

# TA7797P

## DUAL PRE-AMPLIFIER IC FOR DOUBLE CASSETTE TAPE PLAYER

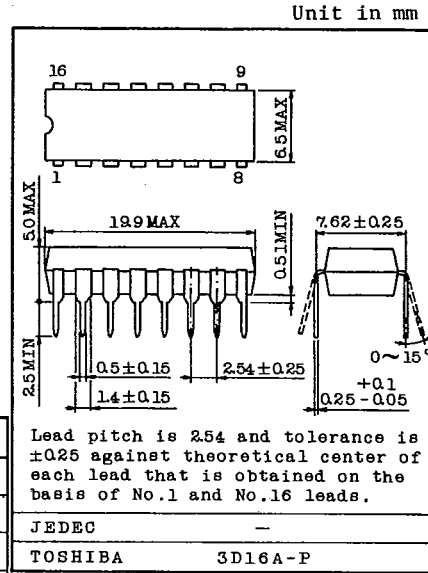
This is an IC designed for the double cassette tape player of the low-end class to the middle class.

- . External parts are remarkably reduced.
- . Mixing during recording or playing back is possible (Built-in VCA).
- . Changeover switch is incorporated for selecting source amplifier or tape amplifier.
- . Suitable for combination with TA7784P.
- . Operation supply voltage: 3.5~7.0V (Ta=25°C)

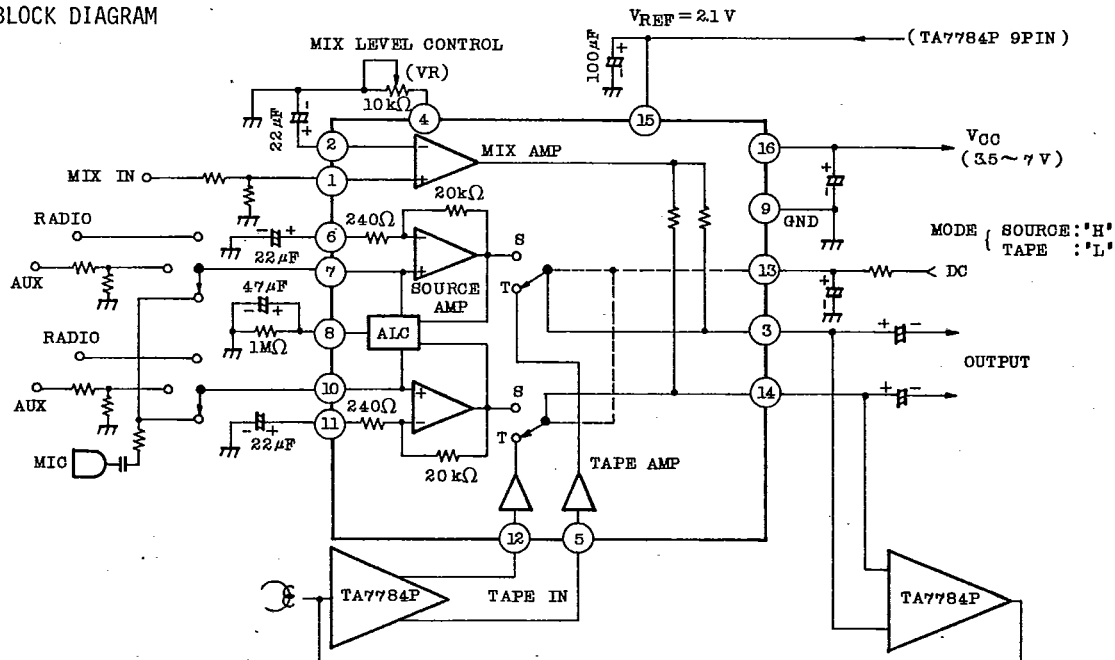
### MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V <sub>CC</sub>	14	V
Power Dissipation	P <sub>D</sub> (Note)	750	mW
Operating Temperature	T <sub>opr</sub>	-25 ~ 75	°C
Storage Temperature	T <sub>stg</sub>	-55 ~ 150	°C

Note: Derated above Ta=25°C in the proportion of 6mW/°C.



