



# DEVELOPMENT STANDARD

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BASIC DRIVE INTERFACE FOR  
PS/2 FLEXIBLE-DISK-CONTROLLER-COMPATIBLE  
1/4-INCH (6.35 MM) MINICARTRIDGE TAPE DRIVES

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(See important notices on the following page)

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## 1.0 SCOPE

This standard describes a basic drive interface for PS/2 flexible disk controller compatible 1/4 inch (6.35mm) mini data cartridge tape drives.

## 2.0 PHYSICAL INTERFACE

### 2.1 SIGNAL AND POWER CONNECTOR

The drive shall contain a 40 conductor card edge signal connector with even numbered pins on component side of PWB, odd numbered pins on solder side and pin 1 at left on solder side when facing connector. A key slot shall be located between pins 34 and 36. The mating connector shall be a Sullins EZC20DCSN-S555, JAE PB21-40TN2-C2-9 or equivalent connector.

### 2.2 SIGNAL AND POWER CABLE

The signal cable shall be a 40 conductor, AWG #28 ribbon cable with a minimum of two (2) and a maximum of five (5) mating connectors for daisy chain installation. The cable shall be a maximum of three (3) feet.

## 2.4 SIGNAL AND PIN ASSIGNMENTS

PIN	NAME	DIRECTION	DESCRIPTION
2	/HDS	to drive	HIGH SPEED SELECT - NOT USED BY TAPE DRIVE
4	/DI	to drive	DRIVE IN USE - NOT USED BY TAPE DRIVE
6	/DS3	to drive	DRIVE SELECT 3 - Selects drive addressed as #3
8	/IDX	to contr.	INDEX PULSE - Initiates and terminates transfer of controller data to drive when formatting, generated by drive at beginning of each segment during read or write operations
10	/DS0	to drive	DRIVE SELECT 0 - Selects drive addressed as #0
12	/DS1	to drive	DRIVE SELECT 1 - Selects drive addressed as #1
14	/DS2	to drive	DRIVE SELECT 2 - Selects drive addressed as #2
16	/MOT	to drive	NOT USED BY TAPE DRIVE
18	/DIR	to drive	NOT USED BY TAPE DRIVE
20	/STP	to drive	STEP - can be used to send commands to drive
22	/WD	to drive	WRITE DATA - a pulse per flux transition for MFM encoded data to be recorded on tape, low going edge indicates transition
24	-/WG	to drive	WRITE GATE - asserted when write data is to be recorded on tape
26	/TKO	to contr.	TRACK 00 - used to transfer drive status to flexible disk controller
28	/WP	to contr.	WRITE PROTECT - used to transfer drive status to flexible disk controller
30	/RD	to contr.	READ DATA - a pulse per flux transition recovered from the recorded tape, low going edge indicates transition
32	/SS	to drive	SIDE SELECT - optional use for test
34	/DC		DISK CHANGE - NOT USED BY TAPE DRIVE
36	FG		FRAME GROUND
38	+5V	to drive	+5 VOLTS
40	+12V	to drive	+12 VOLTS
ODDS	GND	-----	SIGNAL GND except pin 3 not used

## 2.5 SIGNAL TERMINATION

No signal terminations are required, but 4.7 Kohms to +5V is permissible.

## 2.6 NUMBER OF DRIVES

There shall be a maximum of 4 drives in any combination of flexible disk drives and flexible disk controller compatible 1/4 inch mini data cartridge tape drives which can be selected by the flexible disk controller.

## 2.7 DRIVE SELECTION

Each drive shall be provided with a means of connecting any one of the four drive select lines from the interface to the drives internal drive select line.

## 2.8 SIGNAL LEVELS, DRIVERS AND RECEIVERS

Signal levels required shall be as follows:

logic "true"	0 to 0.8 VDC
logic "false"	2 to 5.25 VDC

## 2.9 SIGNAL DRIVER

The signal driver used by the drive shall be a 74HCT367 or equivalent.

## 2.10 SIGNAL RECEIVER

The signal receiver used- by the drive shall be a 74HCT14 or equivalent. One signal receiver per line per drive maximum shall be used.