

SANYO	No.1848B	Monolithic Linear IC
		LA7710
SECAM, PAL (Quasi-Parallel) Audio IF Circuit		

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

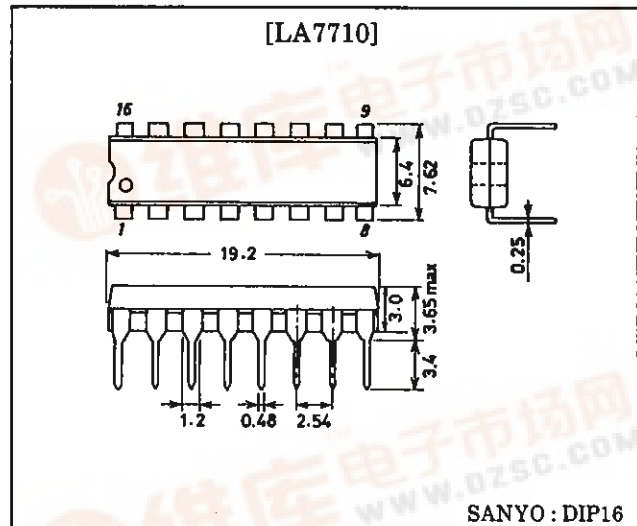
Features

- 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 $T_a = 25^\circ\text{C}$

Parameter	Symbol	Value	Unit
Maximum Supply Voltage	$V_{CC \text{ max}}$	15	V
Maximum Flow-out Current	$I_{11 \text{ max}}$	-5	mA
	$I_5 \text{ max}$	-3	mA
	$I_4 \text{ max}$	-3	mA
Allowable Power Dissipation	$P_d \text{ max}$	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 $T_a = 25^\circ\text{C}$

Parameter	Symbol	Value	Unit
Recommended Supply Voltage	V_{CC}	12	V
Operating Voltage Range	$V_{CC \text{ op}}$	9 to 13.5	V

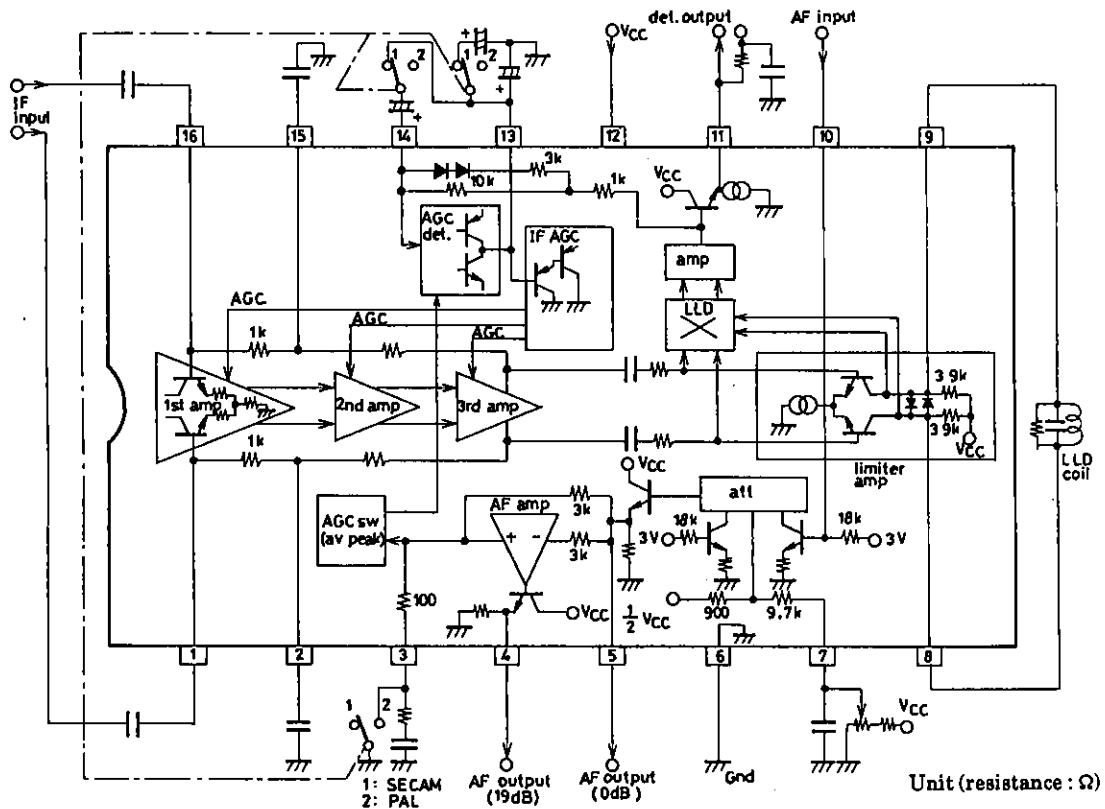
LA7710

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 _s	//	52	59		dB
Detection Output Distortion	THD _s	//		0.5	1.0	%
Maximum Allowable Input	V_i max	THD=2%	92	98		dB/ μV
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	THD _{att}			0.1	0.4	%
Distortion						
Electronic Volume Control	ATT		70	80		dB
Max. Attenuation						
AF Amp Voltage Gain	V_{Gaf}		17	19	21	dB
AF Amp Distortion	THD _{af}			0.3	1.0	%

