Preliminary Data Sheet Supplement

Subject:	MSP 34x3G
Data Sheet Concerned:	MSP 34x2G 6251-520-2PD, Edition March 5, 2001
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MSP 34x3G Multistandard Sound Processor Family

The Multistandard Sound Processor family MSP 34x3G covers all sound processing functions of the MSP 34x0G family. In addition, the MSP 34x3G family offers the Micronas Surround Sound features.

– The above-mentioned functions and features are implemented in the same manner as in the MSP 34x2G.

– The MSP 34x2G data sheet is also valid for the MSP 34x3G except for the differences shown below.

Differences between the MSP 34x3G and the MSP 34x2G:

Decoder Matrix in the Surround Processing Mode:

In the MSP 34x3G, only the passive matrix is available, whereas the MSP 34x2G also offers the adaptive matrix, which is necessary for Dolby Pro Logic modes. As a result, only the Micronas Surround Sound modes can be activated in MSP 34x3G.

The following tables of the MSP 34x2G data sheet have been changed to reflect these differences and apply only to the MSP 34x3G.

Table 3–11: Write Registers on I^2C Subaddress 12_{hex}

Register Address	Function	Name
PREPROCESSING		
00 $4B_{hex}$	**Surround Processing Mode**	SUR_MODE
	bit[15:8] Decoder Matrix 00_{hex} PASSIVE (for Micronas Surround Sound) 10_{hex} PASSIVE (for Micronas Surround Sound) 20_{hex} EFFECT (used for special effects and monophonic signals)	DEC_MAT
	bit[7:4] Surround Reproduction 0_{hex} REAR_SPEAKER: The surround signal is reproduced by a rear speaker. 3_{hex} FRONT_SPEAKER: The surround signal is redirected to the front channels. There is no physical rear speaker connected. 5_{hex} PANORAMA: The surround signal is processed and redirected to the left and right front speakers in order to create the illusion of a virtual rear speaker, although no physical rear speaker is connected. 6_{hex} 3D-PANORAMA: The surround signal is processed and redirected to the left and right front speakers in order to create the illusion of a virtual rear speaker, although no physical rear speaker is connected.	SUR_REPRO
	bit[3:0] Center Mode 0_{hex} PHANTOM mode (no Center speaker connected) 1_{hex} NORMAL mode (small Center speaker) 2_{hex} WIDE mode (large Center speaker) 3_{hex} OFF mode (Center output of the Surround Decoder is discarded. Useful only in special effect modes)	C_MODE

Table 2–3: Examples of Surround Configurations

Configurations	**Speaker Configuration[1)]**	**Output Configuration** Register (48_{hex})		**Surround Processing Mode** Register ($4B_{hex}$)		
		HP/CS Switch [15]	**Channel Configuration [14:8]**	**Decoder Matrix [15:8]**	**Surround Reproduction [7:4]**	**Center Mode [3:0]**
Stereo IC is compatible to the MSP34x0G.						
Stereo	(L,R)	HP	STEREO	–	–	–
Passive Matrix Surround Sound						
Micronas Surround Sound Multi-channel (4-channel configuration)	(L,C,R,S)	CS	MULTI_CHANNEL	PASSIVE	REAR_ SPEAKER	NORMAL WIDE
Micronas Surround Sound Multi-channel (3-channel configuration)	(L,R,S)	CS	MULTI_CHANNEL	PASSIVE	REAR_ SPEAKER	OFF
Micronas Surround Sound Virtual (2-channel configuration)	(L,R)	HP	TWO_CHANNEL	PASSIVE	3D_PANORAMA	OFF
Micronas Surround Sound Virtual (3-channel configuration)	(L,C,R)	CS	MULTI_CHANNEL	PASSIVE	3D_PANORAMA	NORMAL WIDE
Special Effects Surround Sound						
Micronas Surround Sound for mono (4-channel configuration)	(L,C,R,S)	CS	MULTI_CHANNEL	EFFECT	REAR_ SPEAKER	NORMAL WIDE
Micronas Surround Sound Virtual for mono (2-channel configuration)	(L,R)	HP	TWO_CHANNEL	EFFECT	3D_PANORAMA	OFF
Micronas Surround Sound Virtual for mono (3-channel configuration)	(L,C,R)	CS	MULTI_CHANNEL	EFFECT	3D_PANORAMA	NORMAL WIDE

1) Speakers not in use are muted automatically.