

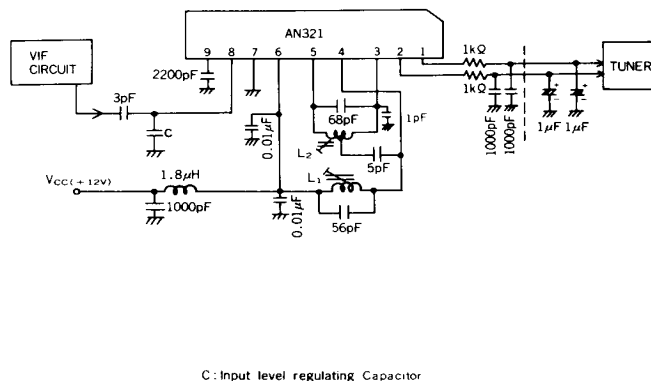
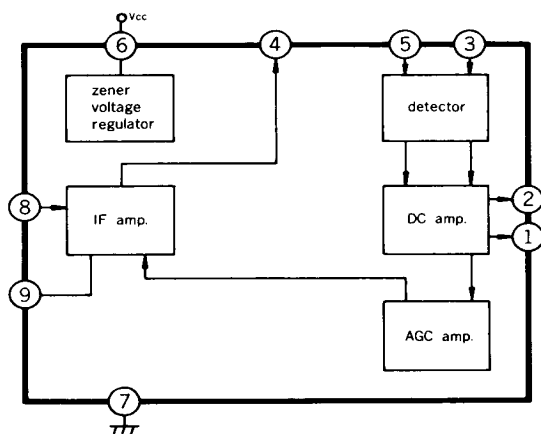
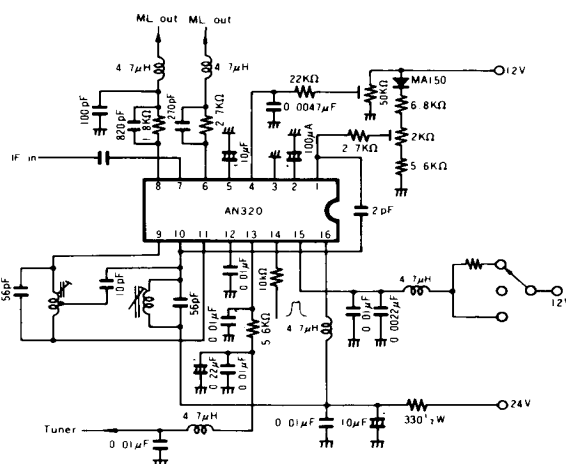
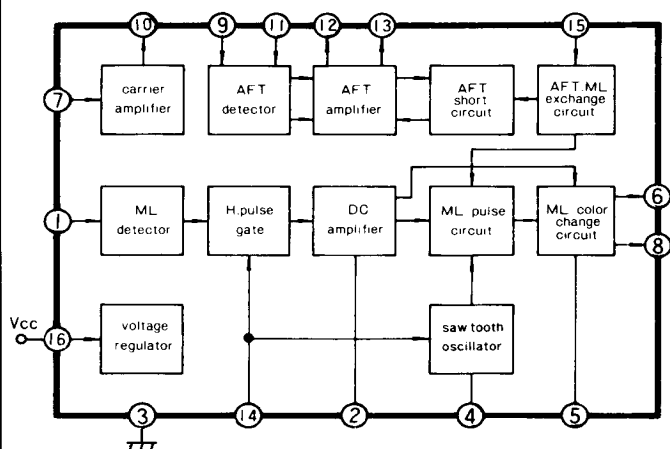
LINEAR MONOLITHIC INTEGRATED CIRCUITS

