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A clear Commitment to Quality

Black sheep of the industry exploit the situation shamelessly that one can hardly or only with difficulty examine the conformity and quality as final consumer. That happens primarily for only one reason: To position oneself over the price in the market. That with it even the health of the consumer is set on that game, belonged also to the calculation. Unfortunately it is apparently still regarded straight within the range of computer accessories as harmless crime not to take it so exactly. We take it however very exactly, because the customer must trust on it, no illegal and/or inferior, to get foisted perhaps even health-endangering goods.

They as dealers have likewise an interest in it, as the expiration of the transition periods of the new CE - guideline starting from in the middle of July 2008, the following innovation stepped into force : **They can be merged, contrary to in former times, as national distributor (first marketer) into the adherence to the CE guideline. That means that the market supervisory authority makes guidelines compensation and punishments valid with that with an offence against the CE, if this refers as an example within the European Union from another country. This danger exists in particular if the distributor (first marketer) is not identified on the products. Thus you make yourselves the distributor (first marketer) within your own country.**
To date this was limited to the manufacturer and/or the European Union – expanded distributor. National distributors were not involved into the observance of guidelines involved and therefore also not to be prosecuted.

We remove this concern (anxiety) from you: We consider the standards for you, like e.g. CE, or ROHS strictly and guarantee yourselves in this way the security, which you wish. The mark **DIGITUS®** is an international distributor, which guarantees itself more for its products and their quality. Our quality assurance in the manufacturing plants locally ensures the adherence to all editions. With all caution and control nevertheless if an error occurs to us unknowingly, we ensure immediately for replacement.

On the following pages we show you a few examples for malicious trip hazards, which can lead to one's downfall.

Florian Assmann
Executive Director Assmann Electronic GmbH, Germany

Falsified Chip Set

A designer handbag for ten euros, the long desired branded shoes at the half price or the radically reduced luxury wristwatch from the Internet - these are generally (everywhere in the world) well-known examples for copyright piracy.
But who assumes already with the purchase of accessories for the computer that he receives with the allegedly beneficial "Good bargain" perhaps a refined falsification?
The initial joy over the beneficial acquisition passed fast if the product does not achieve the desired performance or under given circumstances does not function at all. In the worst case these falsifications even represent danger for health.

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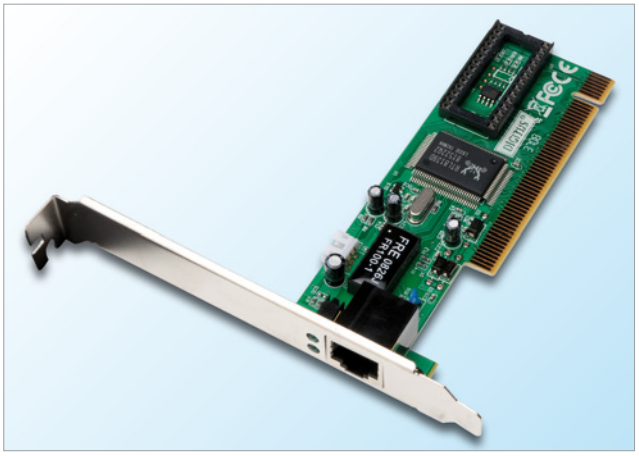

Figure 1: DIGITUS® 10/100Mbps network map with original Realtek chip set

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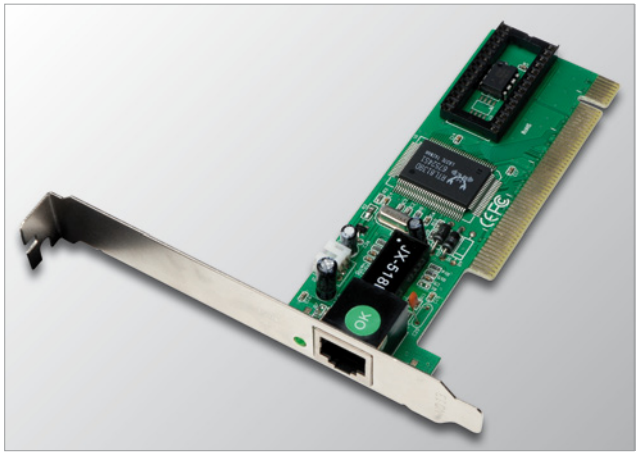

Figure 2: Foreign supplier 10/100Mbps. network map with Realtek chip set of falsification. A difference is not to be recognized.

Fig.3: 1 Original Realtek type of network - chip on DIGITUS® network map - with users estimated for the extensive compatibility to usual market, in addition, also less spread operating systems.

