

DESCRIPTION

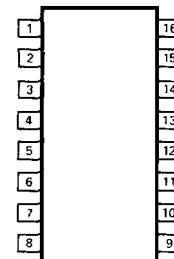
The TBA1440G (for npn tuner pre-stages) and TBA1441 (for npn tuner pre-stages) have been developed from the TBA440P/N. Their improvements are as follows:

- Reduced residual IF at outputs 11 and 12
- Reduced residual IF at pin 13
- Considerably improved intermodulation distance
- Excellent tuning attitude even with low-ohmic tank circuit at demodulator

The IC's contain a high-amplifying controllable video IF amplifier, a controlled demodulator and two low-resistance video outputs

with positive- and negative-going signals as well as the complete keyed control and delayed tuner control.

- Large control range with low noise and wide dynamic range
- High sensitivity
- Controlled demodulator, so minimum 1.07MHz disturbances
- Internal temperature stabilization
- The white levels of the video signals at the positive and negative video output are independent of the operating voltage
- The white and black levels can be adjusted separately

N PACKAGE

ORDER PART NO.
TBA1440GN, TBA1441N

ABSOLUTE MAXIMUM RATINGS

PARAMETER	RATING	UNIT
V ₁₃ Supply voltage	15*	V
V ₄ Voltages	5	V
V ₅	20	V
V ₁₄	5	V
R ₈₋₉ Ohmic resistance between pins 8 and 9	≤ 20	Ω
R _{THSA} Thermal resistance (system-air)	100	K/W
T _J Junction temperature	150	°C
T _S Storage temperature	-40 to +125	°C
V ₁₃ Supply voltage range	10.5 to 15	V
T _A Ambient temperature in operation	-25 to +60	°C

*NOTE

Briefly 16.5V

DC ELECTRICAL CHARACTERISTICS

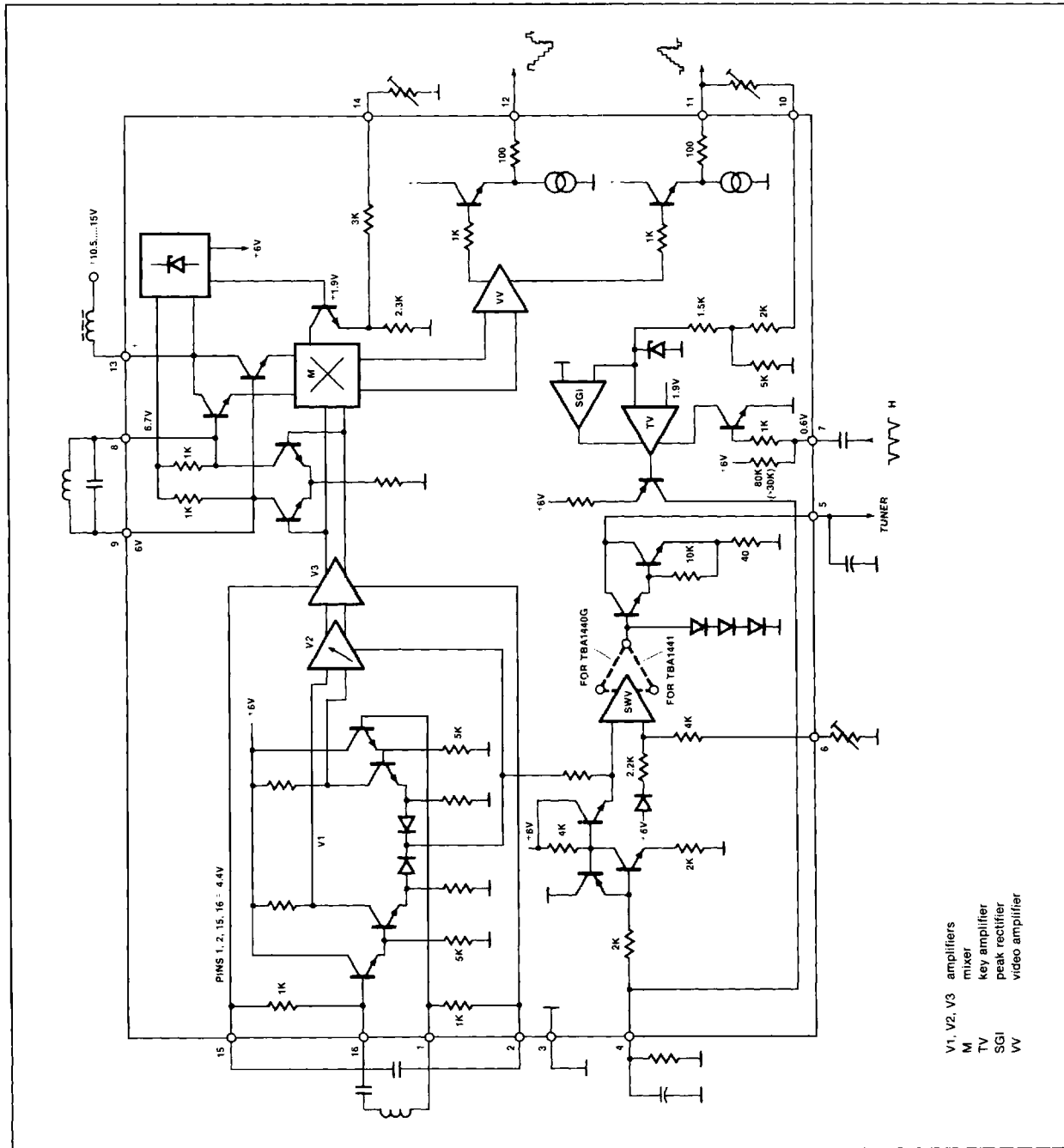
V₁₃ = 13V, f_{IF} = 38.9MHz; T_A = 25°C; all data with reference to ground, unless otherwise specified.

