

Type	Ordering code	Package
TBA 1440 G	Q67000-A1022	DIP 16

Highly amplifying controlled video IF amplifier including controlled demodulator, low-ohmic video outputs for positive and negative signal, gated control, and delayed tuner control.

TBA 1440 G for PNP tuners

Features

- High integration
- Large control range
- High input sensitivity
- Minimal 1.07 MHz disturbance
- Positive and negative signal
- Separate adjustment for white and black levels
- Excellent tuning behavior

Maximum ratings

Supply voltage	V_S	15 ¹⁾	V
Voltages	V_4	5	V
	V_5	20	V
	V_{14}	5	V
Ohmic resistance between pin 8 and 9	R_{8-9}	≤ 20	Ω
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	-40 to 125	°C
Thermal resistance (system-air)	R_{thSA}	90	K/W

Operating range

Supply voltage	V_S	10.5 to 15	V
Ambient temperature	T_A	-25 to 60	°C

1) intermittently 16.5 V

Characteristics
 $V_{13} = 13 \text{ V}$; $f_{iF} = 38.9 \text{ MHz}$; $T_A = 25^\circ\text{C}$;

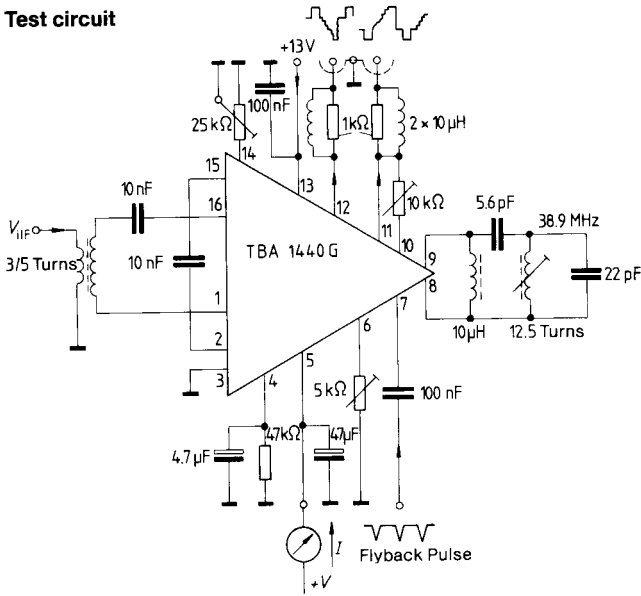
(all data measured with respect to ground, unless otherwise stated)

		min	typ	max	
Current consumption	I_{13}	33	42	61	mA
DC voltage at output 11					
$V_{13} = 15 \text{ V}$; $V_1 = 0$					
$R_{14-3} = \infty$	V_{11}		5.5		V
$R_{14-3} = 0$	V_{11}		9.6		V
DC voltage at output 12					
$V_{13} = 15 \text{ V}$; $V_1 = 0$					
$R_{14-3} = \infty$	V_{12}		1.9		V
$R_{14-3} = 0$	V_{12}		3.5		V
White level deviation					
	$\Delta V_{11}/\Delta V_{13}$		100		mV/V
	$\Delta V_{12}/\Delta V_{13}$		20		mV/V
Resistance for $\Delta V_{11} = 1 \text{ V}$	R_{14-3}		8.5		k Ω
AGC threshold $V_{10} = \text{sync pulse level}$					
for $R_{10-11} = 0$	$V_{10} = V_{11}$		1.9		V
Resistance for sync pulse level					
deviation of 1 V	R_{10-11}		2.4		k Ω
Sync pulse level with async					
or without gating pulses	$V_{11\text{sync}}$		0.5		V
(peak level control)					
Video output voltage	V_{video}		3.0		V
Control current for tuner prestage ($V_5 > 2 \text{ V}$)	I_5	10	15		mA
(10 dB after AGC)					
IF control voltage for max gain	V_4	0		0.5	V
for min gain	V_4	2.5		5	V
Gating pulse voltage	$-V_7$	2		5	V
Residual IF (basic frequency)	$V_{11}; V_{12}$		10		mV
Output current to ground	$I_{11}; I_{12}$			5	mA
to plus	$I_{11}; I_{12}$			-1	mA
Input impedance at max gain	Z_{1-16}		1.8/2		k Ω /pF
at min gain	Z_{1-16}		1.9/0		k Ω /pF
Input voltage ¹⁾ for $V_{1\text{pp}} = 3 \text{ V}$	V_i	70	100	200	μV
Video bandwidth (-3 dB)	B_{video}	6	7		MHz
AGC range	ΔG		55		dB
Intermodulation ratio (1.07 MHz) with					
reference to $f_{\text{cc}}^{2)*}$	a		45		dB
Output impedance	Z_{q8-9}		2/2.5		k Ω /pF