### BLOCK DIAGRAM



## TA7797P

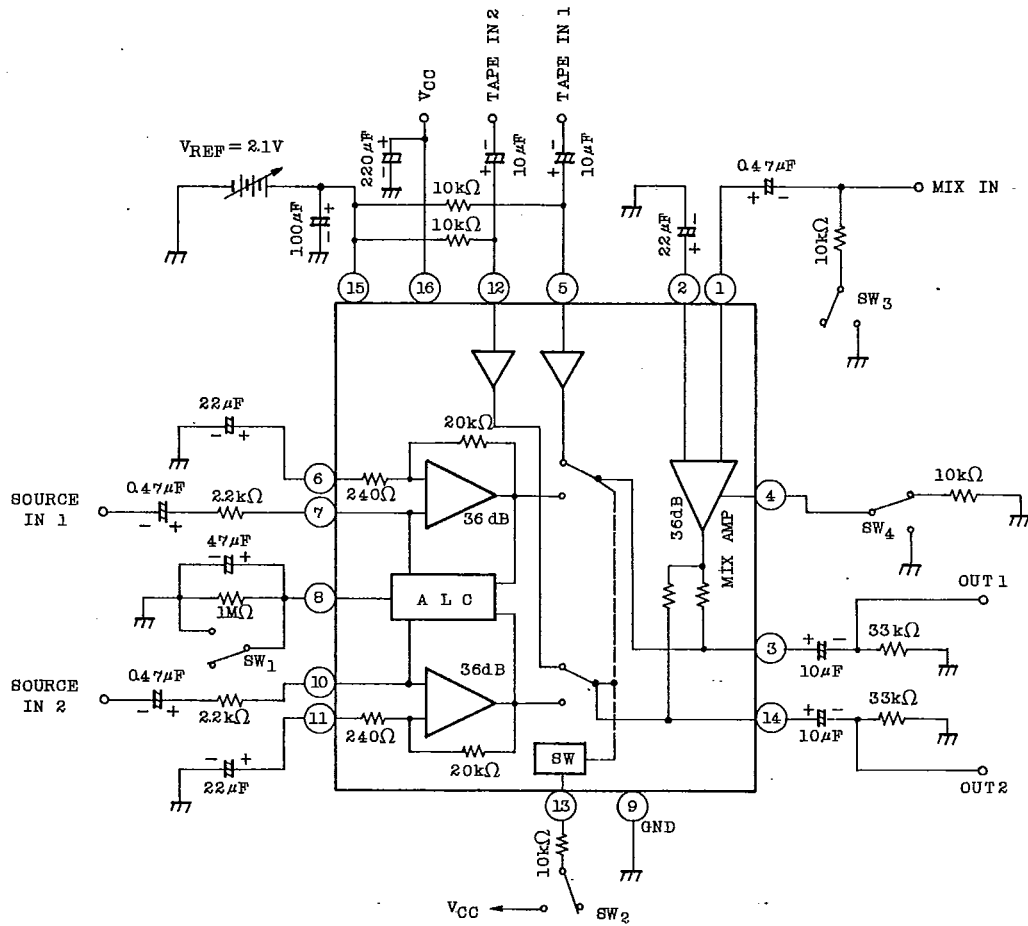
## ELECTRICAL CHARACTERISTICS

(Unless otherwise specified,  $T_a=25^\circ\text{C}$ ,  $V_{CC}=6\text{V}$ ,  $f=1\text{kHz}$ ,  $V_{REF}=2.1\text{V}$ )

