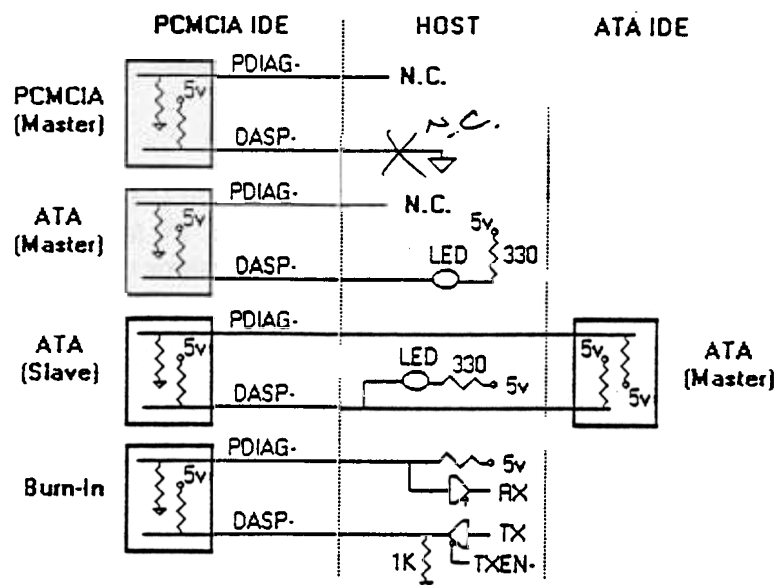


PCMCIA IDE Drive Auto Select Proposal

This proposal outlines a method by which PCMCIA IDE Drives can automatically select between compatibility with the existing 40 or 50 pin ATA interfaces or the proposed 68 pin PCMCIA IDE interface.

Compatibility with both interfaces places some restrictions on the functionality of PCMCIA IDE drives when used with the existing 40 or 50 pin ATA interfaces. A summary of those restrictions are listed below.

- 1) You can never install more than one PCMCIA IDE drive on a single 40 or 50 pin ATA interface. No damage to the drives or host system will occur; however, the drives will not auto select correctly and will thereby fail the hosts diagnostics.
- 2) When a PCMCIA IDE drive shares a single 40 or 50 pin ATA interface with an ATA compatible drive, the PCMCIA drive will always select itself as the slave (Drive 1).
- 3) PCMCIA IDE drives do not provide a pull-up resistor on PDIAG. They will therefore not auto select properly when sharing a 40 or 50 pin interface with ATA drives which do not implement a PDIAG pull-up resistor.
- 4) When attached to a PCMCIA IDE compatible interface, the PCMCIA IDE drive will always auto select itself as the master (Drive 0).



Note: All Pull-Up Resistors Are 10K
 All Pull-Down Resistors Are 39K
 Unless Otherwise Shown

Auto Select Proposal for PCMCIA IDE Drives

Theory Of Operation:

PCMCIA IDE drives will automatically configure themselves as Master (Drive 0), if following the 1ms ATA delay from reset the PDIAG- signal is asserted (Low).

Once the drive has identified itself as a Master (Drive 0), the drive will immediately sample DASP-.

If DASP- is asserted (Low), the drive will configure itself as a PCMCIA Master (Drive 0).

If DASP- is negated (High), the drive will configure itself as an ATA Master (Drive 0).

Note: In the Master mode PCMCIA IDE drives will not wait for or detect ATA slave drives.

If after the 1ms ATA delay from reset the PCMCIA IDE drive detects that PDIAG is negated (High), then the drive will automatically configure itself as a Slave (Drive 1). The drive will immediately sample DASP-.

If DASP- is negated (High), the drive will configure itself as an ATA Slave (Drive 0) and immediately assert DASP- (Low).

If DASP- is asserted (Low), the drive will configure itself for Manufacturing.

Note: Burn-In will be entered automatically if the configuration sector has been initialized for Burn-In. The drive is always an ATA Master (Drive 0) when configured for Manufacturing.

One significant limitation associated with this proposal is its potential inability to drive a disk active LED in the PCMCIA Master and Manufacturing modes. If a future V3x were capable of sourcing sufficient current to overcome the 1k pull down resistor then a disk active LED could be implemented by buffering the DASP- signal.