

# HA1361

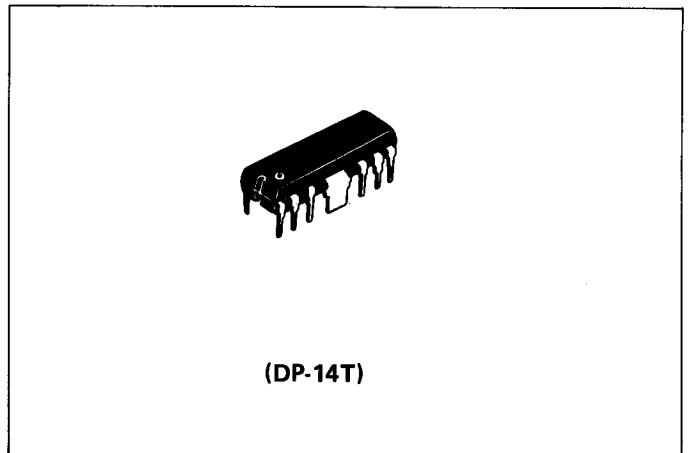
## AMPLIFIER SYSTEM FOR CASSETTE TAPE RECORDER

### FEATURES

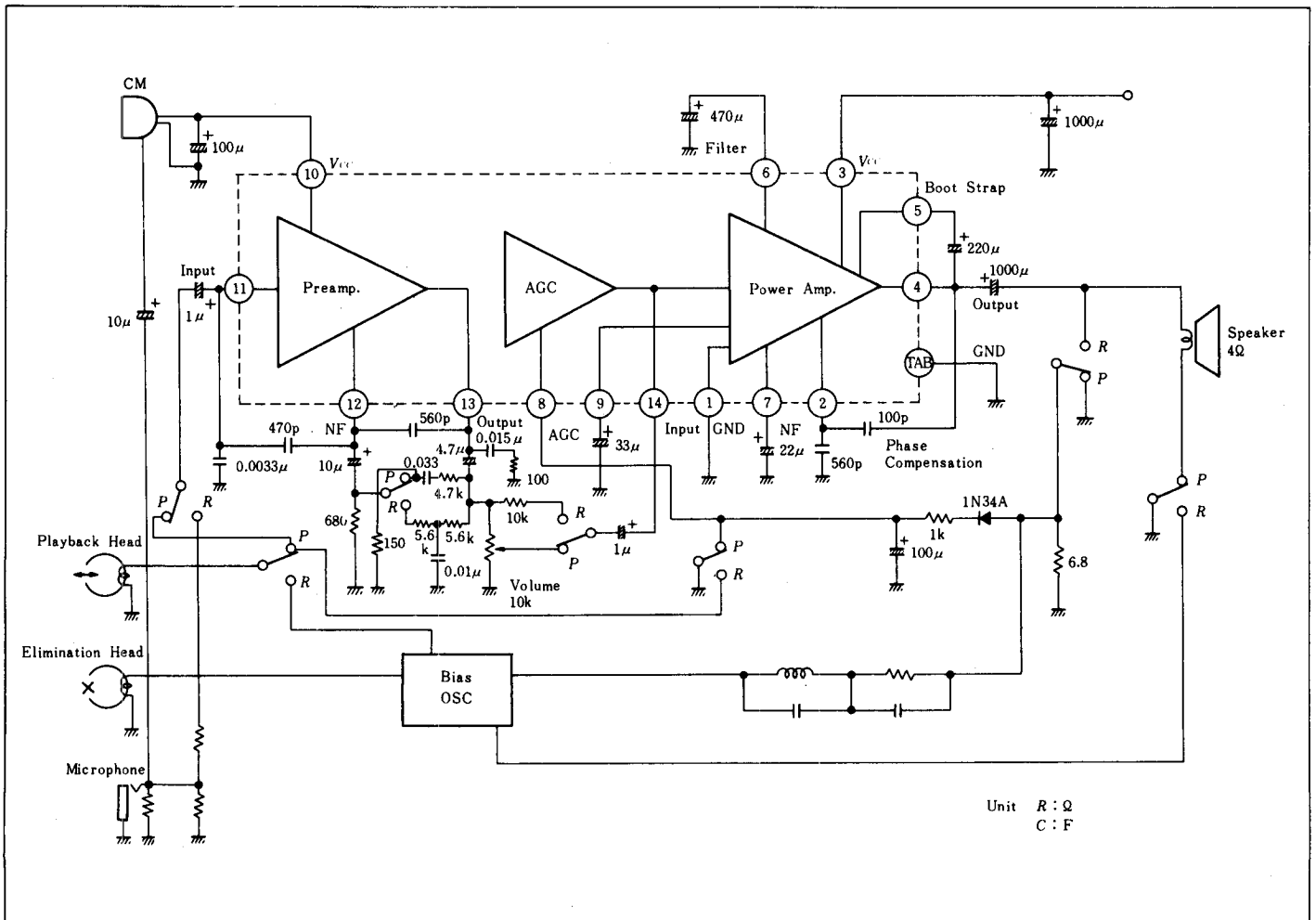
- All-in-one from first stage to output stage
- Low distortion and wide dynamic range because of AGC circuit
- Wide supply voltage range,  $V_{CC} = 4$  to  $9V$

