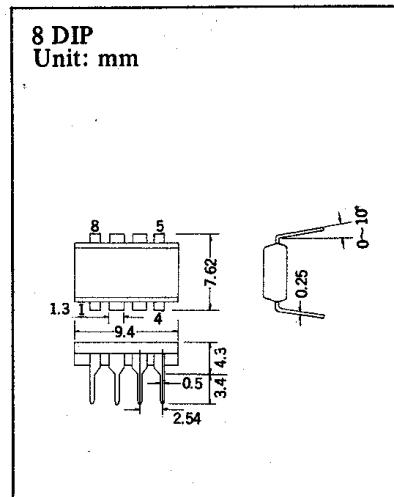


TV VIDEO IF LOW-LEVEL DETECTOR

The KA2111 is a monolithic integrated circuit designed for use in both color and monochrome television receivers.

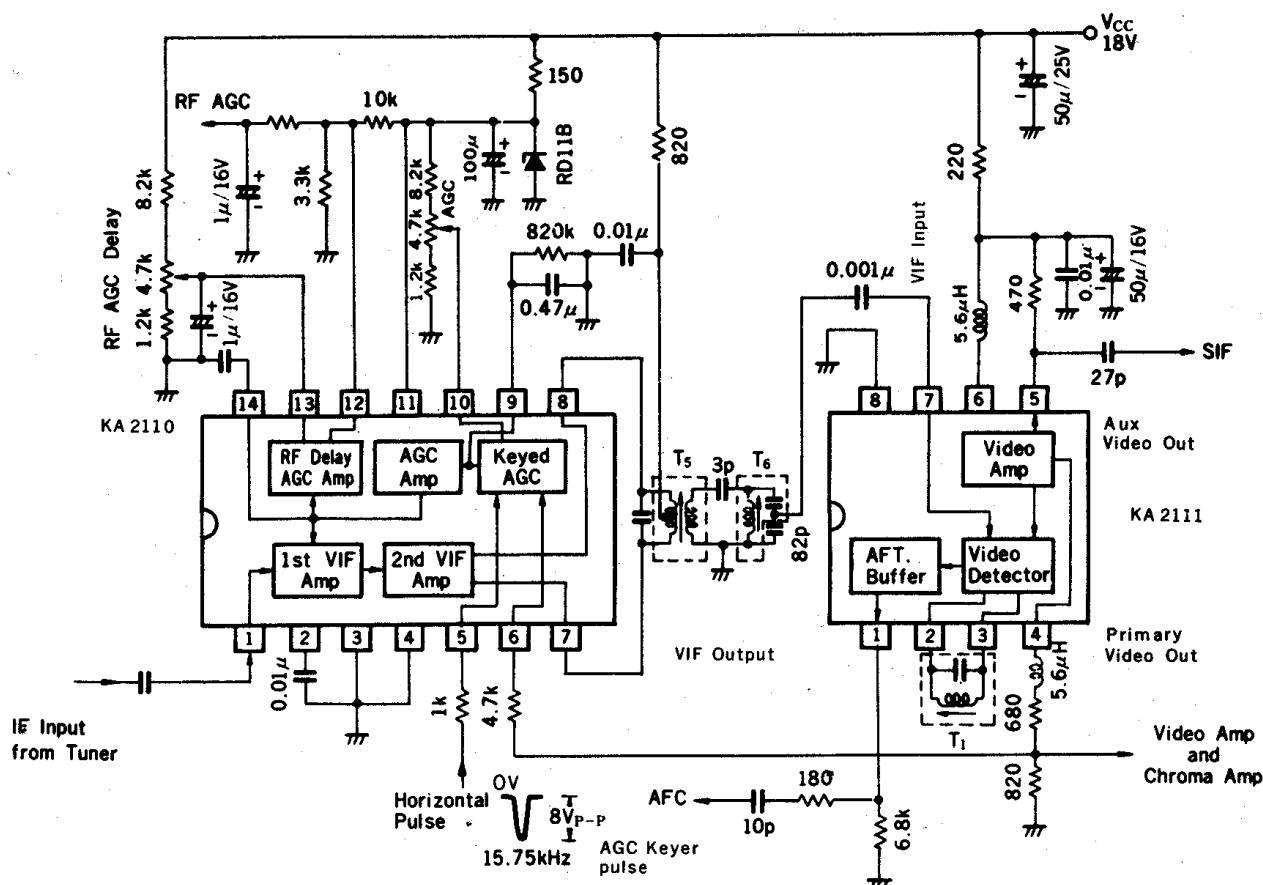
It is designed to replace the third IF stage, the detector, the video buffer and the AFC buffer.

An important feature is the extremely wide supply voltage range in consideration for using battery operation television receivers.



- Wide Operating Supply Voltage, $V_{CC} = 8.5 - 14V$.
- Conversion Gain - 33dB (typ)
- Excellent Differential Phase and Gain
- High Video Output
- Fully Balanced Detector

TYPICAL APPLICATION CIRCUIT FOR COLOR TELEVISION RECEIVER



KA2111

LINEAR INTEGRATED CIRCUIT

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

RATING	SYMBOL	VALUE	UNIT
Power Supply (Pin 5 and 6)	V ₅ , V ₆	15	V
Input Voltage (Pin 7)	V ₇	3	V _{p-p}
Supply Current (Pin 6)	I ₆	20	mA
AFC Output Current (Pin 1)	I ₁	30	mA
Video Output Current (Pin 4)	I ₄	15	mA
Power Dissipation	P _d	275 (Ta = 70°C)	mW
Operating Temperature	T _{opt}	-20 to 70	°C
Storage Temperature	T _{stg}	-40 to 125	°C

ELECTRICAL CHARACTERISTICS (V_{cc} = 12V, Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT	Ckt
Total Supply Current	I _{cc}	I ₅ + I ₆ , R ₄ = 560Ω	16	21	27	mA	1
Zero Signal DC Output Voltage	V ₄	R ₄ = 560Ω	3.5	4.3	5.0	V	1
Input Signal Voltage		f = 58MHz, AM Mod 90% fm = 1KHz, V _o = 1.5V _{p-p}	30	60	mV _{r.m.s.}		2
Maximum Signal DC Output Voltage	V _{4max}	f = 58MHz, AM Mod 0% V _{in} = 200mV _{r.m.s.}	0	0.5		V	2
Carrier Rejection	R _c	f = 58MHz, AM Mod 90% V _{in} = 31.6mV _{r.m.s.}	34			dB	2
Bandwidth of IF	BW _{IF}	-3dB	80			MHz	
Bandwidth of Video Output	BW _{DET}	-3dB	8	11		MHz	2
AFC Buffer Output	V _{oAFC}	f = 58MHz, AM Mod 90% fm = 1KHz, V _{in} = 31.6mV _{r.m.s.}	80	150	200	mV _{r.m.s.}	2
Input Resistance	R _{in}	f = 58MHz	3.5			kΩ	3
Input Capacitance	C _{in}	f = 58MHz	3.0			pF	3
Output Resistance	R _{out}	f = 58MHz	30	100		Ω	
Internal Capacitance	R ₂₋₃	f = 58MHz	4.4			kΩ	4
Internal Capacitance	C ₂₋₃	f = 58MHz	5			pF	4