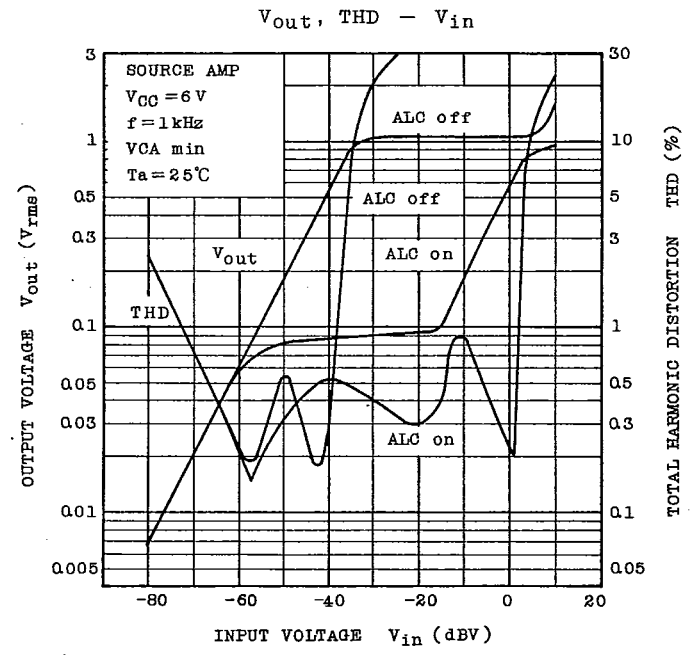
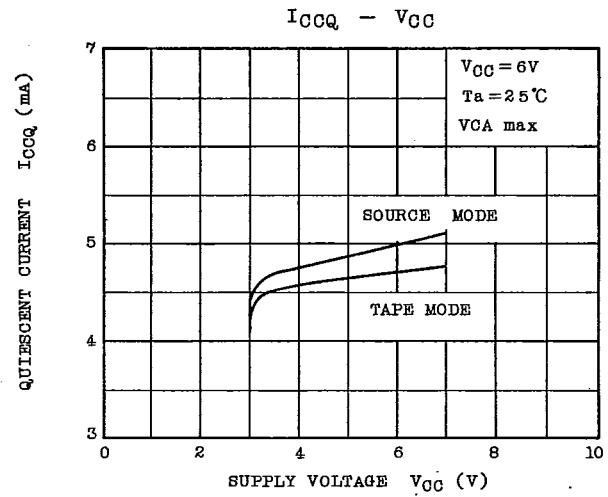
CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Quiescent Current	$I_{ccq1}$		$V_{in}=0$ , Source Mode VCA max.	-	5.0	13.5	mA
	$I_{ccq2}$		$V_{in}=0$ , Tape Mode VCA max.	-	4.7	12.0	
SOURCE AMP.	Voltage Gain	$G_{v1}$	$V_{in}=-60\text{dBV}$ , VCA min.	-	35	-	dB
	Total Harmonic Distortion	THD1	$V_{in}=-60\text{dBV}$	-	0.32	-	%
	Maximum Output Voltage	$V_{om1}$	THD=1%, ALC on	-	0.67	-	$V_{rms}$
	Output Noise Voltage	$V_{no1}$	$R_g=3.2\text{k}\Omega$ , BW=5~20kHz	-	0.13	0.2	$\text{mV}_{rms}$
	Ripple Rejection Ratio	R.R1	$V_{in}=-20\text{dBV}$ , $f=100\text{Hz}$	-	50	-	dB
TAPE AMP.	Voltage Gain	$G_{v2}$	$V_{in}=-24\text{dBV}$ , VCA min.	-	0	-	dB
	Total Harmonic Distortion	THD2	$V_{in}=-24\text{dBV}$	-	0.2	-	%
	Maximum Output Voltage	$V_{om2}$	THD=1%	-	1.0	-	$V_{rms}$
	Output Noise Voltage	$V_{no2}$	$R_g=1\text{k}\Omega$ , BW=5~20kHz	-	6.0	20	$\mu\text{V}_{rms}$
	Ripple Rejection Ratio	R.R2	$V_{in}=-20\text{dBV}$ , $f=100\text{Hz}$	-	60	-	dB
MIX AMP.	Voltage Gain	$G_{v3}$	$V_{in}=-60\text{dBV}$ , VCA max. Source Mode	-	37	-	dB
	Total Harmonic Distortion	THD3	$V_{in}=-60\text{dBV}$	-	0.18	-	%
	Maximum Output Voltage	$V_{om3}$	THD=1%, Tape Mode	-	1.5	-	$V_{rms}$
	Output Noise Voltage	$V_{no3}$	$R_g=1\text{k}\Omega$ , BW=5~20kHz	-	0.12	0.2	$\text{mV}_{rms}$
	Ripple Rejection Ratio	R.R3	VCA max, $V_{in}=-20\text{dBV}$	-	43	-	dB
ALC	ALC Level	ALC	$V_{in}=-40\text{dBV}$ , dual op.	-	-20	-	dBV
	Attack Time	$T_1$	$V_{in}=0 \rightarrow 3.2\text{mV}_{rms}$ Dual op.	-	43	-	msec
	Recovery Time	$T_2$	$V_{in}=-50 \rightarrow -70\text{dBV}$	-	10	-	sec