PARAMETER	TEST CONDITIONS	TBA1440G/1441			UNIT
		Min	Typ	Max	
I ₁₃ Current consumption	V ₁₃ = 15V	34	47	60	mA
V ₁₁ DC voltage at output 11	V ₁₃ = 15V; V ₁ = 0 R ₁₄₋₃ = ∞ R ₁₄₋₃ = 0		5.5 9.6		V V
V ₁₂ DC voltage at output 12	V ₁₃ = 15V; V ₁ = 0 R ₁₄₋₃ = ∞ R ₁₄₋₃ = 0		1.9 3.5		V V
V ₁₀ = V ₁₁ AGC threshold	V ₁₀ = sync pulse level for R ₁₀₋₁₁ = 0		1.9		V
V _{11sync} Sync pulse level with async or without gating pulses	Peak level control		.5		V
V ₄ IF control voltage	For max. gain For min. gain	0 2.5		.5 5	V V
-V ₇ Gating pulse voltage		2		5	V
I ₁₁ ; I ₁₂ Output current	To ground TO +V ₁₃			5 -1	mA mA

NOTES

1. According to test circuit: V₁ = effective sync pulse level at 60Ω.
2. Test level a_{cc} = -3dB
a_{sc} = -20dB referring to picture carrier

EQUIVALENT SCHEMATIC



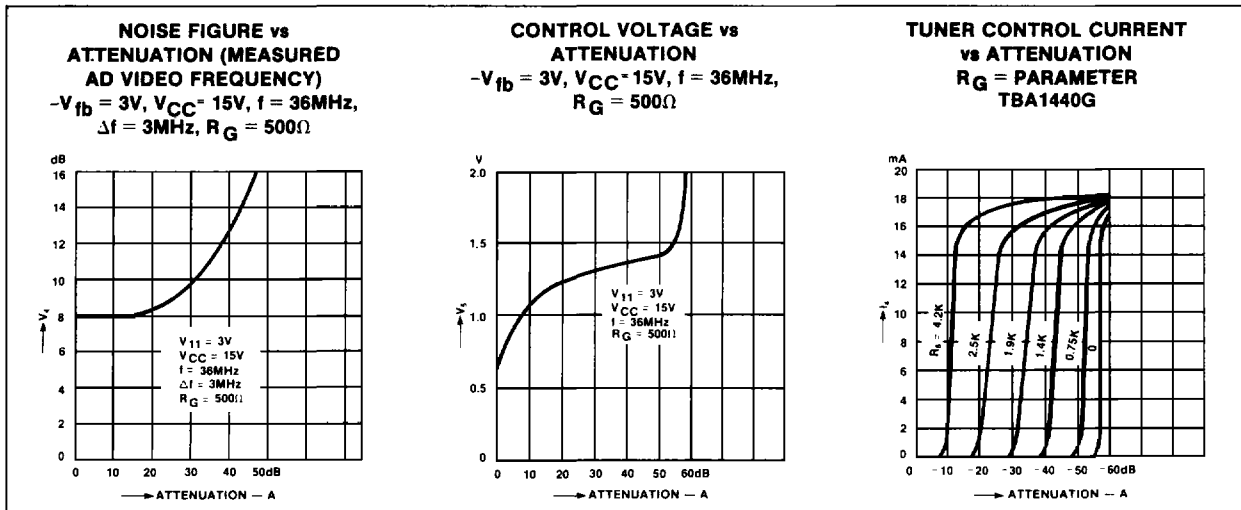
AC ELECTRICAL CHARACTERISTICS ($V_{13} = 13V$; $f_{IF} = 38.9MHz$; $T_A = 25^\circ C$; all data with reference to ground, unless otherwise specified.)

PARAMETER	TEST CONDITIONS	TBA1440G/1441			UNIT
		Min	Typ	Max	
$\Delta V_{11}/\Delta V_{13}$ $\Delta V_{12}/\Delta V_{13}$	White level deviation		100 20		mV/V mV/V
R_{14-3} R_{10-11}	Resistance for $\Delta V_{11} = 1V$ Resistance for sync pulse level deviation of 1V		8.5 2.4		k Ω k Ω
I_5	Control current for tuner prestage	$V_5 > 2V$ TBA1440G: 10dB after AGC TBA1441: 10dB previous to AGC			mA
$V_{11}; V_{12}$	Residual IF (basic frequency)		10		mV
Z_{1-16}	Input impedance	At max. gain At min. gain			k Ω /pF k Ω /pF
V_1 B_{video}	Input voltage ¹ Video band width	$V_{11} = 3V_{PP}$ -3dB			μV MHz
ΔG_v a	AGC range Intermodulation with reference color carrier ²		55 45		dB dB
Z_q 8-9	Output impedance		2/2.5		k Ω /pF

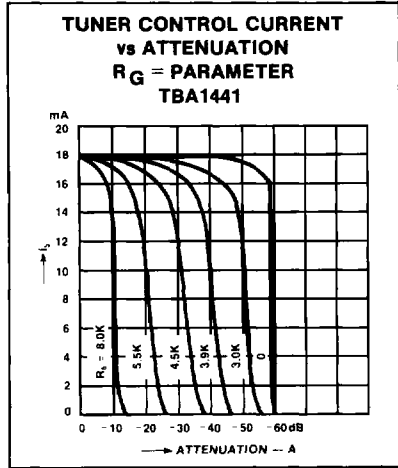
NOTES

- According to test circuit; V_1 = effective sync pulse level at 60 Ω .
- Test level $a_{cc} = -3dB$
 $a_{sc} = -20dB$ referring to picture carrier.

TYPICAL PERFORMANCE CHARACTERISTICS



TYPICAL PERFORMANCE CHARACTERISTICS



TEST CIRCUIT