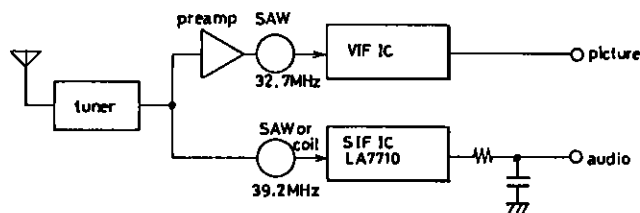
(Note) Current direction : + : Flowing into IC
 - : Flowing out of IC

Equivalent Circuit Block Diagram

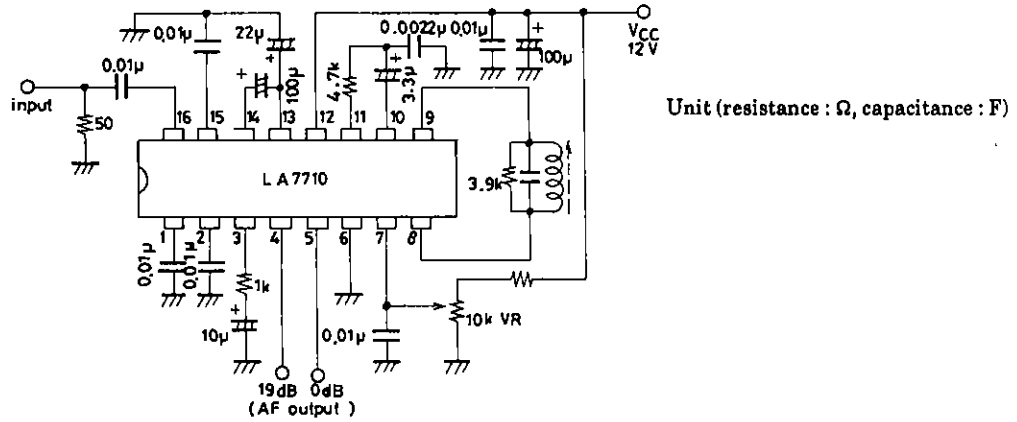


Sample Application Circuits-Each system diagram and IC peripheral circuit

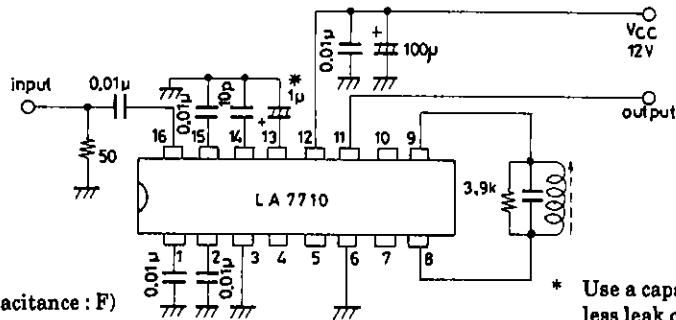
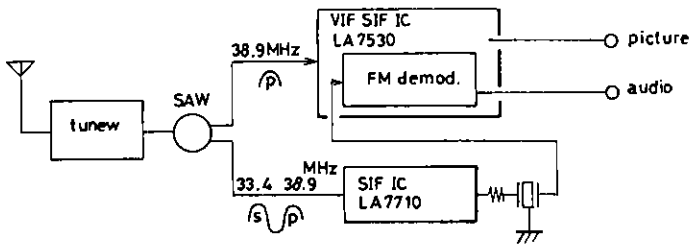
(1) SECAM



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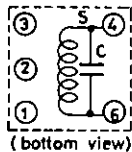


(2) PAL



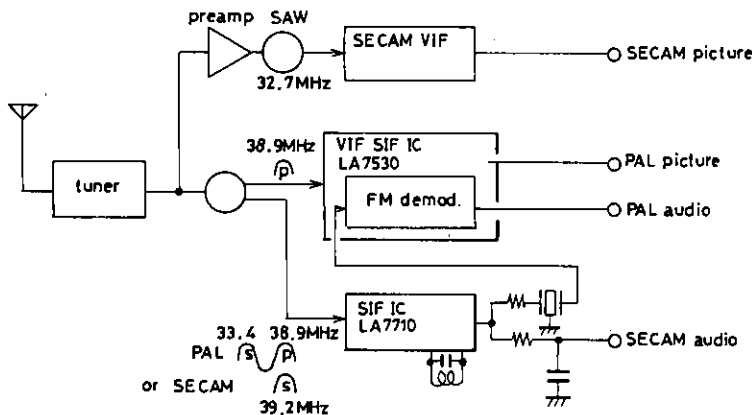
[Coil specification]

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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