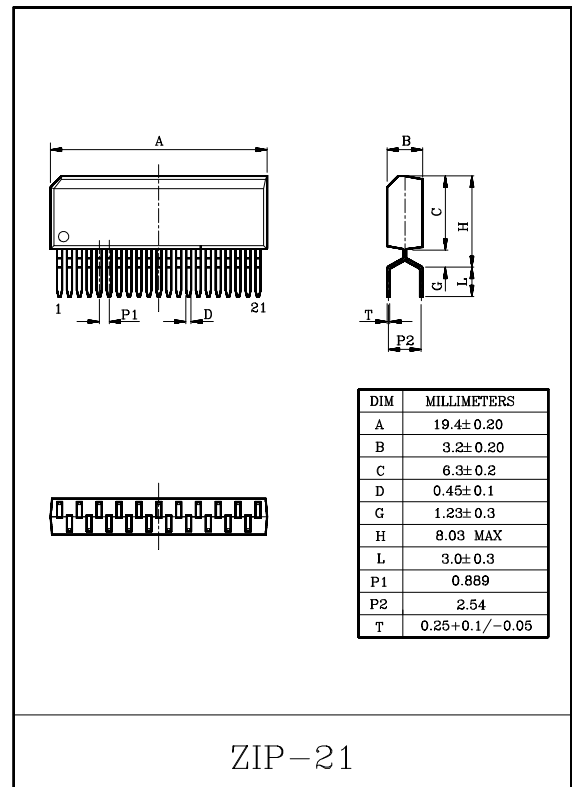


DUAL PRE AMPLIFIER SYSTEM

The KIA7417AP is a dual preamplifier system IC designed for radio cassette player of the low end class to the middle class.

FEATURES

- Recording Amp with ALC.
- Play Back Amp.
- Mic Amp with ALC.
- Monitor Amp.
- Built-in Switch for Selecting REC/PLAY.
- Built-in Switch for Selecting TAPE input or RADIO(AUX) input.
- Built-in Recording Bias Circuit Control terminal.
- Following 4 modes can be Carried out by External two Switches Combination.
 - Radio Recording.
 - Mic Recording.
 - Radio Play.
 - Tape Play Back.
- Few External Parts.
- Small Package (ZIP-21)
- Operational Supply Voltage (Recommended)
 - : $V_{CC}=3.5\sim 7V$ ($T_a=25^{\circ}C$)



MAXIMUM RATINGS ($T_a=25^{\circ}C$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{CC}	8	V
Power Dissipation (Note)	P_D	750	mW
Operating Temperature	T_{opr}	-25~75	$^{\circ}C$
Storage Temperature	T_{stg}	-55~150	$^{\circ}C$

Note : Derated above $T_a=25^{\circ}C$ in the proportion of 6mW/ $^{\circ}C$.

