To:Memebership of X3T9.2From:Stephen Finch
Silicon Systems, Inc.Date:January 25, 1993Subject:ATA Extensions, Specification of Electrical Characteristics

The proposed ATA standard does not contain complete specification of the electrical interface. The following proposed changes correct this oversight. This proposal is for ATA Extensions only. Note that some parameters have been moved from one section within the document to another and that a new section has been added. Changes are marked by bars, with deletions shown with strike-thru's and additions shown in bold.

Begin Changes

5.3 I/O connector

The I/O connector is a 40-pin connector as shown in figure 4, with pin assignments as shown in table 4. The connector should be keyed to prevent the possibility of installing it upside down. A key is provided by the removal of pin 20. The corresponding pin on the cable connector should be plugged.

The pin locations are governed by the cable plug, not the receptacle. The way in which the receptacle is mounted on the printed circuit board affects the pin positions, and pin 1 should remain in the same relative position. This means the pin numbers of the receptacle may not reflect the conductor number of the plug. The header receptacle is not polarized, and all the signals are relative to pin 20, which is keyed.

By using the plug positions as primary, a straight cable can connect drives. As shown in figure 4, conductor 1 on pin 1 of the plug has to be in the same relative position no matter what the receptacle numbering looks like. If receptacle numbering was followed, the cable would have to twist 180 degrees between a drive with top-mounted receptacles, and a drive with bottom-mounted receptacles.

+		+				
		1				
40	20	2				
	- Circu	uit board		==	==-===	= Circuit board ====-==
					1	
			40	20	2	
			+		+	
		Fig	gure 4	- 40-pi	n connec	ctor mounting

Recommended part numbers for the mating connector are shown below, but equivalent parts may be used.

Connector (40 pin)	3M 3417-7000 or equivalent.				
Strain relief	3M 3448-2040 or equivalent.				
- Flat cable (stranded 28	AWG) 3M 3365-40 or equivalent.				
Elat cable (stranded 28	ΔMG 3M 3517-40 (shielded) or				
equivalent.					

5.4 I/O cable

The cable specifications affect system integrity and the maximum length that can be supported in any application.

Flat cable (stranded 28 AWG)	3M 3365-40 or equivalent.
Flat cable (stranded 28 AWG)	3M 3517-40 (shielded) or
	equivalent.

<u>Cable length of 0,46m (18 inches)</u>. This distance may be exceeded in circumstances where the characteristics of both ends of the cable can be controlled.

Cable capacitive loading shall not exceed 200pF.

5.5 AC Electrical Requirements

Table 3 - Cable parameters

Cable length of 0,46m (18 inches) *		Min	Max
Priver-IoL Driver sink current for 5V operation Priver-IoL Driver sink current for 3,3V operation Priver-IoH Driver source current Cable capacitive loading		2mA 8mA 2,0 V 2,4 V 25 pf 25 pf	-400uA 200pF 0,8 V 0,5 V 0,5 V

End changes