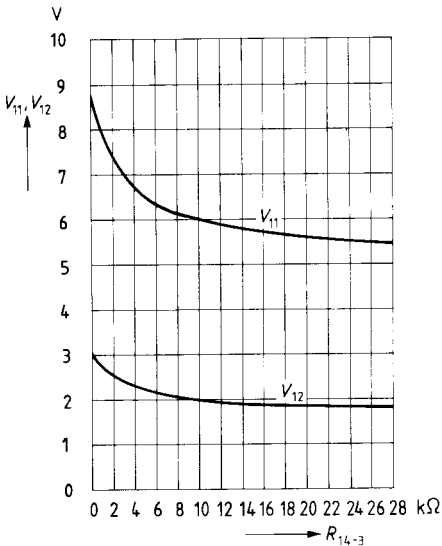
1) According to test circuit: $V_i = \text{rms sync pulse level at } 60 \Omega$ 2) Test level $a_{\text{cc}} = -3 \text{ dB}$ $a_{\text{sc}} = -20 \text{ dB}$ referred to picture carrier

* (sound-color-beat frequency)

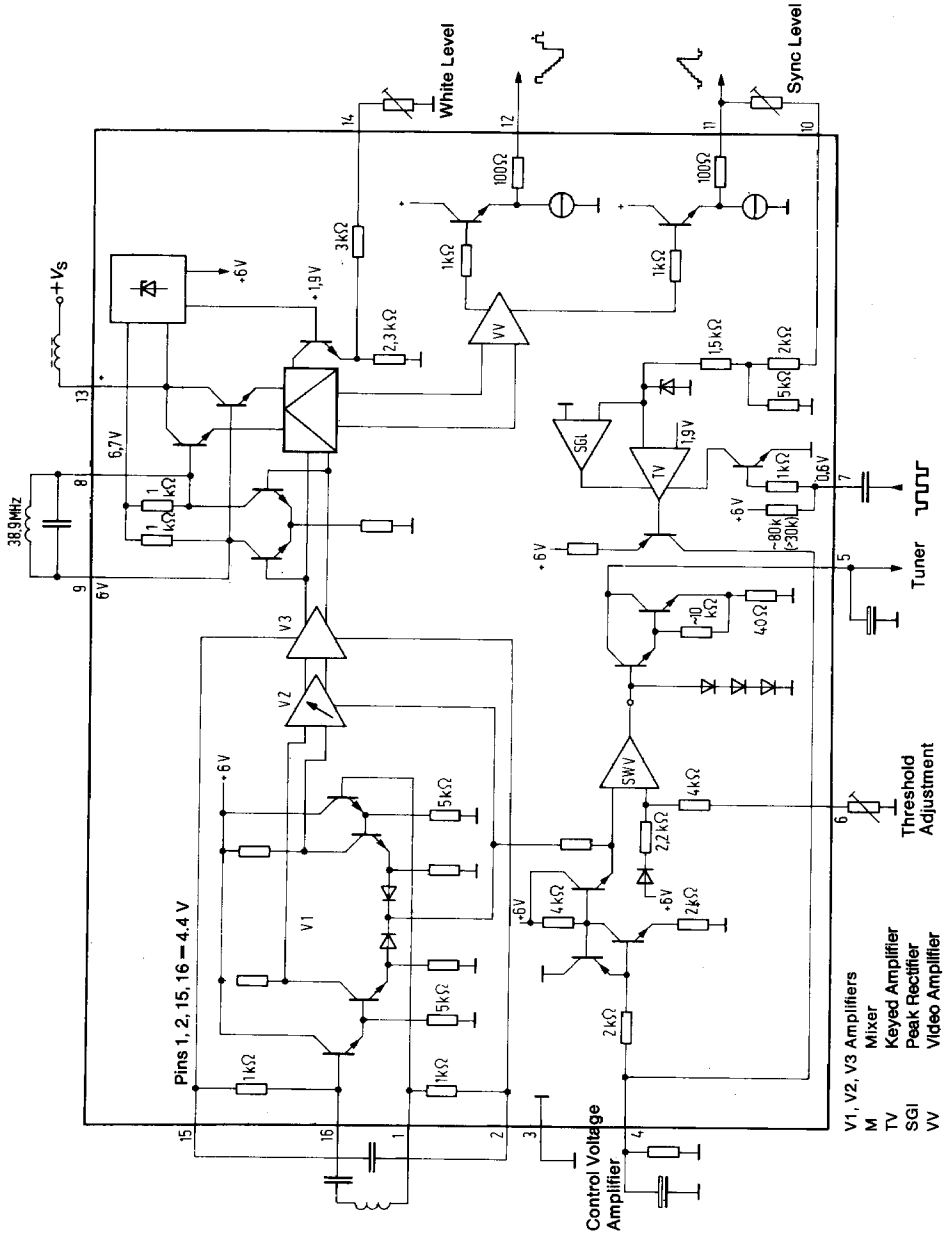
Test circuit



DC output voltage versus white level resistance
 $V_S = 13 \text{ V}; R_{10-11} = \infty$



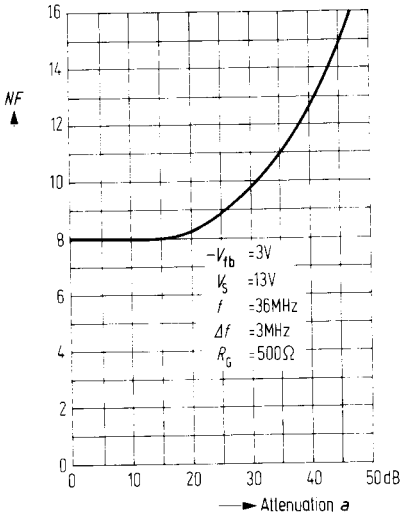
Block diagram



Noise figure versus attenuation