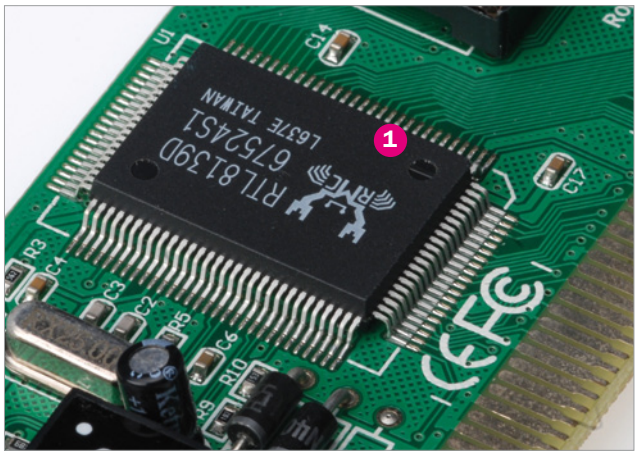

Fig. 4 : 1 This almost perfect falsification exclusively works with current Windows operating systems. Annoyance with the product is initiated, as soon as the user begins an operating system e.g. begins Linux, then the falsified chip refuses its service by system crashes.

DIGITUS® customers play it safe! The product purchase with exclusively certified contracting parties, trained personnel for purchase and technology and a strict monitoring of the entire logistics chain from production to the incoming goods in the German storage facilities assured to the traders and final consumer the security and function of original - construction units and thus optimal compatibility.
DIGITUS® carries as international distributor opposite to the national market supervisory authorities, the responsibility for the fact that no falsified parts are obstructed. Thus you are protected from bad surprises.

Functional Deficits with similar Optics

In order to maximise its profit, but at the same time to preserve the beautiful light of its products, the manufacturer of this pictured USB operated radical eradication under the dress of its make to RS 232 of adapter (figure 2).
For the viewer from the outside invisible, on the plate numerous elements, which actually provide for the safe and reliable operation, were omitted here simply (and for the manufacturer cost-saving). The customer has checking, if he gets problem with the cheap quality of this "idle - saved" Adapter with the compatibility and stability of his applications. Already the error functions are accepted with the production.

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Fig. 1: DIGITUS® USB to RS232 Adapter

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Fig. 2: Outwardly almost identical foreign supplier - product

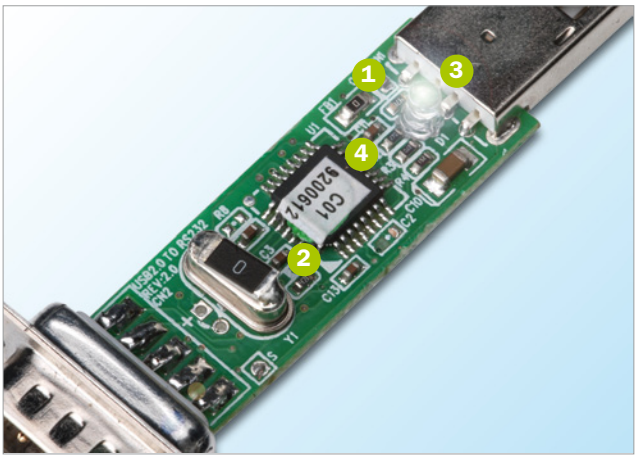

Fig. 3: 1 Discrete elements provide for an optimal signal adjustment within the entire circuit. This provides for highest compatibility and reliability in co-operation with the attached serial devices

2 a separate screen protects the thermally sensitive quartz with the hot plastic injection moulding against annoyance (disgruntlement).

3 a function LED indicates the operating condition of the adapter.

4 the controller-chip in SMD forms the heart of the circuit.

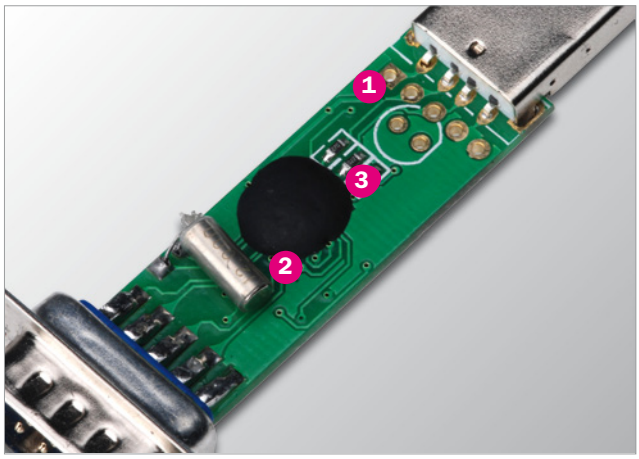

Fig. 4: 1 In the illustration of foreign suppliers - product one sees missing discrete elements, which would be required for a precise timing within the circuit and an optimal signal adjustment. Thereunder reliability and compatibility suffer

2 the unprotected Quartz runs the risk to detune with the developing heat of pouring (sealing) and lose at function.