IC's For TV

IC's For TV			Electrical Characteristics (Ta=25°C)								
Type No.	Function	Maximum Ratings (Ta=25°C)	Item	Symbol	Condition	min.	typ.	max.	Unit		
AFT Circuit											
AN320	Automatic Fine Tuning with Tuning Indicator Circuit	Vcc(V16-3)=22 V Pd=640mW Topr=-20~+70°C Tstg=-40~+150°C	Circuit Current	I16	Vcc=24 V, Rs=270Ω	14	20	26	m A		
				I10	V1-3=5.6 V, V10-3=V16-3	1	1.9	3.5	m A		
				I4		-1.0	-0.65	-0.4	m A		
			Carrier Amp.	Input Limiting Voltage	Vi(lim.)	f=58.75 MHz		80		mVrms	
				Max. Output Voltage	Vo	f=58.75 MHz Vi=180mV	1.75	2.1	2.25	Vrms	
				Input Impedance	Ri	f=58.75 MHz Pin ⑦		1.7		kΩ	
					Ci	f=58.75 MHz Pin ⑦		5.5		pF	
				Output Impedance	Ro	f=58.75 MHz Pin ⑩		1.8		kΩ	
					Co	f=58.75 MHz Pin ⑩		4.5		pF	
			AFC Circuit	Reference Output Voltage	V12,13-3		6	6.5	7	V	
				Reference Output Voltage Difference (1)	V12-13		-0.7	0	0.7	V	
				Reference Output Voltage Difference (2)	V12-13		-70		70	mV	
			ML Circuit	Pulse Width at Co or Switch	t(R-G)	ML pulse width when Magic Line(ML) changes from 2 outputs to 1 output.	8	11	14	μs	
				Min. Output Width Input Voltage	Vt(min)	Input bias when ML pulse width is 3 μs.	5.2	5.4	5.7	V	
AN321	Automatic Fine Tuning Circuit	Vcc(V6-7)=14.4 V Pd=231mW Topr=-20~+70°C Tstg=-40~+150°C	(Vcc=12V)								
			Total Circuit Current	Itot	DC current flows into pin ④ (without signal)		9.5	13	m A		
			Carrier Amp. Input Bias	V8-7	Pin ⑧ DC voltage	1.1		1.8	V		
			AFC Circuit	Input Bias	V3-7, V5-7	Pin ③⑤ DC voltage	1.2		1.9	V	
				Output Bias	V1-7, V2-7	Pin ①② DC voltage	6.3	0.9	7.5	V	
				Output Offset Voltage	V1-2	Pin ①② DC Voltage difference	-0.4	0	+0.4	V	
				Control Output Voltage	V1-a, V2-a	AFC output amplitude at df=±0.5MHz, f=58.75 MHz±0.5MHz Vi=28mVp-p/50Ω	8			Vp-p	
			Carrier Amp.	Voltage Gain	Gv	Gain between pin ⑥ to ④ f=58.75MHz Vi=10mVrms/50Ω		39		dB	
				Output Voltage	Vo(max)	Saturation voltage pin ⑥ to ④ f=58.75MHz Vi=100mVrms/50Ω		2.1		Vrms	
			Sound Signal Processing Circuit								
AN240P AN240PD	Sound IF Amplifier Detector Circuit	Vcc(V5-3)=14.4 V Icc(I5)=50mA Pd=445mW (Ta≤70°C) Topr=-20~+70°C Tstg=-40~+150°C	(Vcc=12V)								
			Total Circuit Current	Itot	Vcc=9 V, Pin ①-②, ⑨-⑩ shorted	18	22.5	27	m A		
			Input Limiting Voltage (-3dB)	Vi(lim)	f0=4.5MHz, fm=400Hz Δf=±25kHz Vi=100mVrms		250	400	μVrms		
			AM Rejection Ratio	AMR	AM=400Hz 30%	40	50		dB		
			Parallel Output Resistance	Ro(AF)	f0=4.5MHz		3.25		kΩ		
			Parallel Output Capacitance	Co(AF)	Pin ⑨-③ shorted		10		pF		
			Demodulation Output (1)	Vo(AF1)	f0=4.5MHz fm=400Hz Δf=±25kHz Vi=100mVrms	R6=0	0.6	0.8	1.2	Vrms	
			Demodulation Output (2)	Vo(AF2) 240PD		R6=10kΩ	0.05		0.25	Vrms	
			Demodulation Signal Distortion	THD				0.9	2	%	
			Output Resistance	Ro(7)	fm=400Hz			7.5		kΩ	
				Ro(8)	Vi=100mVrms			300		Ω	
			Attenuation Circuit, Max. Attenuation	Att	R6=∞		60	80		dB	
			Sound Amp.	Distortion	THD	f=400Hz	Vi=2 Vrms		1.5		%
				Non-distortional Max. Output	Vo(max.)		THD2=5%	2	2.5		Vrms
				Voltage Gain	Gv(AF)		Vi=100mVrms	17.5	20	23	dB

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Application Circuit



C : Input level regulating Capacitor

