Date: July 10, 2003

To: INCITS T10 Committee (SCSI)

From: Lee Jesionowski (IBM)

Subject: ADI – Log Parameters for DTD Primary Port Status (T10/03-220r2)

Revision 2:
Updated per feedback from July 8th meeting. Corrected name for 24-bit address, added clarification for Fibre Channel interface values before negotiation complete, and removed specific references to table numbers in other standards.

Revision 1:
Updated per feedback from June 30th teleconference.   Added several new fields for current operating parameters.

Revision 0:
Initial proposal

Discussion:
There is a need for the automation device to be able to query the status of the DTD primary port(s).   Based on prior discussion, it is proposed here that this status be reported as one or more log parameters of the VHF log page. Prior placeholders for reporting this via a separate log page will need to be removed. It is also proposed that the name of the VHF log page be changed to reflect a broader set of contents; however, the name of the VHF log parameters is not proposed to be changed. This proposal applies to ADC Revision 4.

Changes to Draft Standard:
*Beginning with clause 6.1, Table 7, change all occurrences of "*Very High Frequency log page*" to "*DTD Status log page*".*

In clause 6.1, Table 7, delete the entry for Page Code 14h, Interface Status Log Page.

*In clause 6.1.2, change the heading for Table 9 from "*Very High Frequency parameter codes*" to "*DTD Status parameter codes*".*

In clause 6.1.2, Table 9, add an entry for Parameter Codes 0100h-01FFh, DTD Primary Port Status, referencing a new clause 6.1.2.3.

Delete clause 6.1.5, Interface Status log page.

New Clauses in Draft Standard:

6.1.2.3 DTD Primary Port Status log parameter(s)

The DTD Primary Port Status log parameter is shown in table 1.

Table 1 -DTD Primary Port Status log parameter

Bit Byte	7	6	5	4	3	2	1	0
4	(MSB)			PARAMETER CODE				
5								(LSB)
6	DU(0)	DS(1)	TSD(0)	ETC(0)	TMC(0)		LBIN(1)	LP(1)
7	PARAMETER LENGTH (n-7)							
8	(MSB)							
				DTD PRIMARY PORT STATUS DATA				
n								(LSB)

The PARAMETER CODE field contains a value from 0100h to 01FFh, as assigned by the DTD, which uniquely identifies the primary port relative to other primary ports in the device, independent of port type. Once assigned, the PARAMETER CODE value for a port shall not be changed as long as the port remains on the device. For each primary port, the PARAMETER CODE value shall be equal to 0100h plus the value of the RELATIVE TARGET PORT field associated with that port as defined in clause 6.2.2.2.1.

6.1.2.3.1 Fibre Channel Status Data

The DTD Primary Port Status Data for a Fibre Channel port is shown in table 2.

Table 2 –Fibre Channel Status Data

Bit Byte	7	6	5	4	3	2	1	0
8	CURRTOP	CURRENT SPEED			Reserved	CONFLICT	SIGNAL	LNPC
9	(MSB)							
10				CURRENT N_Port_ID				
11								(LSB)

A value of one in the link negotiation process complete (LNPC) field indicates that the link negotiation process is complete for the primary port. A value of zero indicates that the link negotiation process is not complete. An example of a link negotiation process is the loop initialization process (LIP).

A value of one in the SIGNAL field indicates that a signal is detected at the primary port. A value of zero indicates a signal is not detected. An example of signal detection is detection of light for an optical medium.

A value of one in the CONFLICT field indicates that another device has the required Hard AL_PA or that no AL_PA is available for the primary port. A value of zero indicates there is no AL_PA conflict.

The CURRENT SPEED field indicates the bit rate that the port is currently operating in. The valid values can be found in Table 30 in clause 6.2.2.2.2. This field is undefined when the LNPC field is set to zero.

A value of one in the current topology (CURRTOP) field indicates the port is currently operating in point to point mode. A value of zero indicates the port is currently operating in arbitrated loop mode. This field is undefined when the LNPC field is set to zero.

The CURRENT N_Port_ID field indicates the 24-bit N_Port_ID, as defined by FC-FS, which is currently assigned to the port. This field is undefined when the LNPC field is set to zero.

6.1.2.3.2 Parallel SCSI Status Data

The DTD Primary Port Status Data for a Parallel SCSI port is shown in table 3.

Table 3 –Parallel SCSI Status Data

Bit Byte	7	6	5	4	3	2	1	0
8	Reserved					CURRENT BUS MODE		Reserved
9	Reserved							
10	MOST RECENT TRANSFER PERIOD FACTOR							
11	CURRENT SCSI ADDRESS							

The CURRENT BUS MODE field indicates the bus mode that the port is currently operating in. The valid values can be found in the SCSI Parallel Interface – 4 (SPI-4) standard.

The MOST RECENT TRANSFER PERIOD FACTOR field indicates the transfer period factor that was most recently negotiated. The valid values can be found in the SCSI Parallel Interface – 4 (SPI-4) standard.

The CURRENT SCSI ADDRESS field indicates the 8-bit address which is currently assigned to the port.