3 the omitted functions LED and the so-called "Chip-Onboard" technology (with laquer dab directly on the plate adhesive chip), used here, show clearly, how consistently the cost optimization was accomplished debited to the consumer.

Take yourselves thus in eight, if comparable products are offered, which are concerning the price clearly under a DIGITUS® product. With high probability it was saved here on cost functionality.

Responsible handling with customers and sustained dealing at the market pay off on a long-term basis better to intimidate the consumer (buyer) as with alleged "bargain", who does not again buys.

Copyright Piracy Harms the Customer

A further plagiarism, copies plainly and simply the Design, without paying attention thereby to substantial details and the priority of the material. With the DIGITUS® bags the plagiarisms are particularly brazen. Here the Design is copied nearly 1:1. Howeverthe changes show in colours, Materials and function that is not convenient to the copyist on sustainability, but this save only conception, Design- and material costs and wants profit from success. The result: Seams tear, subjects do not fit, zippers break and bad stretcher comfort.

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Fig. 1: Original DIGITUS® Bag with Design embroidery and colour

plagiarism

Fig. 2: Plagiarism with clearly copied Design and wrong colours

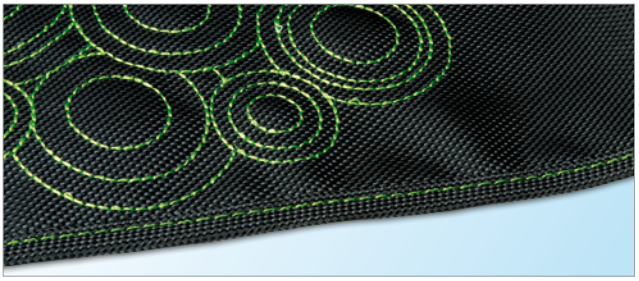

Fig. 3: The seam of covering flaps is cleanly weltered

Fig. 4: The seam is carelessly finished, the Artwork stick is too small

Fig. 5: The original bag has many small extras and interior subjects

Fig. 6: Inferior lining fabric and missing interior subjects

Fig. 7: Interior views of the genuine DIGITUS® bags

Fig. 8: Here cut, fodder colour and the weld appearance were copied

Missing Screen against Guidelines

In the preceding example the technical circuiting cost optimization leads on the part of the manufacturer "only" to losses with the function and reliability of the products and thus to annoyance with dissatisfied customers. For you can have it however still more substantial outcome, if the manufacturer for the reaching of an aggressive market price, injures valid EMV guidelines in Europe deliberately and is not identified as distributor.

Perhaps will it then during disregard of the EMV guidelines of your offered commodity, be taken by your national supervision of market into the obligation and it can be imposed against you sensitive penalties. Ignorance over the offered products and the purchase from unreliable sources can mean thus for each dealer a substantial risk. The temptation, to position oneself with a "cheap" product concerning the price is large.

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Fig. 1: DIGITUS® wireless LAN USB Adapter

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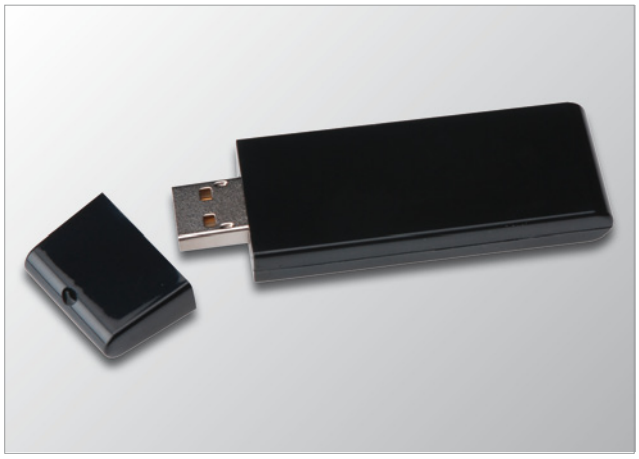

