Category 7 / Class F Cabling

• Definition and Implementation
• Technical Issues
• Economics and Trends

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The History

- **1994** Proposals for 300 MHz cable from France and Denmark.
- **1995** Proposal for 300 MHz cable from NEMA.
- **1995** Proposal for 600 MHz Cabling system from Germany.
- **1996** DIN E 44312-5 Standard proposal for 600 MHz Cabling system.
The History

1996  Introduction of German proposal for 600 MHz in ISO/IEC.

1997  Commitment of ISO/IEC to support a new Category 7 / Class F for 600 MHz Cabling system.

1997  CENELEC SC46XC launches voting procedure on 600 MHz cable standard.
Implementation of Channel

Class D

Class F

Frequency [MHz]

[dB]
Technical Issues: Cable

STP, 4 pair, 100 Ohm Impedance, typically 23 AWG (0.57 mmØ) bare copper
Technical Issues: Cable

Cable Performance Category 7

[Diagram showing frequency vs. dB for Cable Performance Category 7]
Technical Issue: Connector

- Default connector is RJ45.
- 600 MHz Performance by RJ45 delivered only through pins 1/2 and 7/8.
Technical Issue: Connector

Link Performance on RJ45

Frequency [MHz]

Pin 1/2 to 7/8
Technical Issue: Connector

- Several new "Cat 7" connectors are under Development (e.g.: AMP, BKS, Siemon, Telesafe, T&B)
- IEC/TC48 is currently discussing new standard proposals.
Technical Issues: Connector

TERA™
Technical Issue: Connector

Channel Performance TERRA

[dB]

Frequency [MHz]

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Economics and Trends

Sales in meter (DE / CH / AT)

- Cat 7
- Cat 5+ / Cat 6
- Cat 5

Economics and Trends

Sales in sFr.
(DE / CH / AT)

Cat 7
Cat 5+/ Cat 6
Cat 5

Economics and Trends

Sales Price in sFr./m (DE / CH / AT)


Cat 5+/ Cat 6
Cat 7
Cat 5
Conclusion

- Cables and connecting hardware for 600 MHz Cabling systems are available at reasonable costs.
- In Europe the installed basis is growing because many end-users are investing in safety margins.