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## TEST CIRCUIT



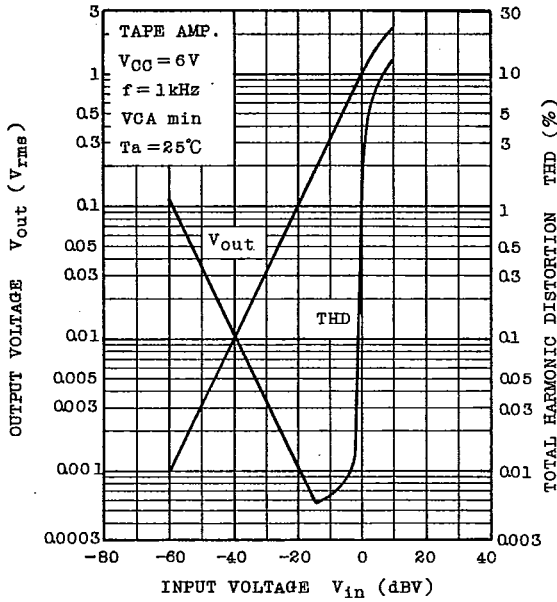
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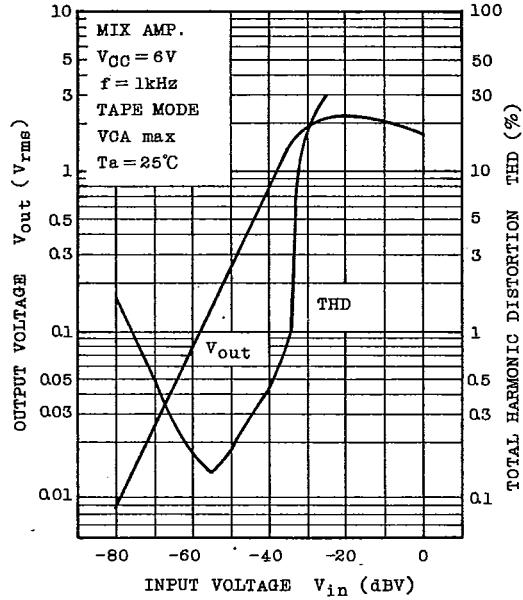
AUDIO LINEAR IC

