

STEWART STAMPING CORPORATION

Insilco

6-13-88

NCR
3718 No. Rock Rd.
Wichita, Ka. 67226

Attn: John Lohmeyer, Chairman X3T9.2

Subject: Proposal to add the Stewart/Viking
internal daisy chain connector to
SCSI-2 as alternate #1

Dear John,

At the last meeting in St. Pete. there was considerable discussion regarding the cable design intended to provide internal connections with the SCSI-2 tab and receptacle connectors. The cable construction was comprised of 28 AWG conductors on .025 centers. Termination to be provided by splitting the insulated conductors out as singles with a special tool and terminating them. It was reported that two cable sources were tooling the cable although none was available at the meeting.

It was also revealed that, as of the date of the St. Pete meeting, that the (T&R) SCSI-2 connectors chosen for internal inter-connections were for cable end terminations only and not designed to provide a daisy chain (mid cable) termination.

As regards the single layer cable, it is clearly the cleanest approach to internal connections and would in fact be ideally suited for termination by the center piercing AT&T contact of the Stewart/Viking DAISY-GEN connector. However several industry sources including Spectra Strip indicate that such a closely spaced cable, which has never been manufactured made before, presents several major considerations. They are:

- o Conductors in the .025/28 AWG cable are only .010 apart. Normal PVC cable tolerances are + or - .002. Conductors split out into singles could easily have a .003 wall.
- o Characteristic impedance may well be under 80 ohms in a PVC cable. Teflon cables will give higher impedance but are generally more difficult to IDC terminate and much more expensive.
- o Cross talk levels of the this closely spaced cable are not known and may be greater than can be tolerated in small computers.

STEWART STAMPING CORPORATION

Insilco

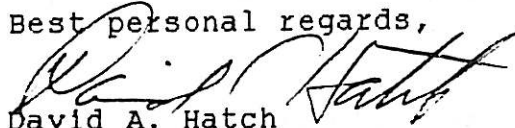
The STEWART/VIKING internal daisy chainable connector also reflects a new and unique technology using the AT&T style contact to provide ' between insulated conductor piercing '. If successful, however, it will provide an interconnection system that offers unlimited daisy chaining as well as cable end terminations on standard .050 spaced ribbon cable. Use of this cable will result in inexpensive cable assemblies and provide electrical performance 100% in accord with SCSI-2 requirements.

In addition the Stewart/Viking daisy chain connector uses the same form factor as the SCSI 1 internal IDC connector. This means it can easily be adapted to daisy chain the single layer .025/28 AWG cable if it becomes a reality. The AT&T contact is ideally suited to centerpiercing the conductors in the cable without splitting them out as singles. This makes UL approval much easier and substantially reduces the risk of tearing the adjacent insulation in termination.

The Stewart/Viking daisy chain connector also has considerable industry support particularly with the disc drive OEMs who have severe header height constraints. Because of surface mount components on their boards they cannot tolerate headers that are more than .240 high. The Stewart /Viking headers are .228 high.

We are therefore requesting that the X3T9.2 membership be given the opportunity to vote on the Stewart/Viking connectors as alternate #1. This will insure a SCSI_2 daisy chaining capability as well as a viable back up source in the event that the .025 /28 AWG cable encounters insurmountable problems in the manufacture, termination or electrical performance.

Best personal regards,


David A. Hatch
Director of Advance
Product development

90