

DESCRIPTION

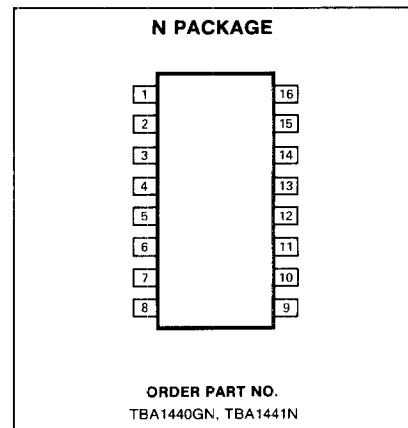
The TBA1440G (for pnp tuner pre-stages) and TBA1441 (for npn tuner pre-stages) have been developed from the TBA440P/N. Their improvements are as follows:

- 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



ABSOLUTE MAXIMUM RATINGS

PARAMETER		RATING	UNIT
V ₁₃	Supply voltage	15*	V
V ₄	Voltagess	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

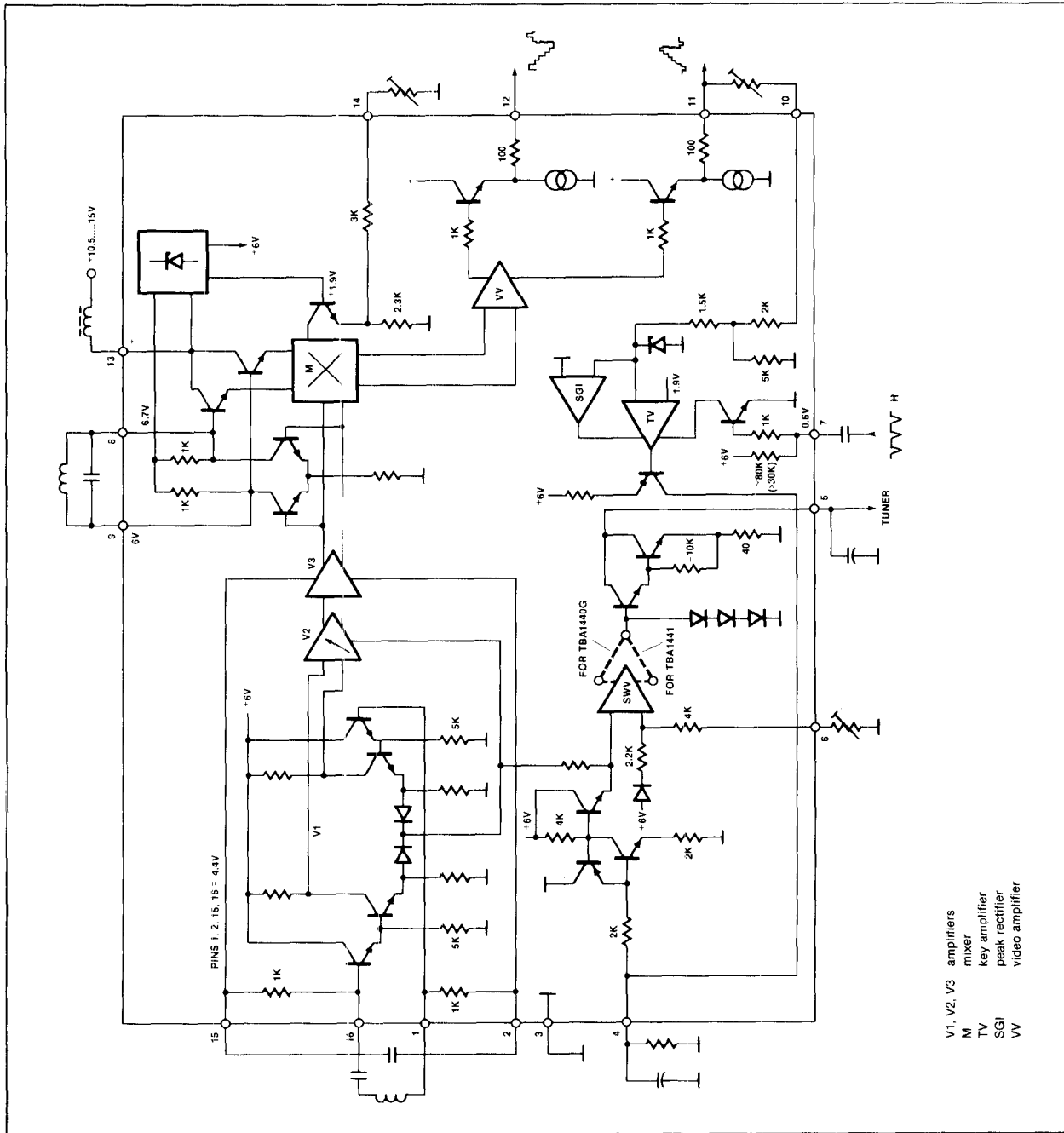
DC ELECTRICAL CHARACTERISTICS

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			mA
V ₁₁	DC voltage at output 11	V ₁₃ = 15V; V ₁ = 0			V
		R ₁₄₋₃ = ∞ R ₁₄₋₃ = 0			5.5 9.6
V ₁₂	DC voltage at output 12	V ₁₃ = 15V; V ₁ = 0			V
		R ₁₄₋₃ = ∞ R ₁₄₋₃ = 0			1.9 3.5
V ₁₀ = V ₁₁	AGC threshold	V ₁₀ = sync pulse level for R ₁₀₋₁₁ = 0			V
V _{11sync}	Sync pulse level with async or without gating pulses	Peak level control			V
V ₄	IF control voltage	For max. gain			.5
		For min. gain			5
-V ₇	Gating pulse voltage	2			5