# TA7797P

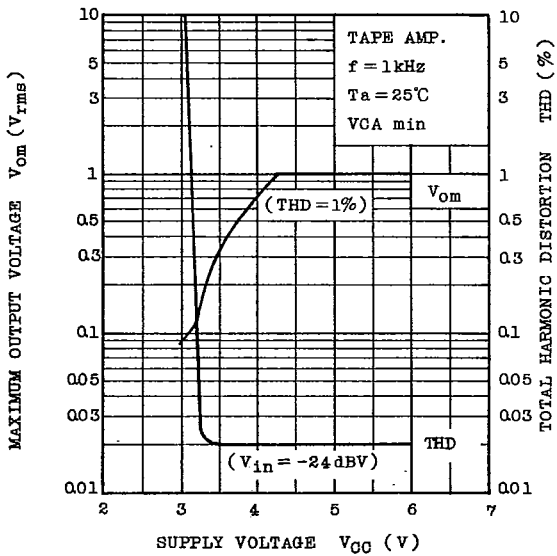
$V_{out}, THD - V_{in}$



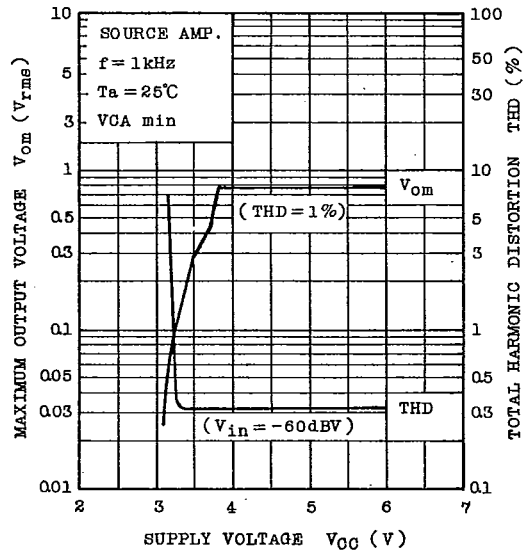
$V_{out}, THD - V_{in}$



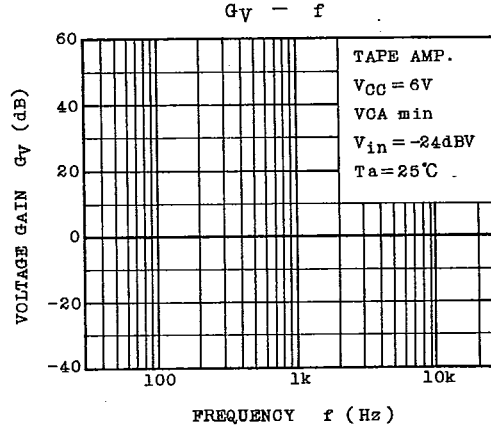
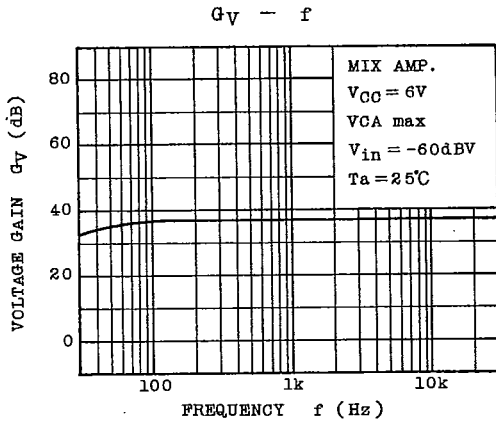
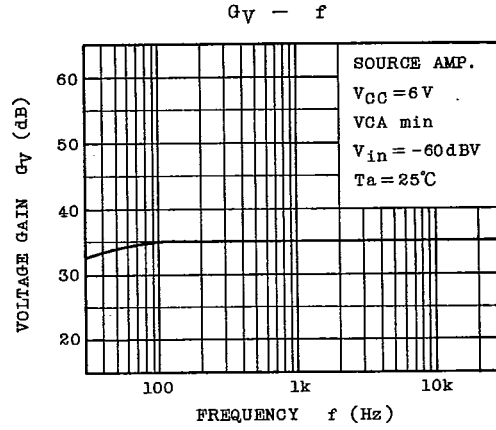
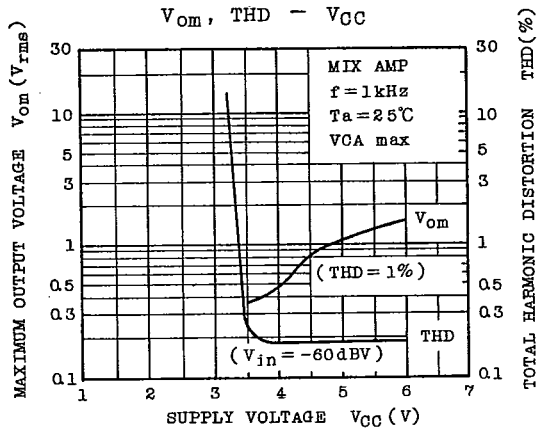
$V_{om}, THD - V_{CC}$



