**Overview**

The LA7710 is a SECAM (audio IF, electronic volume control, AF preamp)/PAL (quasi-parallel audio IF circuit) dual system IC that is packaged in a 16-pin DIP package. The LA7710 is applicable to the SECAM or PAL system by changing over the AGC system (pin 3 is brought to open state or grounded).

**Functions**

- IF amp
- Detector
- IF AGC (peak AGC, average AGC)
- Electronic volume control
- AF preamp
- PAL/SECAM switch

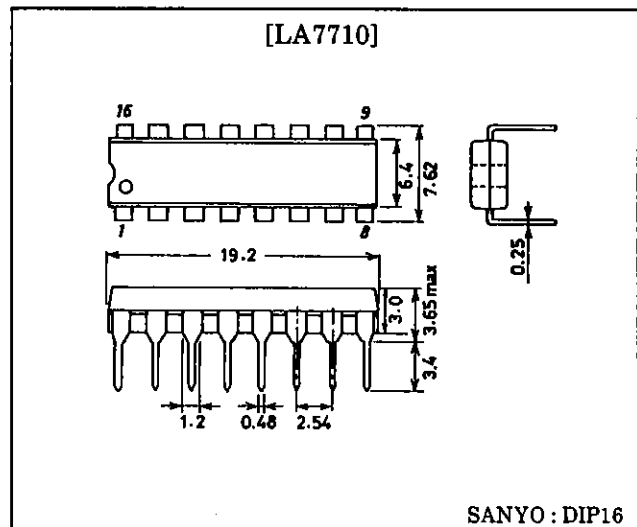
**Features**

- Used as SECAM audio IF circuit by bringing pin 3 to open state. Also used as PAL quasi-parallel audio IF circuit by grounding pin 3.
- Electronic volume control : 0dB output available

**Package Dimensions**

(unit : mm)

3006B-DIP16

**Specifications****Maximum Ratings at  $T_a = 25^\circ\text{C}$** 

			Unit
Maximum Supply Voltage	$V_{CC}$ max	15	V
Maximum Flow-out Current	$I_{11}$ max	-5	mA
	$I_5$ max	-3	mA
	$I_4$ max	-3	mA
Allowable Power Dissipation	$P_d$ max	$T_a \leq 60^\circ\text{C}$	900 mW
Operating Temperature	$T_{opr}$	-20 to +70	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to +125	$^\circ\text{C}$

**Operating Conditions at  $T_a = 25^\circ\text{C}$** 

			Unit
Recommended Supply Voltage	$V_{CC}$	12	V
Operating Voltage Range	$V_{CC}$ op	9 to 13.5	V