### FUNCTIONS

- Preampfier
- Power Amplifier
- AGC Circuit



### FUNCTIONAL BLOCK DIAGRAM



### ABSOLUTE MAXIMUM RATINGS ( $T_a = 25^\circ C$ )

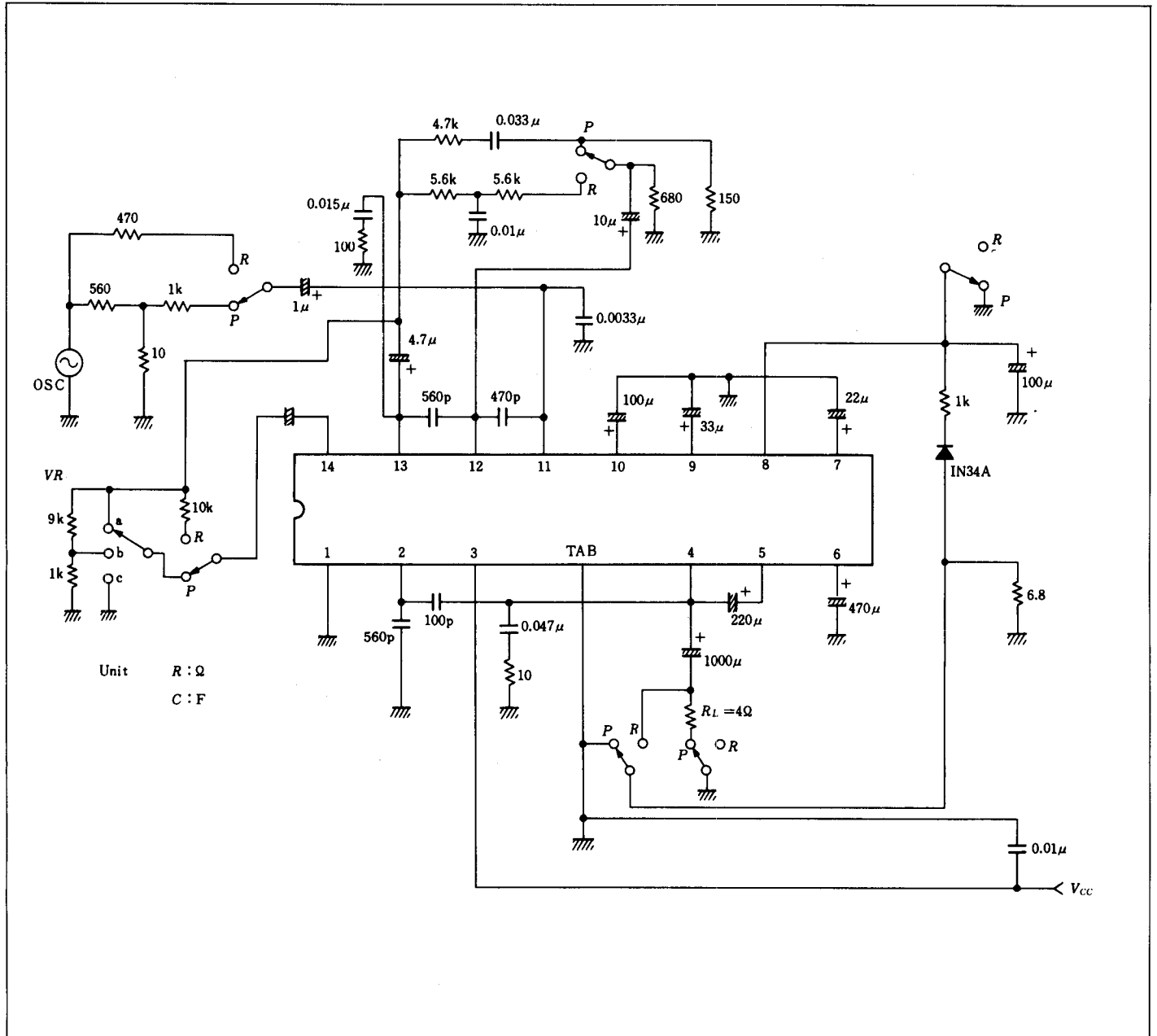
Item	Symbol	Rating	Unit
Supply Voltage	$V_{CC}$	9	V
Output Current	$I_{O(peak)}$	2.25	A
Power Dissipation	$P_T$	0.85	W
Operating Temperature	$T_{opr}$	-20 to +70	$^\circ C$
Storage Temperature	$T_{stg}$	-55 to +125	$^\circ C$

