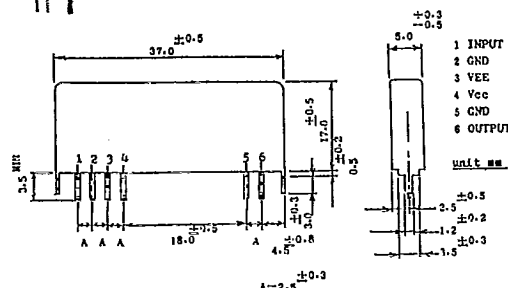
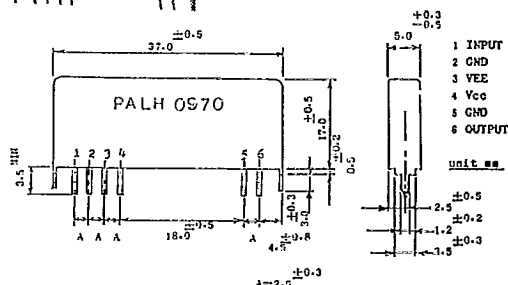
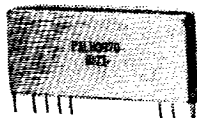


TOKO AMERICA INC

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PALH 0970 (20kHz LPF)

PALH 0972 (15kHz LPF)

**Quality Features:**

- A ninth order low-pass filter with an internally buffered output amplifier.
- Ideal for use in compact, technologically advanced digital audio disc systems and PCM processors where very tight filtering standards and size are the most important considerations.
- Small Size - Complete use of SMT in this filter circuit, reduces size, allowing product designers to add features to, or curtail, the size of their audio and communications products.

- Ninth Order - Filtering gives precise cut-off with high attenuation, reducing distortion and insuring sound and data quality.
- Flat Passband - This filter has an extremely flat passband, ensuring better sound quality because of less passband distortion.
- Shielded - The PALH family of filters can come shielded to minimize external noise from motors, transformers, etc.
- Buffered Output Amplifier - Insures a quality signal and reduces your total component count, reducing possible sourcing and assembly problems.

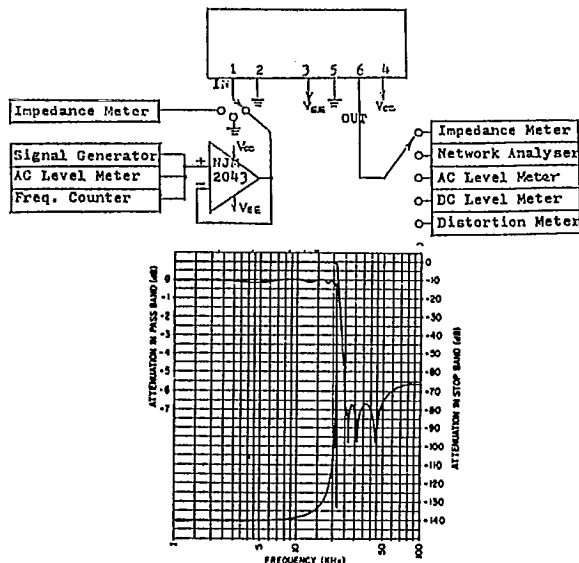
STANDARD DEVICES SELECTION GUIDE

The Part Numbers shown in the table below are standard devices, which are readily available. TOKO will design and manufacture modified and custom devices with specific characteristics to meet your requirements. If you do not find the device for your application in this catalog, please see Modified and Custom Request Form located in the rear of this catalog.

TYPE PALH 0970**Electrical Characteristics**

$V_{cc}/V_{ee} = \pm 13 \sim \pm 17V$, Input Level = 1.2Vrms, $T_a = 25^\circ C$

Ripple	at 5Hz ~ 18kHz (at 18kHz ~ 20kHz)	$\pm .3$ ± 1.0	dB dB	
Attenuation	(at 24.1 ~ 49.0kHz) (at 49.1 ~ 100.0kHz)	70.0 63.0	dB dB	min min
Distortion	(at 1kHz) (at 100Hz ~ 20kHz)	0.005 0.006	% %	max max
Voltage Gain	(at 1kHz)	-6.3 ~ -5.7	dB	
Input Impedance	(at 10kHz)	10	K Ω	typ
Output Impedance	(at 10kHz)	0.3	Ω	typ
Group Delay	(at 1kHz) (at 15kHz)	39 76	μsec μsec	typ typ
Offset Voltage		150	mV	max
Noise Level		25	μV_{rms}	max
Current Consumption		20.0	mA	max

Test Circuit

continued on next page

T-64-05

continued from previous page

TYPE PALH 0972 Electrical Characteristics

$V_{CC}/V_{EE} = \pm 13 \sim \pm 17V$, Input Level = 1.2Vrms, $T_a = 25^\circ C$

Ripple	at 5Hz ~ 13kHz) (at 13kHz ~ 15kHz)	$\pm .3$ ± 1.0	dB dB	
Attenuation	(at 18kHz ~ 100kHz)	60	dB	min
Distortion	(at 1kHz) (at 100Hz ~ 15kHz)	0.05 0.05	% %	max max
Voltage Gain	(at 1kHz)	-6.3 ~ -5.7	dB	
Input Impedance	(at 10kHz)	10	K Ω	typ
Output Impedance	(at 10kHz)	1.0	Ω	typ
Group Delay	(at 1kHz) (at 10kHz)	50 80	μsec μsec	typ typ
Offset Voltage		150	mV	max
Noise Level		30	μV_{rms}	max
Current Consumption		20.0	mA	max

Test Circuit

