



D1e Digital Video Transfer Research

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Ways to increase transfer length

- Optical methods (expensive)
- Multicoaxial cables
- Cable extenders

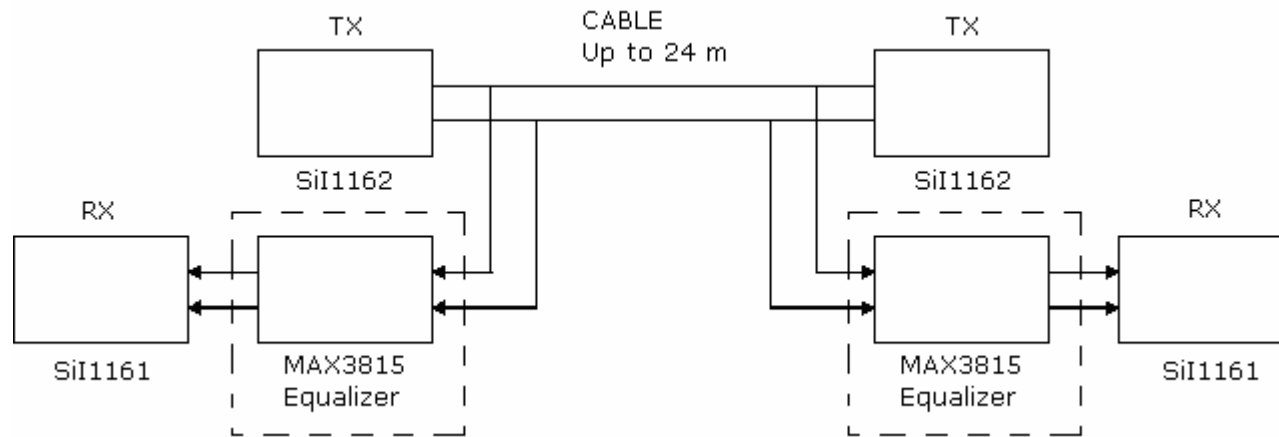
ex-tend-it eg. Gefen DVI over CAT5 about \$ 500

- Cable equalizer
Most promising solution

Adaptive Cable Equalizer Chips

- MAX 3815
 - TMDS Digital Video Equalizer for DVI/HDMI Cables
 - up to 50 m using STP DVI-cable
 - has 50 Ohm input termination
- Sil 1161
 - has an adjustable equalizer (four bit value 0000 to 1111)
- Sil 7161
 - very promising automatic equalizer receiver
 - waiting for data sheet and specifications

Transfer principle



- MAX 3815 Equalizer not used for short distance (few meters)
- Units cascaded and re-clocked with FPGA
- MAX 3815 & SiI 1161 may be replaced with new SiI 7161

Features

- Only one transmitter is active at time but MAX 3815 has an internal 50 Ohm termination. On the other hand, this way also the transmit side will be terminated
- Too much load for Sil 1162
- No problems foreseen with cascading (Silicon Image comment)
- The new Sil 7161 could solve the load problem

Testing

- 10 Hub boards & 10 Switch boards
 - cable length
 - cable type
 - equalizing
 - resolution
 - test picture type
- The first and most important test will be the cable length with equalizing
- Test screens and high speed digital sampling oscilloscope used