$V_{om}, THD - V_{CC}$



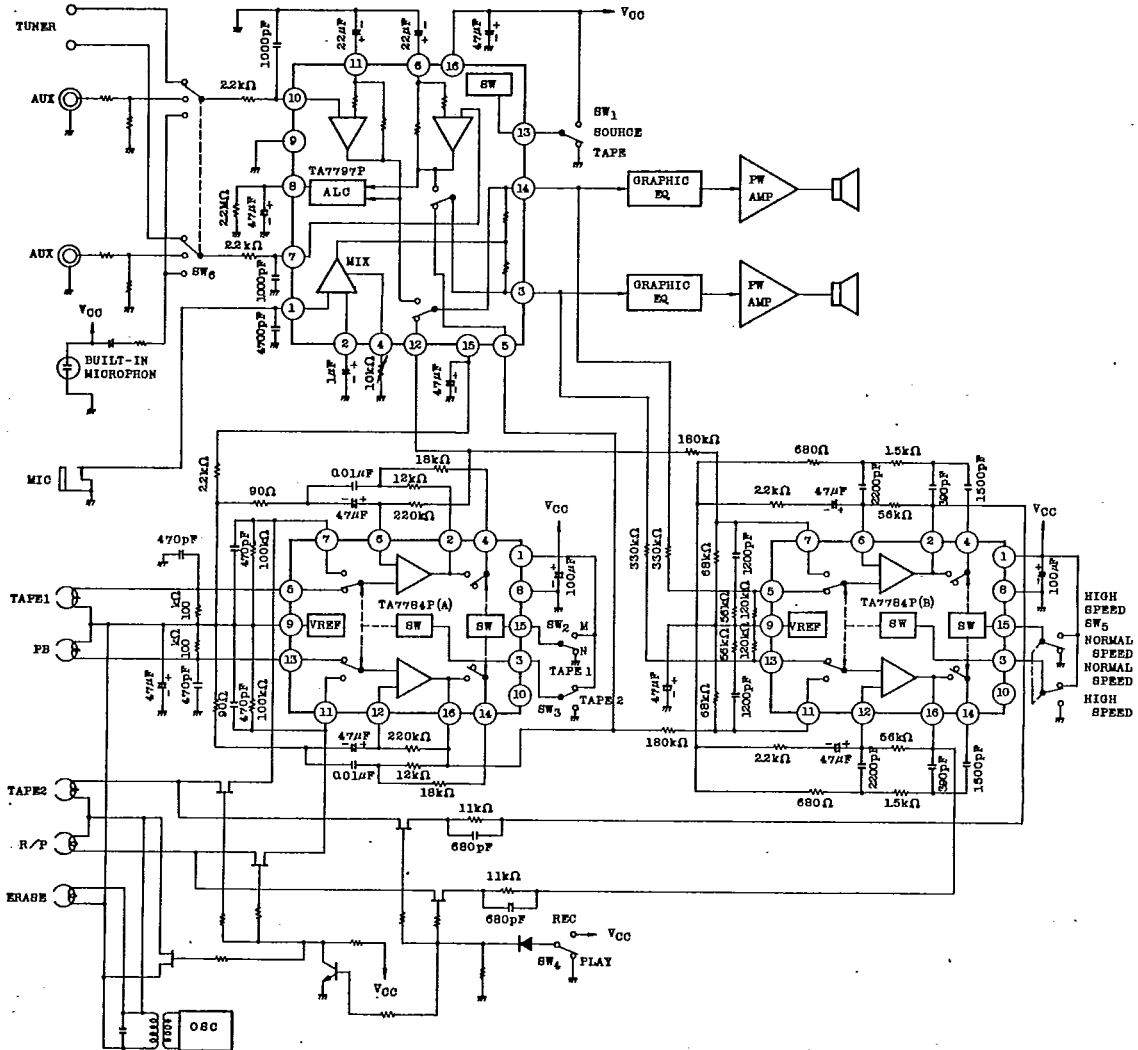
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## TA7797P + TA7784P

EXAMPLE OF APPLICATION CIRCUIT OF HIGH SPEED DUBBING  
FOR DOUBLE CASSETTE TAPE PLAYER



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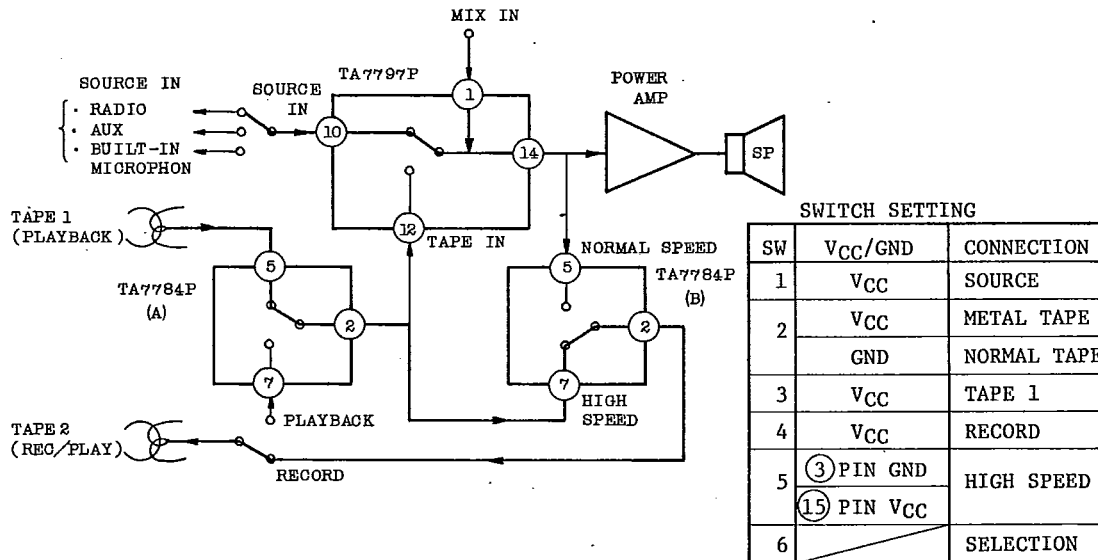
EXAMPLE OF APPLICATION CIRCUIT OF HIGH SPEED DUBBING FOR DOUBLE CASSETTE TAPE PLAYER  
OPERATIONAL DESCRIPTION