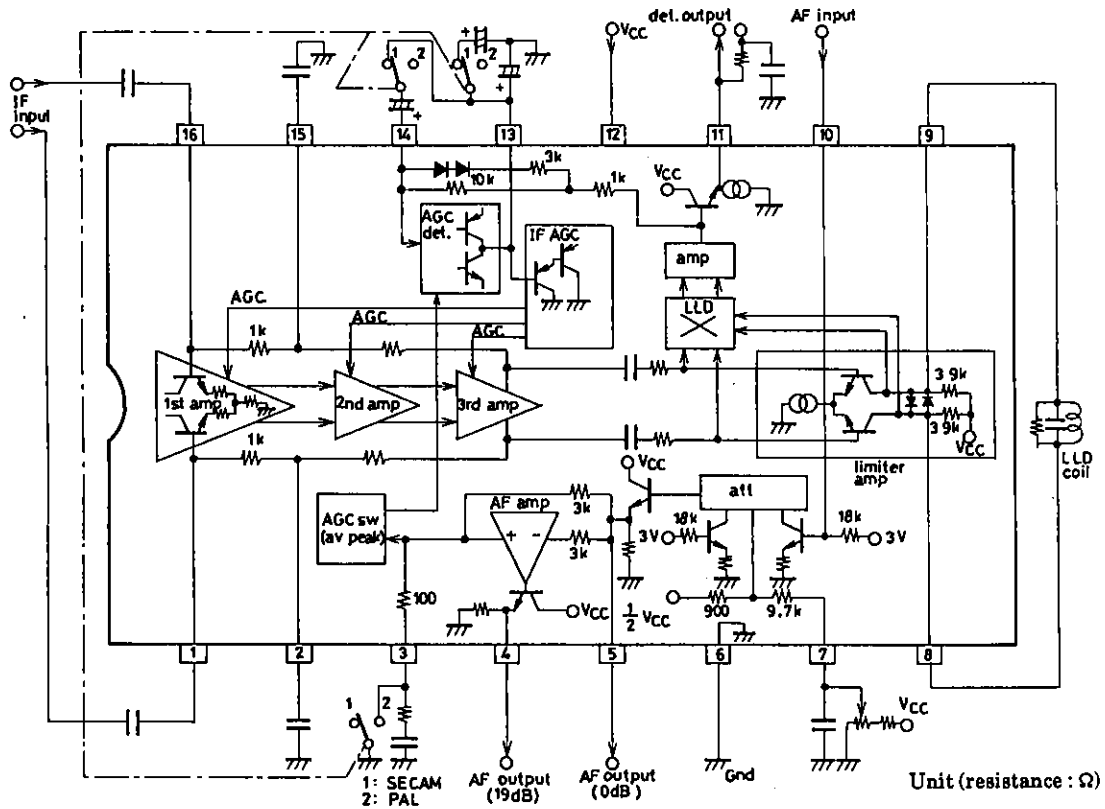
# LA7710

**Operating Characteristics at  $T_a = 25^\circ\text{C}$ ,  $V_{CC} = 12\text{V}$ ,  $f_s = 39.2\text{MHz}$ ,  $f_p = 32.7\text{MHz}$**

			min	typ	max	Unit
Circuit Current	$I_{12}$		39	49	63	mA
Usable Sensitivity	$V_i$ (S/N)	400Hz-30% mod AM		39	46	dB
Average Detection Output	$V_{os}$	"	190	280	360	mV
SECAM S/N	S/N <sub>s</sub>	"	52	59		dB
Detection Output Distortion	THD <sub>s</sub>	"		0.5	1.0	%
Maximum Allowable Input	$V_i$ max	THD=2%	92	98		dB/ $\mu\text{V}$
AGC Range	GR		63	69		dB
Peak Output Amplitude	$V_{op}$	15kHz-78% mod AM	1.4	1.7	2.1	V
SIF Output Amplitude	$V_{SIF}$	P/S : 20dB	50	90	130	mV
Frequency Characteristic	$f_c$	-3dB	5	7		MHz
Electronic Volume Control	$V_{Gdc}$		-1	0	+1	dB
Voltage Gain						
Electronic Volume Control Distortion	THD <sub>att</sub>			0.1	0.4	%
Electronic Volume Control Max. Attenuation	ATT		70	80		dB
AF Amp Voltage Gain	$V_{Gaf}$		17	19	21	dB
AF Amp Distortion	THD <sub>af</sub>			0.3	1.0	%

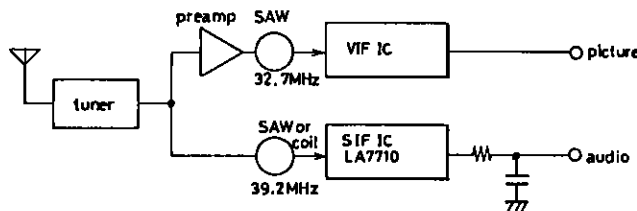
(Note) Current direction : + : Flowing into IC  
- : Flowing out of IC