Fig. 2: Wireless LAN USB Adapter, foreign supplier product

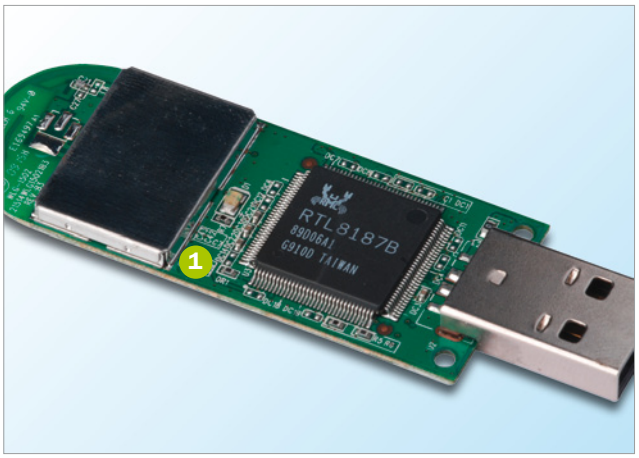

Fig. 3: 4-Layer PCB 1 with between – lying mass Screen provides for the adherence to the EMV guidelines

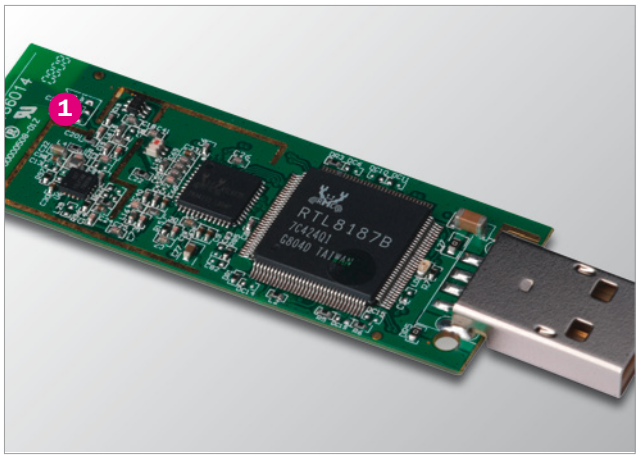

Fig. 4: At the light of the gleaming plate 1 the missing screen let itself to recognize between that only two layers of the PCB

We have even determined sometimes that some market companions avail themselves of these practices, in order to position themselves over an allegedly unbeatable favourable price, or to urge into the market, although the distributor is to be recognized clearly. Thereby all risks are altogether disregarded.

With all consideration in the product selection and quality, DIGITUS® offers always "the best value for money" and shifts you thereby into the situation at the market concerning the price to act attractively and be able to build at the same time the advantages of a reliable mark.

Unauthorised Tuning

"Much helps much" – in accordance with this motto, some user try the range of their domestic Wireless LAN installation to enhance through increased-power rated (uprated) components. Accordingly there is a need at the market of such "performed" WLAN accessories: Wireless LAN booster and "High performance" Wireless LAN stick are frequently met representatives of these in Europe not certified device class. It is valid also here that the increased-power rated (uprated) WLAN accessories offend against the valid EMV – guidelines and therefore the trader of these products can be punished by the supervision of market of the Federal Network Agency.

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Fig.1: Wireless LAN USB Stick with (in Europe unauthorized) 200 mW transmission power

Fig. 2: 1 Already the packing betrays the unauthorized transmitting power. Maximal 100 mW, which correspondes to 20 dBm, would be permitted.

Risk at Bad Handling

They are indeed only little considered and it will be absolutely sufficient, if they function inconspicuously, thereby the power supply can cause the most serious problems and largest dangers within the range of computer accessories.
Most offences against EMV guidelines result for example from technically unsatisfactory power supply. Likewise best designed power supply can emerge in the Standby - operation as never-full electricity absorber or cause even death-trap short-circuits and fires. A high-quality power supply ensures that with overvoltage, overcurrent, overtemperature and short-circuit it is switched off as fast as is possible, which protects also connected devices.
Accordingly the examined power supply let themselves recognize by different test seals and permissions. The CE indication must for example carry all power supply, which are sold in the European Union (see also *http://www.ce-zeichen.de/ce-zeichen-und-fag.html*).

