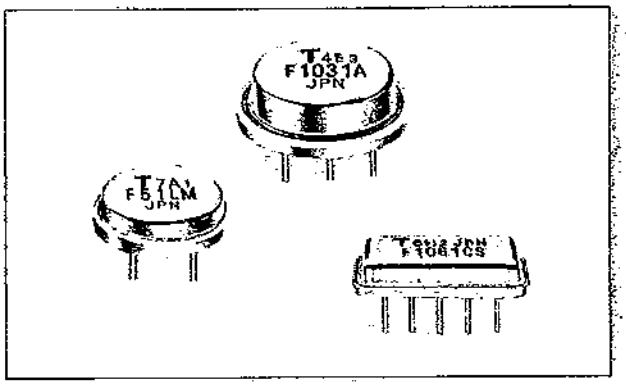
SAW Filters for TVs

TV-IF SAW Filter

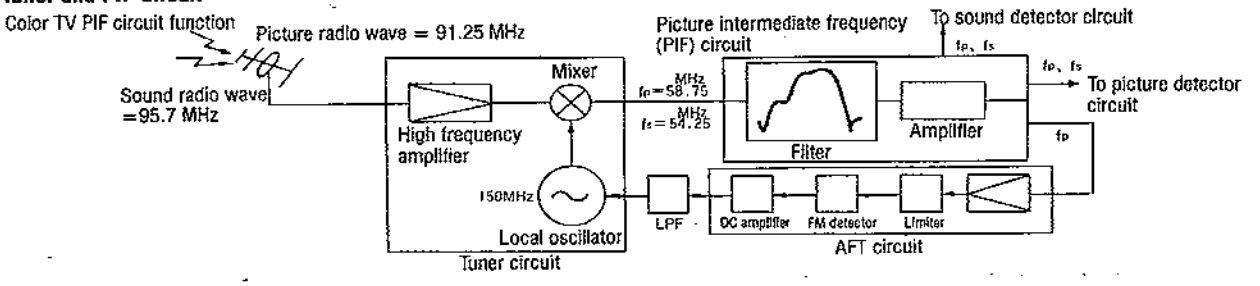


The TV-IF SAW filter is used in the IF amplifier circuits of color and black-and-white TV receivers. Previously TV-IF filters were constructed with conventional LC circuits plus 10 or more discrete components. Now, the adaption of this SAW filter reduces the number of component parts and eliminates adjustment.

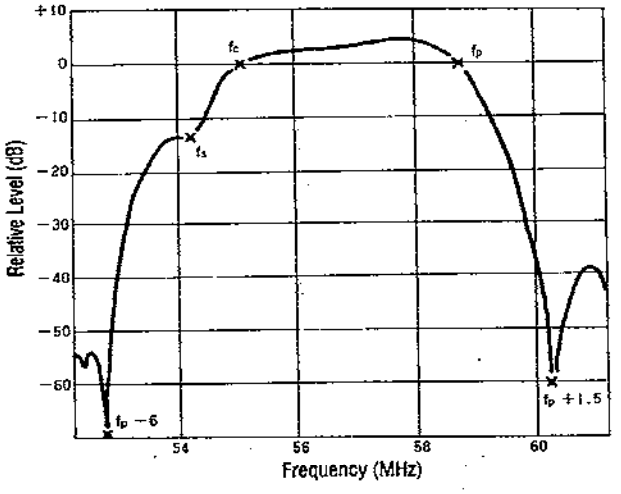
■ Features

(1) Adjustment-free and high performance (equivalent to several conventional coils)
(2) Saves PIF circuit assembly man-hours
(3) Small and lightweight
(4) Small temperature coefficient of trap frequency
(5) Little deviation in characteristics
(6) Significantly improved picture quality due to excellent phase characteristics

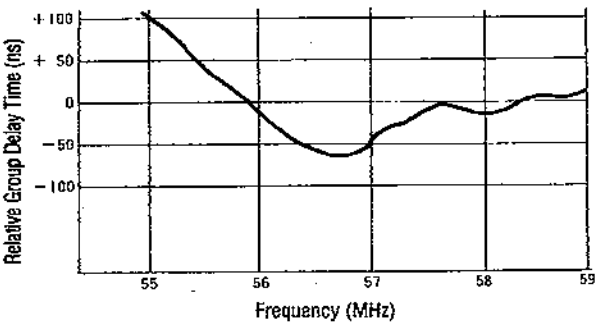
Tuner and PIF Circuit



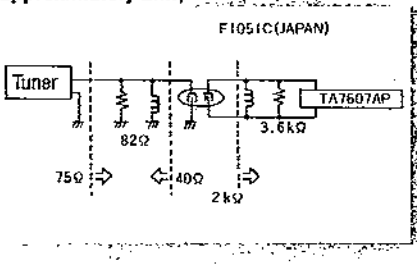
Amplitude Characteristic (F1031A)



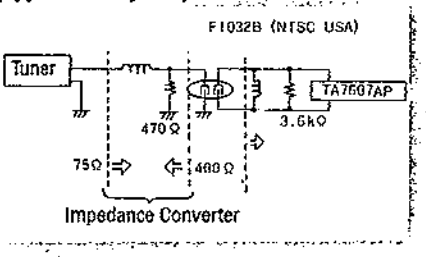
Group Delay Characteristic (F1031A)