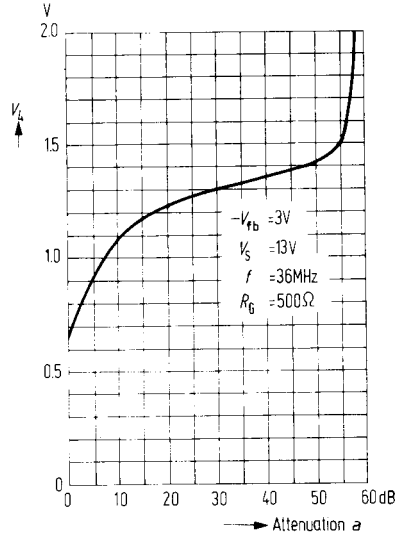
(measured at video frequency)

$V_S = 13 \text{ V}$, $f = 36 \text{ MHz}$, $\Delta f = 3 \text{ MHz}$,
 $R_G = 500 \Omega$, $-V_{fb} = 3 \text{ V}$



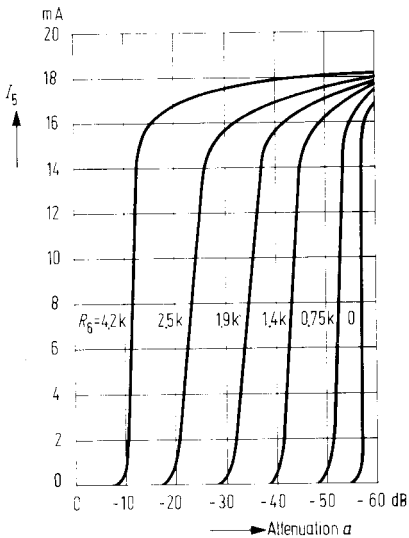
Control voltage versus attenuation

$-V_{fb} = 3 \text{ V}$, $V_S = 13 \text{ V}$, $f = 36 \text{ MHz}$,
 $R_G = 500 \Omega$



Tuner control current versus attenuation

$R_G = \text{parameter}$



Application circuit

suitable for connection of video recorders (75 Ω)

