VLSI
Solution y

MPEG2.5 LAYER-3 8 KHZ PATCH

VSMPG "VLSI Solution Audio Decoder"

Project Code:
Project Name: VSMPG

Revision History			
Rev.	**Date**	**Author**	**Description**
1.1	2005-04-08	PO	Fixed vs1002d startup
1.0	2005-03-24	PO	Initial version

1 Description

VS1002d and VS1003 support MPEG 2.5 extension, but some stereo files with an 8 kHz sample rate have playback problems.

The problems are two-fold. First, some old and buggy encoders do not pad the MP3 frames properly, causing more data to be read than is available. This is less of a problem because the decoder is already quite tolerant of broken bitstreams.

Secondly, there is a bug in the decoding of stereo MP3 files when the sample rate is 8 kHz, window switching flag is 1, and block type is 2. All other combinations work correctly.

The patch code fixes the second problem.

Select the right C file for your setup. When you upload the code, it will be activated automatically. A hardware or software reset de-activates the patch.

If you are using the VS1002d ADPCM code and want to keep it in memory the whole time, use the patch1002d_2c8.c version so that these patches do not overlap.

It is recommended that for efficiency reasons the patch is only loaded when the MP3 stream is 8 kHz and stereo (i.e. SCI_AUDATA is 8001_{dec}), because all other formats work perfectly, but the patch does not interfere with normal operation even if it is active all the time.

Chip	File	IRAM Location
VS1002d	mp3patch1002d.c	0x030 .. 0x059
VS1002d	mp3patch1002d_2c8.c	0x2c8 .. 0x2f1
VS1003	mp3patch1003.c	0x030 .. 0x04a