
AMD Geode™ System Platforms

80-Conductor Hard Drive Cable Issues



1.0 Scope

This document discusses known issues when using an 80-conductor hard drive cable on an AMD Geode™ system platform containing on-board CompactFlash connectors.

2.0 Discussion

Today, many hard drive cables supplied with platforms or hard drives are 80-conductor cables. These differ from the previous standard 40-conductor cables in that every other conductor is a ground conductor that improves the signal quality by allowing for higher transfer rates across the cable.

The two cables route the PDIAG signal differently. The 40-conductor cable routes PDIAG to all three connectors on the cable assembly allowing the PDIAG to flow back and forth between an on-board CompactFlash connector and the external hard drive.

The 80-conductor cable only connects the two external device PDIAG signals together and grounds the PDIAG on the motherboard connector. When a hard drive is plugged into the external connector and a CompactFlash is plugged into the internal connector, the hard drive does not see the PDIAG from the CompactFlash on the motherboard. However, the CompactFlash on the motherboard does see PDIAG asserted since the cable connects this signal to ground.

Therefore, motherboards cannot support a CompactFlash plugged into an on-board connector while a hard drive is attached via an 80-conductor cable.

However, there are no issues when a CompactFlash is plugged into an 80-conductor cable through an adapter. When a 40-conductor cable is used, the on-board CompactFlash connector may be used when an external hard drive is connected.

For details on 80-conductor and 40-conductor hard drive cables, see the *ATA 6 Specification*.

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