

Audio Signal Processor IC with Spatializer AN7396K



Overview

A proprietary signal processing technology developed for the consumer electronics and multimedia markets, the Spatializer® 3D Stereo integrated circuit is based on technology derived from Desper Products' multi channel PROSpatializer® 3D Audio Production System. The AN7396K makes use of this innovative technology to provide both interactive 3D localization of sound effects and to enhance and expand existing stereo monophonic program material delivered by conventional 2 speaker stereo system and has MUTE·AGC·Super Bass·Tone·Balance·Volume control.

Features

- Spatial 3-D surround from conventional 2-speaker stereo equipment.
- DDP circuit dynamically optimizes the Spatializer effect.
- The functions of this IC are MUTE·AGC·Super Bass·Tone·Balance·Volume control.
- This IC can be controlled by IIC.

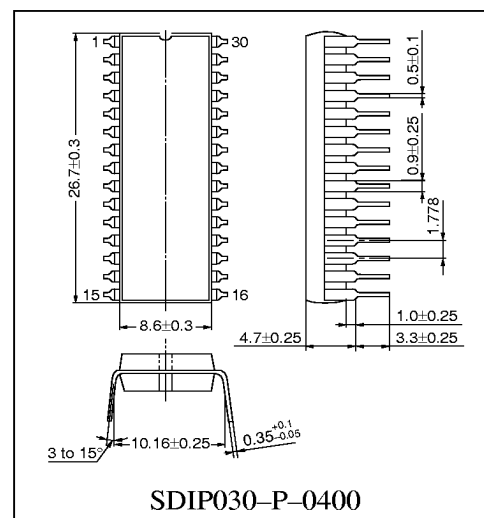
Applications

- Home interactive multimedia products, stereo-television, VCRs.
- Computer sound board

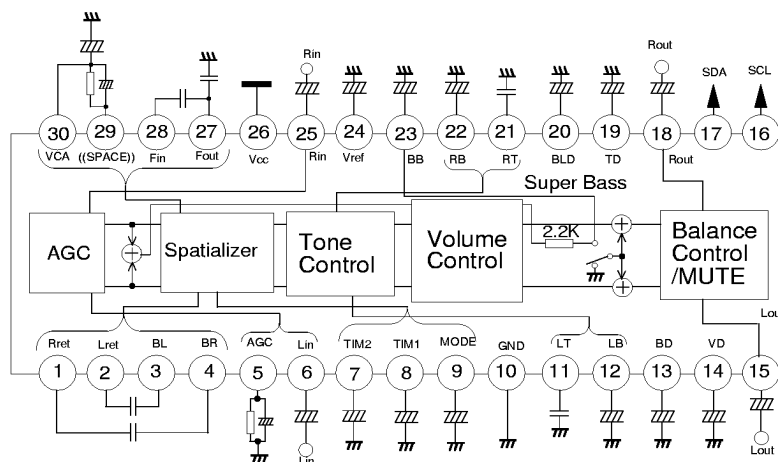
Specifications

- Supply voltage 6V ~ 10V
- Range of volume control -100dB ~ 0dB
- Range of balance control -82dB ~ 0dB
- Range of tone control -11dB ~ +12.5dB
- Range of Super bass-boost control +4dB ~ +9dB
- Range of AGC 0dB Adjust -3dB ~ +6dB
- Block Diagram

Package



Block Diagram



¶ The products and specifications are subject to change without any notice. Please ask for the latest Product Standards to guarantee the satisfaction of your product requirements.

Matsushita Electronics Corporation

1, Kotari Yakemachi, Nagaokakyo, Kyoto, 617-8520 Japan

Tel. (075) 951-8151

<http://www.mec.panasonic.co.jp>

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■ Electrical Characteristics

	Parameter	Symbol	Conditions	Limits			Units	Note
				min	typ	max		
1	Volume MAX Level	VVmax	$V_{IN}=1V_{rms}$, $f=1kHz$	-1	0	1	dB	1
2	Volume MIN Level	VVmin	$V_{IN}=1V_{rms}$, $f=1kHz$	——	-100	-90	dB	1
3	Balance MIN Level	VBmin	$V_{IN}=1V_{rms}$, $f=1kHz$	——	-82	-80	dB	1
4	Bass-Boost Level	VBB	$V_{IN}=400mV_{rms}$, $f=50Hz$	10	12.5	15	dB	
5	Bass-Cut Level	VBC	$V_{IN}=400mV_{rms}$, $f=50Hz$	-13.5	-11	-8.5	dB	
6	Treble-Boost Level	VTB	$V_{IN}=400mV_{rms}$, $f=20kHz$	10	12.5	15	dB	
7	Treble-Cut Level	VTC	$V_{IN}=400mV_{rms}$, $f=20kHz$	-13.5	-11	-8.5	dB	
8	Super Bass-Boost MAX Level	VXBmax	$V_{IN}=400mV_{rms}$, $f=50Hz$	7	9	11	dB	
9	VolumeMAX Noize Level	VNmax	Volume MAX, $R_g=4.7K\Omega$	——	82	120	μV_{rms}	2
10	VolumeMIN Noize Level	VNmix	Volume MIN, $R_g=4.7K\Omega$	——	4	10	μV_{rms}	2
11	Total Harmonic Distortion MAX	THDmax	$V_{IN}=1V_{rms}$, $f=1kHz$	——	0.1	0.3	%	1
12	MAX Input Level	VImax	THD=1%, $f=1kHz$	2.0	2.2	——	V_{rms}	1
13	Channel Balance (MAX)	CBmax	$V_{IN}=1V_{rms}$, $f=1kHz$, Volume MAX	-1	0	1	dB	1
14	Channel Balance (1/4)	CB1/4	$V_{IN}=1V_{rms}$, $f=1kHz$, Volume 1/4(00H=40)	-2	0	2	dB	1
15	AGC Gain1	VAGC1	$V_{IN}=50mV_{rms}$, $f=1kHz$	77	110	150	mV_{rms}	1
16	AGC Gain2	VAGC2	$V_{IN}=1V_{rms}$, $f=1kHz$	230	345	470	mV_{rms}	1
17	Total Circuit Current	IccT	$V_{IN}=0mV_{rms}$	45	65	90	mA	

Unless otherwise be specified,the above value are ones at $V_{CC}=9V$, $f=1KHz$

Note1) In measuring item a fiter of A-weighted is used.

Note2) In measuring item a fiter of band is 15Hz~30KHz(12dB/OCT)

■ Others

Licensing agreement : Signature between Customer and Desper Products Inc.

(USA OFFICE)
 Desper Products Inc.
 Sillicon Valley Office
 Mr. Mark Markunas
 OEM Accouunt Manager
 453 Ravendale Drive, Suite C
 Mountain view, CA 94118
 TEL : (415)428-0400 Ext 207
 FAX : (415)428-1064
 E-mail : mmarkunas@spatializer.com

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