(A) Description of Each Switch

SW	FUNCTION	VCC/GND	CHANGEOVER
1	Input of TA7797P is changed with SOURCE IN and TAPE IN.	VCC	SOURCE IN
		GND	TAPE IN
2	At play back, equalizer of metal tape and normal is changed.	VCC	METAL EQ
		GND	NORMAL EQ
3	Input of TA7784P(A) is changed with TA7784P(A) (at play back) and TA7784P(B) (at recording).	VCC	TAPE 1
		GND	TAPE 2
4	Head connection for TAPE 2 is changed with TAPE 1 and TAPE 2.	VCC	RECORD
		GND	PLAYBACK
5	Recording frequency characteristic of TA7784P(B) is changed with normal speed dubbing and high speed dubbing.	③ GND	VCC HIGH SPEED
		PIN VCC	PIN GND NORMAL SPEED
6	SOURCE input of TA7797P is changed with radio, AUX or built-in microphone.	TUNER/AUX/built-in microphone	

(B) Exsmaple of operation (only single channel is shown.)

(1) TAPE 1 → TAPE 2 High Speed Dubbing



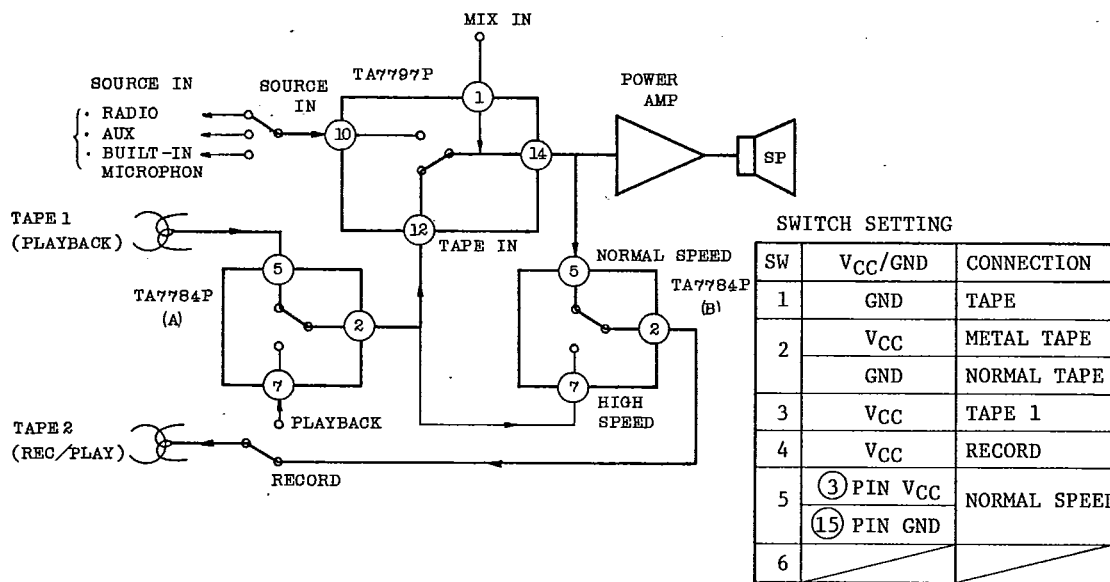
AUDIO LINEAR IC

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TAPE 1→TAPE 2 high speed dubbing can be carried out by means of making TA7784P(A) input to TAPE 1 side and TA7784P(B) input to HIGH SPEED record side.

In this case, through making TA7797P input to SOURCE IN side, radio or external input can be monitored during high speed dubbing is carried out (FREE SOURCE).