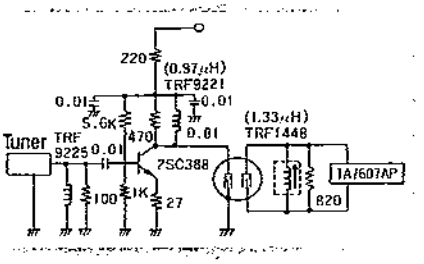
Application Example (1)
Low SAW filter impedance (approximately 2kΩ)



Application Example (2)
High SAW filter impedance (approximately 5kΩ)



Application Example (3)
Circuit with preamplifier



1. PIF Filter

Picture Carrier (MHz)	System	Substrate	Package	Type
32.7	B, E, L	$LiTaO_3$	T-1	F1036
32.7	E, L	$LiNbO_3$	S-1B	F1048BK
36.875	B	$LiTaO_3$	T-1	F1033
36.875	B	$LiTaO_3$	S-1C	F1033AS
36.875	B	$LiNbO_3$	S-1C	F1043BS
37.0	D	$LiTaO_3$	T-1	F1029Y
37.0	D	$LiTaO_3$	S-1C	F1029YS
38.0	D	$LiTaO_3$	T-1	F1036
38.0	D, G, I	$LiTaO_3$	T-1	F1036C
38.0	D, G, I	$LiTaO_3$	S-1C	F1036CS
38.0	D, I	$LiTaO_3$	T-1	F1036G
38.0	B, D, G, I	$LiTaO_3$	T-1	F1036H
38.0	D, G, I	$LiNbO_3$	S-1C	F1046BS
38.9	B, G	$LiTaO_3$	T-1	F1034
38.9	B, G	$LiTaO_3$	TM-3	F34AM
38.9	M	$LiTaO_3$	S-1C	F1037DS
38.9	B, G	$LiNbO_3$	S-1C	F1044FS
38.9	B, D, G, I	$LiTaO_3$	T-1	F1057D
39.5	I	$LiTaO_3$	T-1	F1035
39.5	I	$LiNbO_3$	S-1C	F1045AS
45.75	M, N	$LiTaO_3$	T-1	F1032U
45.75	M, N	$LiNbO_3$	S-1C	F1042S
45.75	M, N	$LiTaO_3$	TM-3	F52LM
58.75	M, N	$LiTaO_3$	T-1	F1031A
58.75	M, N	$LiTaO_3$	S-1C	F1061CS
58.75	M, N	$LiTaO_3$	TM-3	F51LM

2 SIF Filter (*have a single-peak response characteristic.)

Picture Carrier (MHz)	System	Substrate	Package	Type
32.7	B, G	$LiNbO_3$	S-1C	F1338AS
32.7	*L	$LiTaO_3$	TM-2	F328BM
36.875	B	$LiTaO_3$	T-1	F1323B
38.0	D	$LiTaO_3$	S-1C	F1326AS
38.9	B, G	$LiTaO_3$	T-1	F1324
39.5	*I	$LiTaO_3$	T-1	F1325
45.75	M, N	$LiTaO_3$	T-1	F1322
45.75	*M, N	$LiTaO_3$	T-1	F1322B
58.75	*M, N	$LiTaO_3$	T-1	F1321
58.75	M, N	$LiTaO_3$	T-1	F1321B

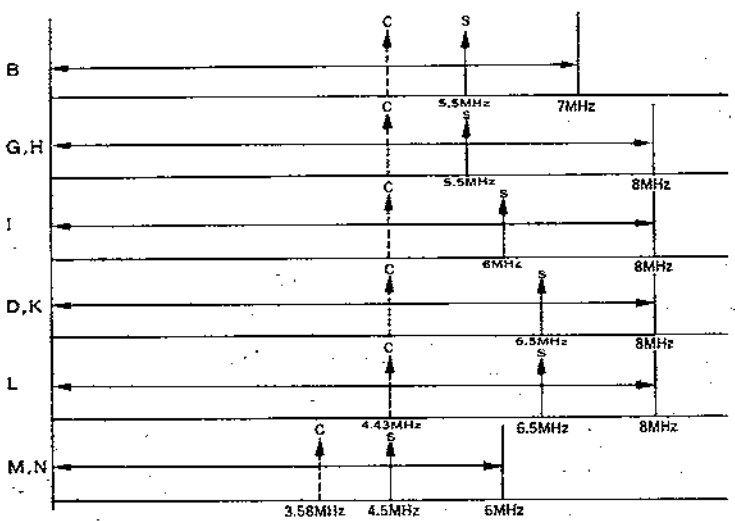
3. PIF+PIF Filter

Picture Carrier (MHz)	System	Substrate	Package	Type
38.9+45.75	B, D, I, M	$LiTaO_3$	T-4	F1807B

4.. PIF+PIF Filter (*have a single-peak response characteristic.)

Picture Carrier (MHz)	System	Substrate	Package	Type
32.7	*L	$LiNbO_3$	T-4	F1818
36.875	B	$LiNbO_3$	T-4	F1813
38.0	B, D, I	$LiNbO_3$	T-4	F1816
38.9	B, G	$LiNbO_3$	T-4	F1814D
39.5	I	$LiNbO_3$	T-4	F1815
45.75	M, N	$LiTaO_3$	T-4	F1802H
45.75	*M, N	$LiTaO_3$	T-4	F1802N
58.75	M, N	$LiTaO_3$	T-4	F1801
58.75	*M, N	$LiTaO_3$	T-4	F1801F

Comparison of Broadcasting Systems (Channel bandwidth and picture—sound bandwidth)



C: Color sub-carrier frequency
S: Sound sub-carrier frequency