## Equivalent Circuit Block Diagram

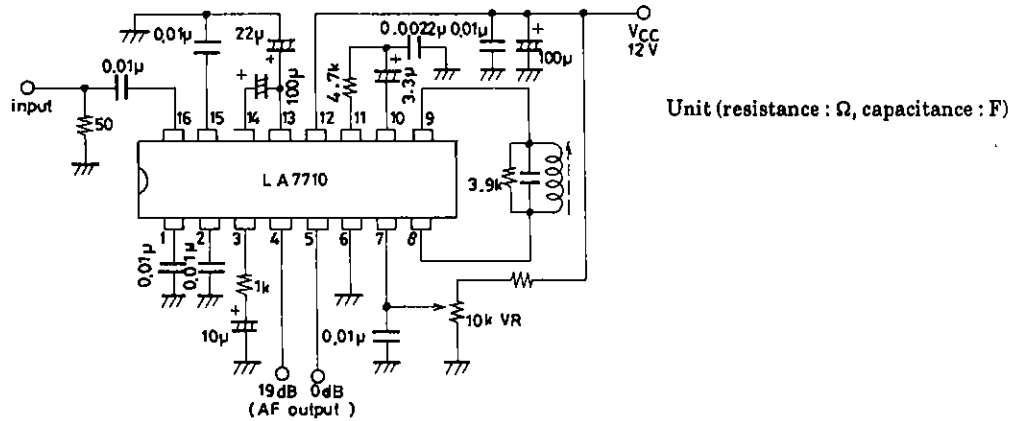


## Sample Application Circuits-Each system diagram and IC peripheral circuit

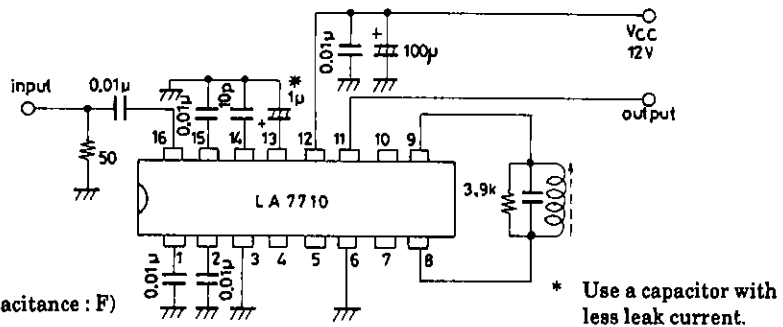
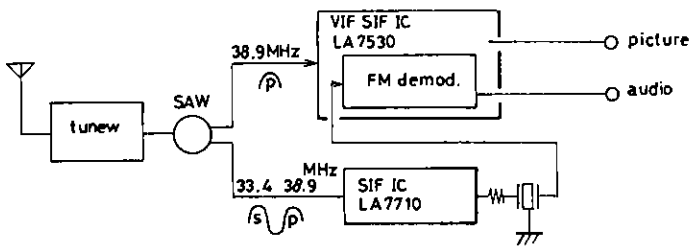
### (1) SECAM



# LA7710

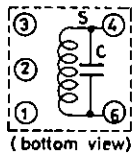


## (2) PAL



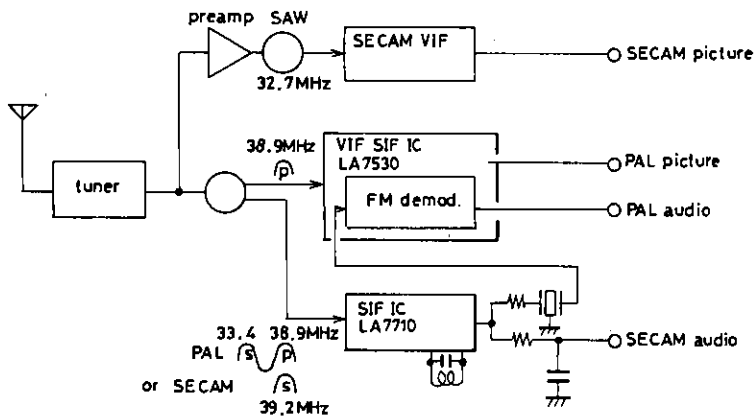
### [ Coil specification ]

Bobbin : 7mm square



Number of turns	④-⑥	7T
Material	UEW	0.12φ
Capacitance		33pF
Frequency		39.2MHz

## (3) PAL/SECAM



(Note) \*1 When selecting the PAL/SECAM, the LLD tuning point of the LA7710 must be changed over (38.9MHz → 39.2MHz).

\*2 When selecting the PAL/SECAM, the filter characteristic must be changed over.

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