

ROLINE – THE Difference

The products of the brand ROLINE are developed for professional users and differ in their quality substantially from comparable products in the IT environment. The high compatibility in combination with other devices is extraordinary.

roline[®]
Designed for Professionals

General Information

ROLINE products meet the norms and directives that are prescribed by the EU, as e.g. CE, ErP, RoHS and REACH. The specifications and defaults of the various standards and technologies are strictly followed.

Products

The difference between ROLINE and standard products – exemplary clarification by some product categories:

1. USB Cable

a) ROLINE USB Cable

- the data wires meet AWG 28
- the power wires meet AWG 24 (the lower the AWG number, the higher the cross section)
- the used material is solid copper
- the shielding consists of a foil screen and a tinned copper braid shield with a coverage of more than 65%



b) Cheap USB Cables

- the data wires meet AWG 30 and worse
- the power wires meet AWG 30 and worse
- the used material is CCA = solid aluminium covered with a thin copper coating
- the shielding consists of a foil screen and a braided shield composed of an alloy with a coverage of less than 30% or completely without a shielding



Influence:

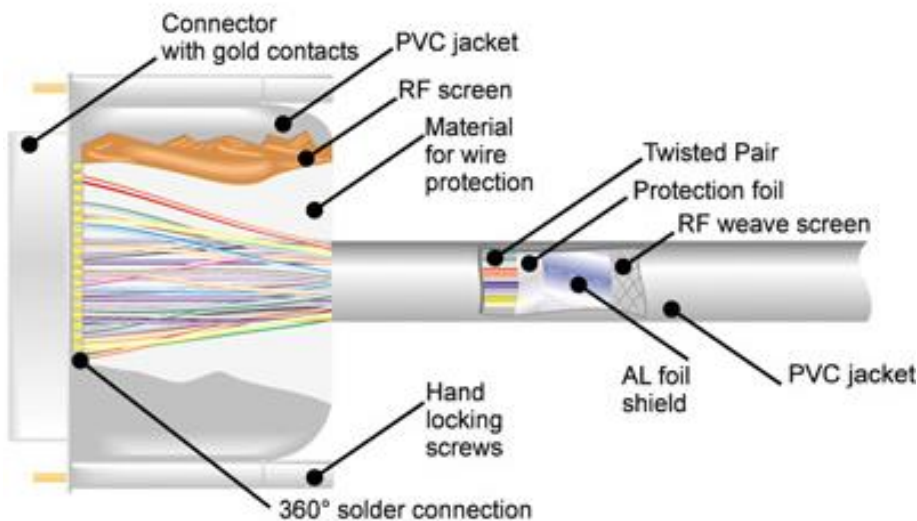
- data loss due to bad electrical characteristics of pair of wires
- already on short distances the power supply of the connected devices is no longer assured because of a too big ohmic resistance of the power wire pair
- high susceptibility due to bad shield characteristics results in data loss and data transfer errors

2. Standard Cable (Centronics, RS 232, VGA, Audio+Video)

a) ROLINE Standard Cable

- the data wires meet AWG 28
- the used material is solid copper
- the shielding consists of a foil screen with drain wire and – depending on the type – additionally of a tinned copper braid shield and a shielded connector housing
- the contacts of the connector are gold plated

Assembly of a ROLINE RS 232 cable:



b) Cheap Standard Cable

- the data wires meet AWG 30 and worse
- the used material is CCA = solid aluminium covered with a thin copper coating, or CCS = solid steel covered with a thin copper coating
- the shielding consists of a foil screen without a drain wire, braid shield is missing and the connector housing is not shielded
- the contacts of the connector are not gold plated but – at best – gold touched

Influence:

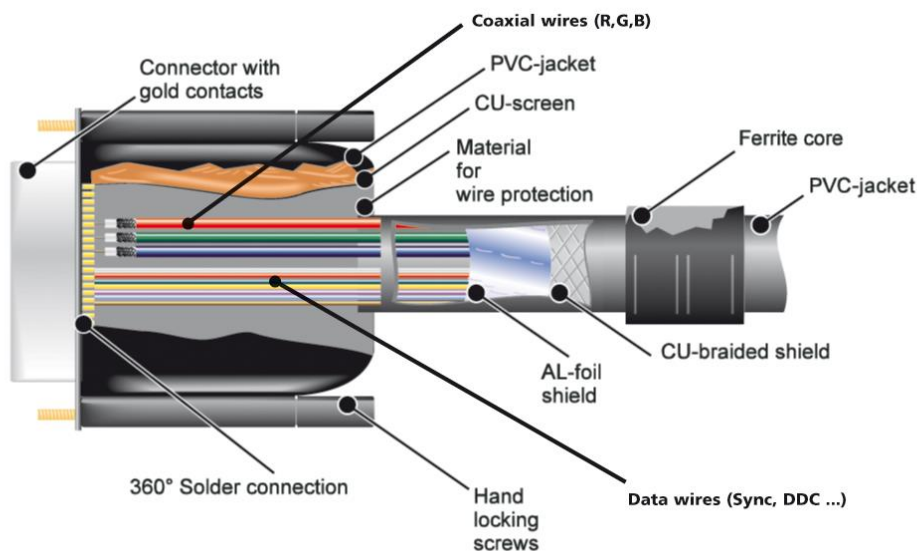
- data loss due to bad electrical characteristics of pair of wires
- already on short distances no more data transfer is possible because the disturbance of the data signal by a too big ohmic resistance of the power wire pair is becoming too strong
- high susceptibility due to bad shield characteristics result in data loss and data transfer errors
- after a low number of contact durability no more trouble-free contacting is possible, which causes sporadic interrupts or complete failure

3. SVGA Cable for high Resolutions

a) ROLINE SVGA Cable

- the RGB wires are coaxial cables with 75 Ohm
- the data wires meet AWG 28 and there are – depending on the cable – 7 or 9 of them
- the used material is solid copper
- the shielding consists of a foil screen with drain wire and a tinned copper braid plus a shielded connector housing
- the contacts of the connector are gold plated

Assembly of a ROLINE SVGA cable:



b) Cheap SVGA Cable

- for the RGB signals no coaxial wires are used
- the data wires meet AWG 30 and worse; there are max. 4 of them
- the used material is CCS = solid steel covered with a thin copper coating
- the shielding consists of a foil screen without a drain wire, braid shield is missing and the connector housings are not shielded
- the contacts of the connector are not gold plated but – at best – gold touched

Influence:

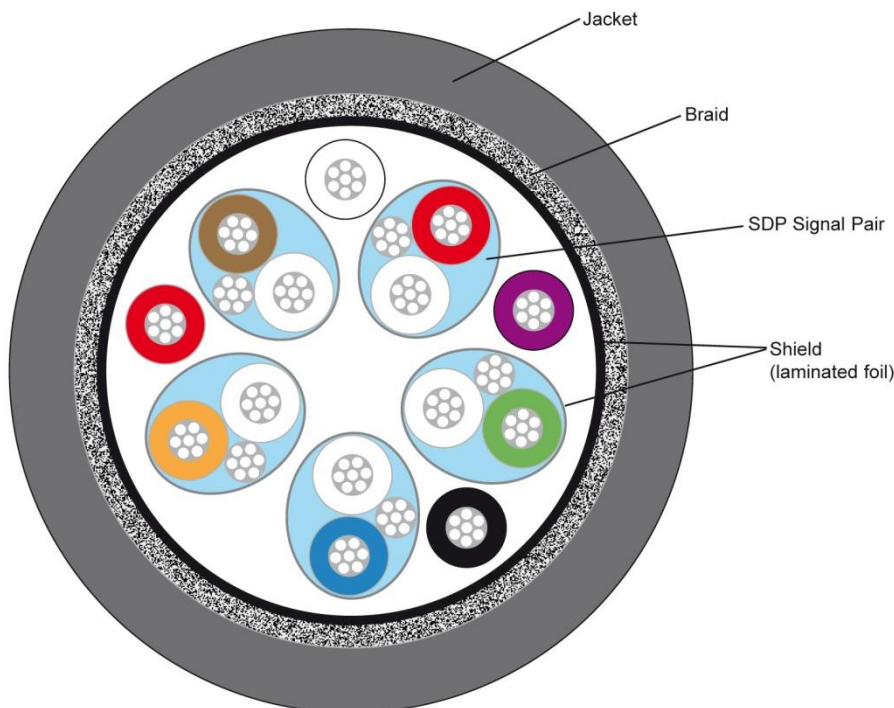
- very bad pictures already on short distances because of bad electrical characteristics of the data wires and because of missing RGB coaxial wires
- already on short distances no more synchronisation is possible because the disturbance of the data signal by a too big ohmic resistor of the cable is becoming too strong
- high susceptibility due to bad shield characteristics result in interference of the picture transmission
- after a low number of contact durability no more trouble-free contacting is possible, which causes sporadic interrupts or complete failure