I ₁₁ ; I ₁₂	Output current	To ground			5
		TO +V ₁₃			-1

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



V1, V2, V3 amplifiers
 M mixer
 TV key amplifier
 SGI peak rectifier
 VV video amplifier

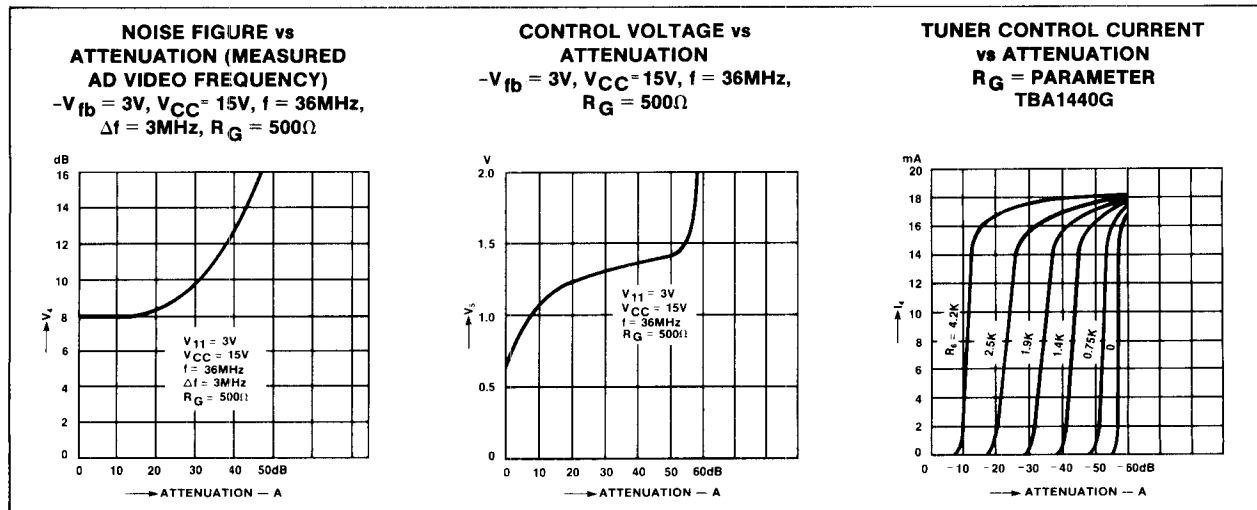
AC ELECTRICAL CHARACTERISTICS ($V_{13} = 13V$; $f_{11F} = 38.9MHz$; $T_A = 25^\circ C$; all data with reference to ground, unless otherwise specified.)

PARAMETER	TEST CONDITIONS	TBA1440G/1441			UNIT
		Min	Typ	Max	
$\Delta V_{11}/\Delta V_{13}$ White level deviation $\Delta V_{12}/\Delta V_{13}$			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	10	15		mA
$V_{11}; V_{12}$	Residual IF (basic frequency)		10		mV
Z_{1-16}	Input impedance At max. gain At min. gain		1.8/2 1.9/0		k Ω /pF k Ω /pF
V_1 B_{video}	Input voltage ¹ Video band width	70 6	100 7	300	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

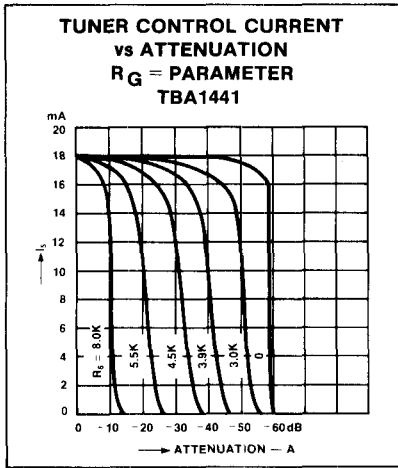
NOTES

- 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