# HA1361

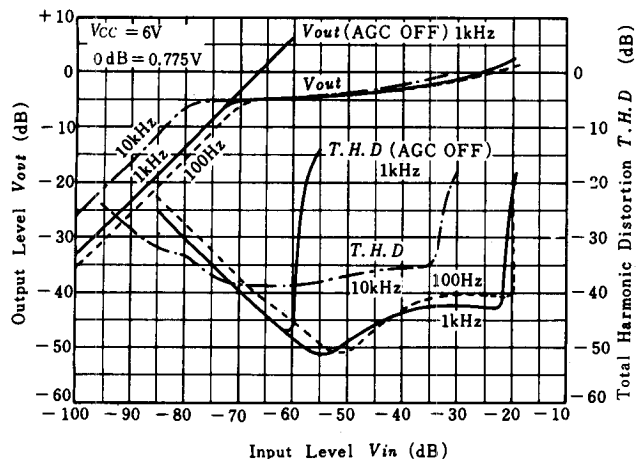
## ELECTTICAL CHARACTERISTICS ( $V_{cc}=6V, f=1kHz, R_L=4\Omega, T_a=25^\circ C$ )

Item	Symbol	Test Condition	min	typ	max	Unit
Quiescent Current	$I_o$	$V_{in}=0$	10	20	40	mA
Output Power	$P_{out}$	T.H.D=10%(play)	0.8	1.0	—	W
Voltage Gain	$G_v$	(play)	—	80	—	dB
Total Harmonic Distortion	T.H.D	$P_{out}=100mW$ (play)	—	—	1.5	%
Output Noise Voltage	$V_n$	$R_g=1k\Omega$	—	10	20	mV
Input Resistance	Preamp.	(play)	25	50	—	k $\Omega$
	Drive Amp.		10	22	—	
AGC Ratio		$V_{in}=-65dBm \rightarrow -25dBm$ (Rec)	—	35	—	dB
AGC Distortion		$V_{in}=-30dBm$ (Rec)	—	1.0	—	%
Min. Operating Voltage	$V_{cc}$ min	(Play)	—	—	4.0	V

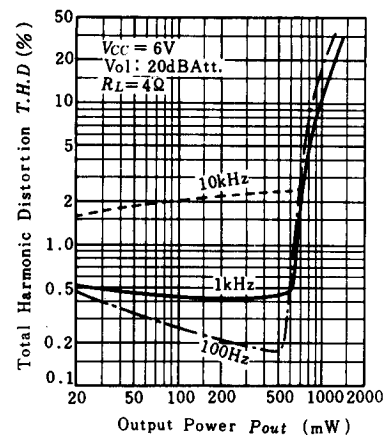
## TEST CIRCUIT



**OUTPUT LEVEL AND TOTAL HARMONIC DISTORTION VS. INPUT LEVEL (REC MODE)**



**TOTAL HARMONIC DISTORTION VS. OUTPUT POWER (PLAYBACK AMP)**



**FREQUENCY CHARACTERISTICS OF PLAYBACK AMP. AND RECORDING AMP.**