4. HDMI High Speed Cable for high Resolutions

a) ROLINE HDMI High Speed Cable

- 5 separately shielded twisted wire pairs
- 4 data wires meet AWG 30 up to 24 – depending on the length of the cable
- the used material is solid copper
- the shielding consists of a foil screen and a tinned copper braid plus a shielded connector housing
- the contacts of the connector are gold plated

Assembly of a ROLINE HDMI High Speed cable:



b) Cheap HDMI High Speed Cable

- there are no twisted wire pairs used
- the data wires meet AWG 30 and worse
- the used material is CCS = solid steel covered with a thin copper coating
- there is no shield for the single twisted wire pairs
- the total shield consists of a foil screen and a braid shield with very low coverage, or the braid shield is totally missing
- the contacts of the connector are not gold plated but – at best – gold touched

Influence:

- no picture transmission already on short distances due to bad electrical characteristics of the data wires
- high susceptibility due to bad shield characteristics result in interference of the picture transmission
- after a low number of contact durability no more trouble-free contacting is possible, which causes sporadic interrupts or complete failure

5. Patch Cords

a) ROLINE Patch Cords

- the cables were tested by the GHMT in Germany and meet the norms Cat.5e or Cat.6, depending on the type
- the used material is solid copper
- the RJ-45 connectors are assembled with 50 µm gold plating

b) Cheap Patch Cords

- the cables don't meet any norm and don't pass any test
- the used material is CCA = solid aluminium covered with a thin copper coating
- the RJ-45 connectors are assembled with max. 3 µm gold plating or are only gold touched

Influence:

- the data transfer speeds of 100Mbit/s resp. 250Mbit/s can't be reached
- after bending the cable several times the nonelastic material leads to in interruption and data loss
- after a low number of contact durability no more trouble-free contacting is possible, which causes sporadical interrupts or complete failure

6. Power Cords

a) ROLINE Power Cords

- the wires meet a cross section of 0.75 mm² (= standard size) up to a length of 2 m
- the used material is solid copper
- the cables meet the guide lines and norms regarding the equipment safety

b) Cheap Power Cords

- the wires meet a cross section of only 0.1 - 0.2 mm² up to a length of 2 m
- the cables do not meet the guide lines and norms regarding the equipment safety because they are approved up to 10A but do only guarantee equipment safety for up to max. 1A

Influence:

- there is a major risk of overheating the cable as soon as it is used with high-powered devices (with more than 1 A of power consumption)



7. Active Electronic Devices (Hubs, Converters, Switches ...)

a) ROLINE active Devices

- meet the norms and directives that are prescribed by the EU, as e.g. CE, ErP, RoHS and REACH. The specifications and defaults of the various standards and technologies are strictly followed
- only high-quality components are assembled
- the products are working fine in nearly 100% of all applications thanks to a high compatibility
- 5 years warranty is possible thanks to a very small failure rate

b) Cheap active Devices

- very few products fulfil – if ever – only one of the named norms and directives; mostly there are no testing certificates from independent labors but only a declaration from the manufacturer
- some manufacturers of cheap articles even never heard about several European directives
- cheap components are used

Influence:

- no functionality with some product combinations
- low compatibility
- high failure rate