIF section: VIF amp, video detector, peak IF AGC, B/W noise canceler, RF AGC, AFT, video mute
- SIF section: SIF limiter amp, FM detector, SND mute

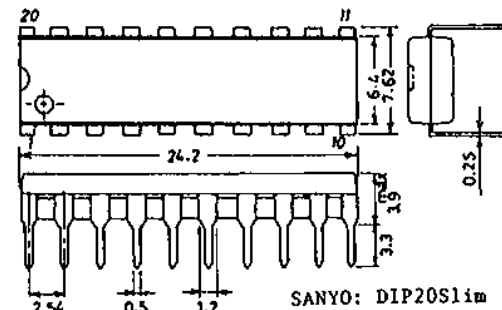
Features

- The RF AGC is of forward type most suitable for B/W TV use.
- High-gain VIF amp requiring no preamp
- Two pins for IF AGC permitting higher AGC speed
- The FM detector uses the quadrature detection method. The use of a ceramic discriminator eliminates the need for audio adjust process.
- Since the LA7535 has the AFT function, it may be also applied for use in low-cost CTV applications.
- Small-sized package and minimum number of external parts required. Capable of being operated from 9V supply.

Equivalent Circuit Block Diagram



Case Outline 3021B-D20SIC
(unit:mm)



Specifications and information herein are subject to change without notice.

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LA7535

Maximum Ratings at Ta=25°C, VCC=12V			unit
Maximum Supply Voltage	VCC max	14	V
Flow-out Current	I16 max	5	mA
Allowable Power Dissipation	Pd max	1.1	W
Operating Temperature	Topg	-20 to +70	°C
Storage Temperature	Tstg	-55 to +125	°C

Operating Conditions at Ta=25°C			unit
Recommended Supply Voltage	VCC	12	V
Operating Voltage Range	VCC op	9 to 13.2	V

Operating Characteristics at Ta=25°C, VCC=12V				min	typ	max	unit
Circuit Current	I17	DC		47	58	74	mA
Maximum RF AGC Voltage	V10H	DC		10.2	10.6	11.0	V
Minimum RF AGC Voltage	V10L	DC			0	0.6	V
Quiescent Video Output Voltage	V16	DC		5.7	6.1	6.5	V
Input Sensitivity	Vi	fm=400Hz, 40%AM, Vo=0.8Vp-p		30	36	42	dBu
AGC Range	GR	fm=400Hz, 40%AM, Vo=0.8Vp-p		57	64		dB
Maximum Allowable Input	Vi max	fm=15kHz, 78%AM, Vo=10mVrms		100	200		mVrms
Video Output Amplitude	Vo(Video)	fm=15kHz, 78%AM, Vo=10mVrms		1.9	2.2	2.5	Vpp
Output S/N	S/N	10mV CW		48	54		dB
SIF Output Signal Voltage	Vo(SIF)	P/S=20dB		80	140	210	mVrm
Frequency Characteristic	fc	-3dB		5	7		MHz
Input Resistance	ri				1.5		kΩ
Input Capacitance	ci				3.0		pF
SIF Limiting Voltage	Vi(Lim)	-3dB			200	500	μVrms
Detection Output Voltage	Vo(Det)	Vi=100mVrms, fm=400Hz, Δf=±25kHz		450	680	850	mVrms
Total Harmonic Distortion	THD(Det)	Vi=100mVrms, fm=400Hz, Δf=±25kHz			0.5	1.3	%
AM Rejection	AMR	30%AM		50	60		dB

RF AGC Output Circuit Configuration

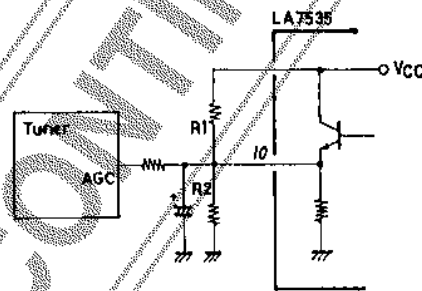


Fig. 1

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 V1. Obtain the ratio of R1,R2 referring to the specification for the tuner and fix V1.

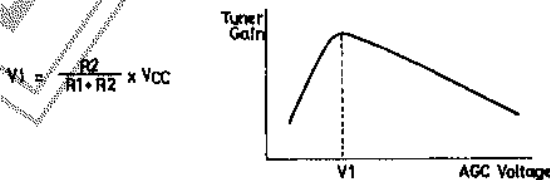
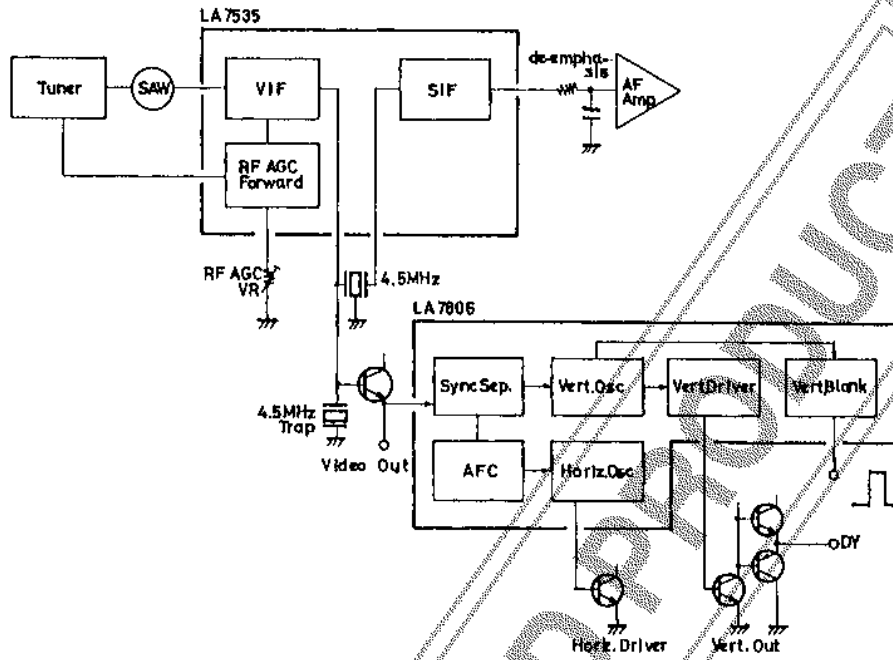


Fig.2

Sample Application Circuits

1. LA7535 + LA7806 + TR



2. LA7535 + LA7808 + LA1385