KIA7417AP

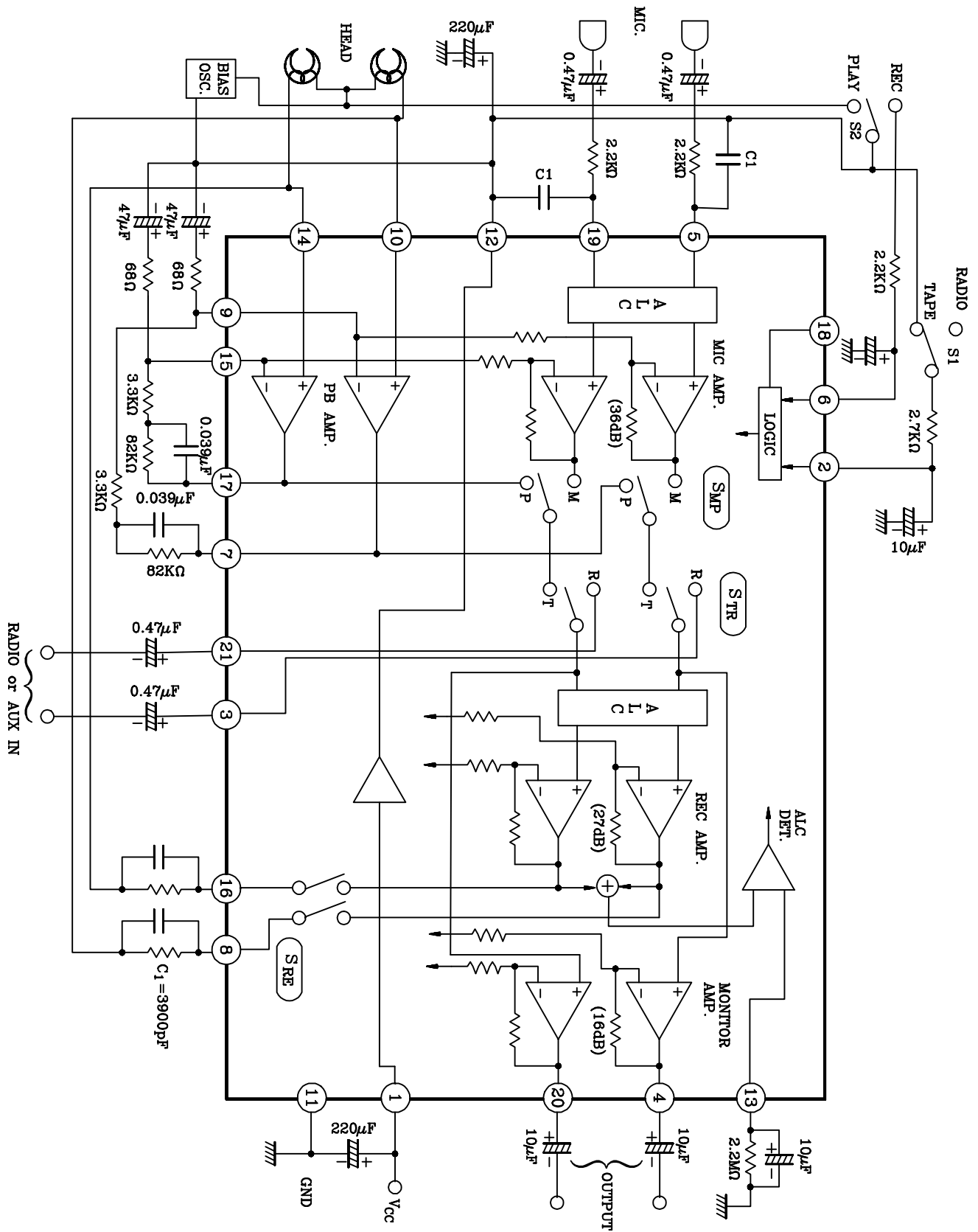
ELECTRICAL CHARACTERISTICS

(Unless otherwise specified, $V_{CC}=9V$, $f=1kHz$, $T_a=25^{\circ}C$)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Quiescent Current		I_{CC1}	S1=RADIO, S2=PLAY	–	11	16	mA
		I_{CC2}	S1=RADIO, S2=REC	–	14	19	
		I_{CC3}	S1=TAPE, S2=PLAY	–	11	16	
		I_{CC4}	S1=TAPE, S2=REC	–	10	15	
Reference Voltage		V_{ref}		1.8	2.0	2.3	V
MONITOR PORT	Voltage Gain	G_{V1}	$V_{IN}=-50dBV$	14	16	18	dB
	Maximum Output Voltage	V_{omax1}	THD=1%	–	1.3	–	V_{rms}
	Output Noise Voltage	V_{no1}	BW=5~30kHz	–	15	–	μV_{rms}
	Total Harmonic Distortion	THD1	$V_{OUT}=-10dBV$, BW=400~30kHz	–	0.06	–	%
	Cross Talk	CT1	$V_{OUT}=0dBV$, BW=400~30kHz	–	-66	–	dB
	Ripple Rejection Ratio	RR1	$V_{ripple}=-20dBV$, $f=100Hz$	–	-50	–	dB
PLAY BACK	Voltage Gain	G_{V2}	$V_{IN}=-50dBV$	35	38	41	dB
	Open Loop Voltage Gain	G_{VO2}	$V_{IN}=-90dBV$		78		dB
	Maximum Output Voltage	V_{omax2}	THD=1%		1.3		V_{rms}
	Output Noise Voltage	V_{no2}	BW=5~30kHz		80	160	μV_{rms}
	Total Harmonic Distortion	THD2	$V_{OUT}=-10dBV$, BW=400~30kHz		0.02		%
	Cross Talk	CT2	$V_{OUT}=0dBV$, BW=400~30kHz		-77		dB
	Ripple Rejection Ratio	RR2	$V_{ripple}=-20dBV$, $f=100Hz$		-42		dB
RECEIVE C/P	Voltage Gain	G_{V3}	$V_{IN}=-50dBV$	24	27	30	dB
	Output Noise Voltage	V_{no3}	BW=5~30kHz		160		μV_{rms}
	Total Harmonic Distortion	THD3	$V_{OUT}=-10dBV$, BW=400~30kHz		0.04		%
	Cross Talk	CT3	$V_{OUT}=-10dBV$, BW=400~30kHz		-71		dB
	Ripple Rejection	RR3	$V_{ripple}=-20dBV$, $f=100Hz$		-42		dB
	ALC1	ALC31	$V_{IN}=-25dBV$, Dual OP	-6	-2	2	dBV
	ALC2	ALC32	$V_{IN}=-15dBV$, Dual OP		-1		dBV
	ALC3	ALC33	$V_{IN}=-5dBV$, Dual OP		-1		dBV
MIC AMP + REC	Voltage Gain	G_{V4}	$V_{IN}=-80dBV$		63		dB
	Output Noise Voltage	V_{no4}	BW=5~30kHz		3.5	5.6	μV_{rms}
	Total Harmonic Distortion	THD4	$V_{OUT}=-10dBV$, BW=400~30kHz		0.7		%
	Cross Talk	CT4	$V_{OUT}=-10dBV$, BW=400~30kHz		-43		dB
	Ripple Rejection	RR4	$V_{ripple}=-20dBV$, $f=100Hz$		-28		dB
	ALC1	ALC41	$V_{IN}=-60dBV$, Dual OP	-6	-2	2	dBV
	ALC2	ALC42	$V_{IN}=-40dBV$, Dual OP		-1	–	dBV
	ALC3	ALC43	$V_{IN}=-15dBV$, Dual OP	-4	-1	2	dBV

KIA7417AP

BLOCK DIAGRAM



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