(2) TAPE 1→TAPE 2 Normal Speed Dubbing

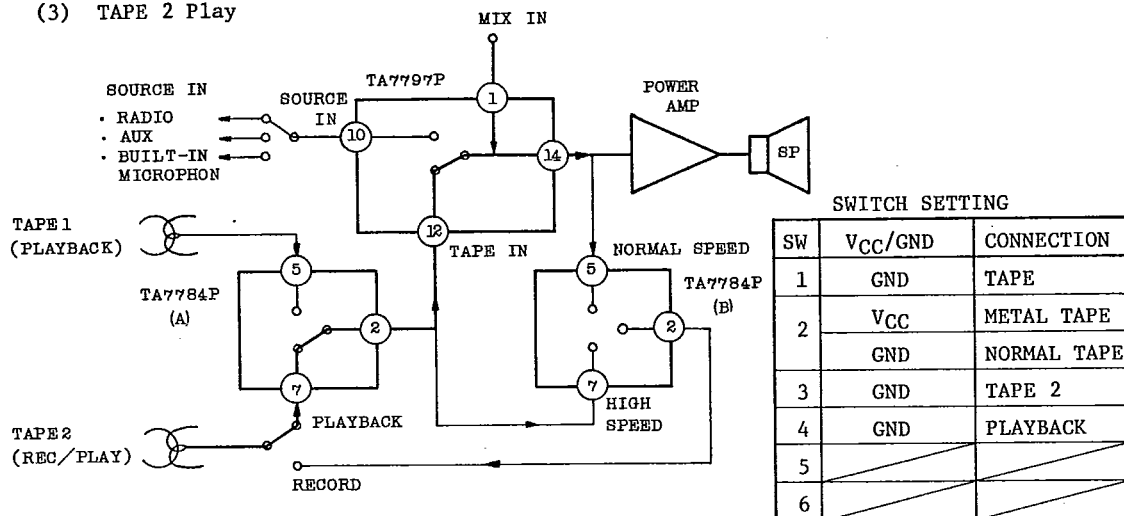


TAPE 1→TAPE 2 normal speed dubbing can be carried out by means of making TA7784P(A) input to TAPE 1 side, TA7797P input to TAPE IN side and TA7784P(B) input to NORMAL SPEED record side.

At normal speed recording through TA7797P→TA7784P(B), mixing recording can be performed by means of using MIX AMP of TA7797P.

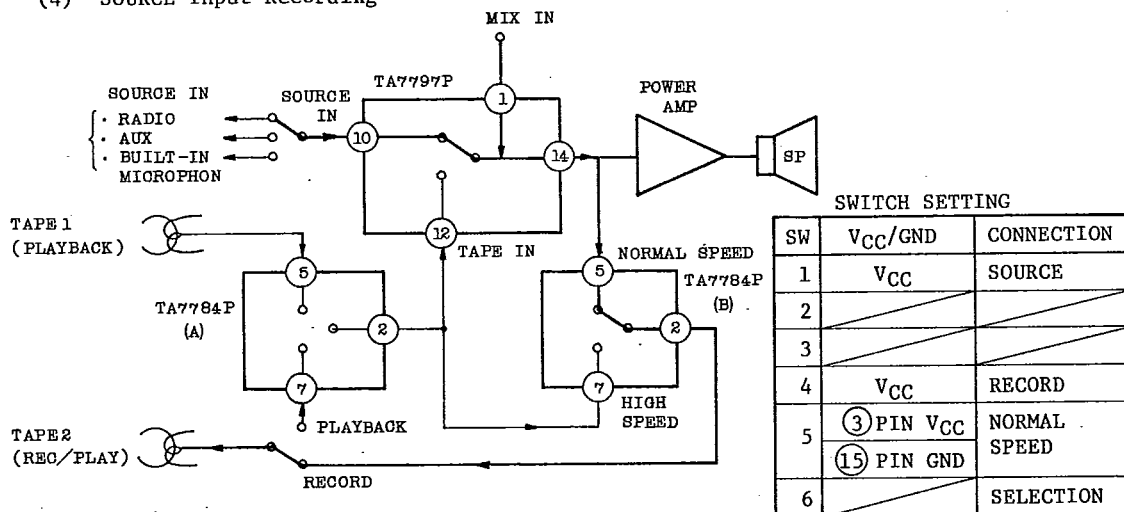
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### (3) TAPE 2 Play



TAPE 2 play can be performed by means of making TA7797P input to TAPE IN side and TA7784P(A) input to TAPE 2 side.

### (4) SOURCE Input Recording



SOURCE input recording can be performed by means of making TA7797P input to SOURCE IN side and TA7784P(B) input to NORMAL SPEED record side.