Preliminary Data Sheet Supplement

Subject:	Version History / Failure Report for MSP 34xxG
Data Sheet Concerned:	MSP 34x0G 6251-476-2PD, Oct. 9, 1998
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Known Problems in MSP 34xxG

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	Startup Sequence	Stereo/SAP Detection Delay
3430G-A1	according Specification	no	ok	200 ms
3435G-A2	according Specification	no	ok	200 ms
3440G-A2	unreliable	no	ok	200 ms
3430G-A3	increased robustness	no	100 ms timing constraint	approx. 4 sec
3440G-A3	increased robustness	no	100 ms timing constraint	approx. 4 sec
3430G-A4	increased robustness	yes	ok	600 ms / 200 ms
3435G-A4	increased robustness	yes	ok	600 ms / 200 ms
3440G-A4	increased robustness	yes	ok	600 ms / 200 ms
3450G-B4	increased robustness	yes	ok	600 ms / 200 ms

1. SAP Detection

1.1. Robustness of the SAP Detection (A1, A2)

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 MSP versions contain an SAP detection algorithm with increased robustness.

1.2. Unreliable SAP Detection (MSP3440G-A2 only)

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 MSP34xxG-A2. Therefore, it is not recommended for the MSP34xxG-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).

2. PAL-N Stereo Decoding Problem (A1, A2, 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.

3. Startup Sequence Problems (A3)

If within 100 msec after reset of the MSP no short programming takes place, writing MODUS with AUTOMATIC ON (MODUS[0] = 1) partially resets the demodulator.

4. Stereo/SAP Detection Delay (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 versions of the MSP have typical “Off” detection times of 200 ms. For increased robustness (see section 1.1. on page 1), the “On” detection time is increased to 600 ms.