

**Minutes of TC-10 Waveform Recorder Subcommittee Meeting of
December 5, 2002 in Tucson, Arizona**

Attendance:

Steve Tilden	Texas Instruments
Tom Linnenbrink	Q-Dot
Bill Boyer	Sandia National Laboratories
Sol Max	LTX Corporation
David Bergman	NIST
Stu Streiff	National Instruments
Dan Kien	Veridian
Jerry Blair	Bechtel Nevada
Tom Meyer	Iowa State University

1. Review of Items from the TC-10 meeting (of the previous day):

Tom Linnenbrink discussed items from the TC-10 meeting. We discussed the membership requirements, in particular, the requirement to make contributions to the committee's work on a regular basis. Tom will review the welcome letter to see how the requirements could be incorporated in it.

2. Review of assignments:

- 2.1 *Section 4.4.1, Windowing and DFT.* Bill Boyer completed this. The material from different sources has been incorporated into section 4.4.1 of the current draft. Note, there is currently not a section 4.4 in the draft.
- 2.2 *Sections 4.2.2 - 4.2.4, Signal Sources.* Dan Kien has started this.
- 2.3 *Section 4.5.7, Aberrations in sine wave sources.* sol Max has supplied some material on this specifically for histogram tests. The work for standard sine wave tests was not yet started. Jerry Blair and David Bergman will work on this.
- 2.4 *Section 4.6.2, Choosing sinewave frequencies.* This assignment was an error.
- 2.5 *Section 4.6.3, Triangle Wave Testing.* Sol Max completed this section and it was reviewed at the meeting.
- 2.6 *Sections 4.7.7.2, Filtering of Settling Region of Step for Improved Frequency Response and Settling Time Measurements, and 4.7.8.4, Effect of Jitter on frequency response:* These were submitted by David Bergman.
- 2.7 *Sections 4.8.1, DC Tests and 4.6.1, Static Test Method for Code Transitions.* These contain nearly identical material on static determination of code transition levels. Bill Boyer will combine all of the material into 4.6.1.
- 2.8 *Section 5.3, Input Impedance for Overvoltage Signals.* Bill Boyer completed this, and Jerry Blair reviewed it.
- 2.9 *Sections 7.7, Intermodulation Distortion, and 8.1.3, SNHR From the Frequency Domain.* Theses were copied for 1241 and may contain

references to 1241 that were not included in 1057. We need to include enough of 1241 to cover all of harmonic distortion. Steve Tilden will do this.

3. **Ramp Histogram test methods proposed by Sol Max and Antonio Cruz serra *et. al.*** We discussed the ramp excitation material supplied by Sol Max but did not get to the other methods.
4. **Effective Bits Issues.** This was not discussed.
5. **Other issues with the draft.** There is an outline of material on an alternate test method for measuring noise of low noise recorders near the end of section 4.6. This will be moved to 8.4.2. Jerry Blair will contact Dan Knierim (the originator) about fleshing this out. This is followed by material on word error rate. Tom Meyer volunteered to move this to an appropriate place.
6. **Meeting Adjourned.**