Preliminary Data Sheet Supplement

Subject:	Version History / Failure Report for MSP 34xxG
Data Sheet Concerned:	MSP 34x5G 6251-480-1PD, Oct. 26, 1998
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Known Problems in MSP 34xxG Versions A1, A2, and A3 referring to the actual versions A4 and B4.

For a detailed description of the problems in the table below, please refer to the following sections.

MSP Version	SAP Detection	PAL-N Stereo Decoding	Start-up Sequence	Stereo/SAP Detection Delay	Definition of Automatic Sound Select
3430G-A1	according specification	no	ok	200 ms	preliminary
3435G-A2	according specification	no	ok	200 ms	final
3440G-A2	unreliable	no	ok	200 ms	final
3430G-A3	increased robustness	no	100 ms timing constraint	approx. 4 sec	final
3440G-A3	increased robustness	no	100 ms timing constraint	approx. 4 sec	final
3430G-A4	increased robustness	yes	ok	600 ms / 200 ms	final
3435G-A4	increased robustness	yes	ok	600 ms / 200 ms	final
3440G-A4	increased robustness	yes	ok	600 ms / 200 ms	final
3450G-B4	increased robustness	yes	ok	600 ms / 200 ms	final

Note: MSP 34xxG versions A4 and B4 have no known problems.

1. SAP Detection

1.1. Robustness Problems of the SAP Detection in A1 and A2 Versions

The automatic SAP detection fails with signals having SAP carrier modulation below the specified limits of the BTSC System, as presented to the Federal Communications Commission by the Electronics Industries Association.

Up until now, this did not happen in any of the various worldwide fieldtests, but occurred in combination with an uncalibrated system in a TV manufacturer’s lab.

Later MSPG versions A3, A4, and B4 contain an SAP detection algorithm with increased robustness.

1.2. Unreliable SAP Detection in Version A2

Due to an internal error, the automatic SAP detection occasionally fails. Resultingly, the STATUS Bit[8] SAP/BIL is not reliable, as far as the existence of an SAP signal in BTSC modes 20_{hex} and 21_{hex} is concerned. The STATUS Bit[8] SAP/BIL is still valid in all other modes of the MSP 34xxG (A2-Korea, EIA-J)

The STATUS Bit[8] is used to automatically switch the sources for the automatic channels ST-A and ST-B in mode 21_{hex} (BTSC-SAP). This does not work in the MSP 34xxG-A2. Therefore, it is not recommended for the MSP 34xxG-A2 to use the Automatic Sound Select function to switch from SAP to stereo or mono. The Automatic Sound Select function works well in mode 20_{hex} (Stereo $\leftrightarrow$ Mono).

The later MSPG versions A3, A4, and B4, perform the SAP detection and the consequent switching by the Automatic Sound Select properly.

2. PAL-N Stereo Decoding Problem in Versions A1, A2, and A3

In PAL-N, the PAL horizontal frequency (f_h = 15.625 kHz) is used to generate Pilot, Stereo, and SAP signals within an aural carrier at 4.5 MHz. In this system, the MSP versions A1, A2, and A3 are only able to decode mono.

Later MSPG versions A4 and B4 decode BTSC stereo for PAL-M and -N systems.

3. Start-up Sequence Problems in Version A3

If short programming does not take place within 100 msec after reset of the MSP, writing MODUS with AUTOMATIC ON (MODUS[0] = 1) partially resets the demodulator.

Later MSPG versions A4 and B4 have no start-up sequence problems.

4. Stereo/SAP Detection Delay in Version A3

In MSP34xxG-A3, the Stereo and SAP detection for BTSC starts with a delay of approximately 4 sec after changing the standard defined with the Short Programming command.

Later MSPG versions A4 and B4 have typical “Off” detection times of 200 ms. For increased robustness, the “On” detection time has been increased to 600 ms.

5. Preliminary Definition of the Automatic Sound Select Feature in Version A1

Later MSPG versions A2, A3, A4, and B4 have the final definition, which is listed in the MSP 34xxG data sheets.

6. The MSP 34xxG-A4 replaces all former versions (A1, A2, and A3).

7. The MSP 3450G-B4 is the first global version performing all worldwide TV-sound standards.