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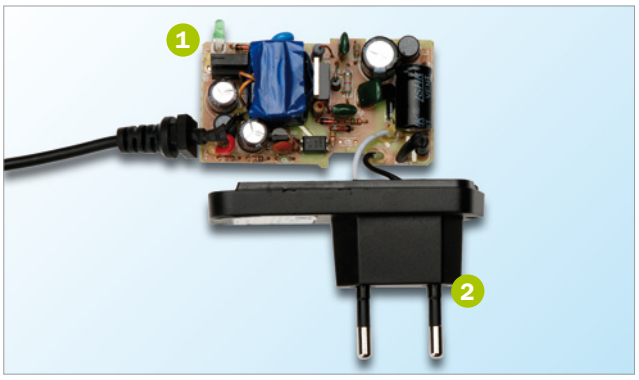

Fig. 3: Reliable and robust power pack incl Diode to perational status indicator, 1 all permissions and firmly with the housing connected connectors 2

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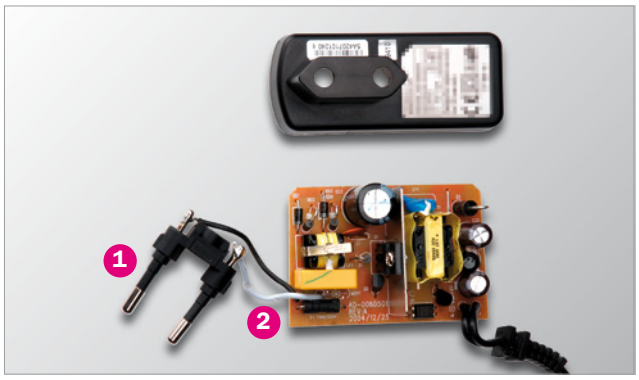

Fig. 4: Non encapsulated connectors 1 and cable squeezings 2 can cause a short-circuit with use. One looks for a Diode in vain.

Old Technology

Introduce yourselves, the salesman of a car dealership wants to blanch for you, that you should use for starting the new car model still another crank handle. Would you buy this car model? Probably hardly!
Whereas car manufacturers must constantly overtrump mutually with the newest innovations, in order to get their Vehicles at the customers let themselves against it in the computer accessories market still in such a way some, with old-venerable technology from the computers – Stone Age, make equipped "bargain". Latest with start-up comes the bad awake if as in this example – the ports must be configured in detail.

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Fig. 1: DIGITUS® 5-Port 10/100Mbps Network Switch

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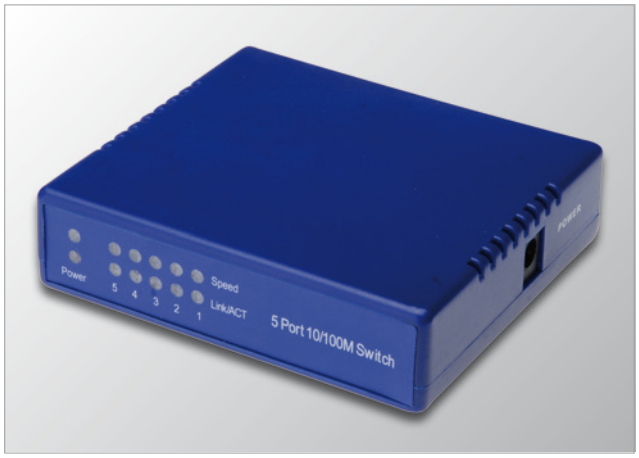

Fig. 2: Foreign supplier 5-Port (+ 1 Uplink Port) 10/100Mbps Network Switch

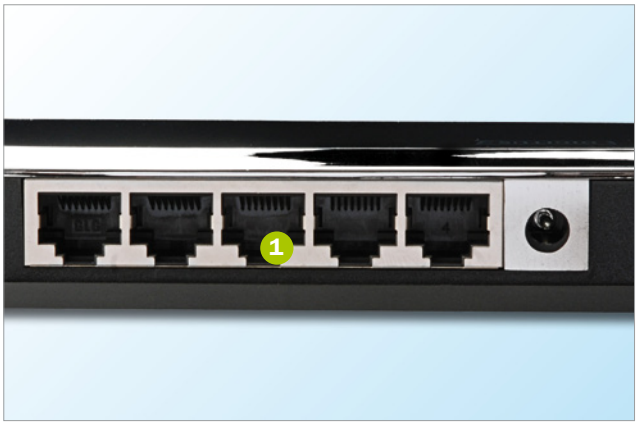

Fig. 3: 1 Every one of the five RJ 45 Ports lets itself use equally alternatively for the connection to a computer, or attach also for the extension of the network, e.g. to a further switch

For the different targeted applications, the inserted cable is recognised in each case automatically and correctly wired. This as car (auto) MD (x) characteristic function is current state of the technique.
It is flexible in application and particularly comfortable for the user. All current DIGITUS® network products has the Auto MDI (x) technology.

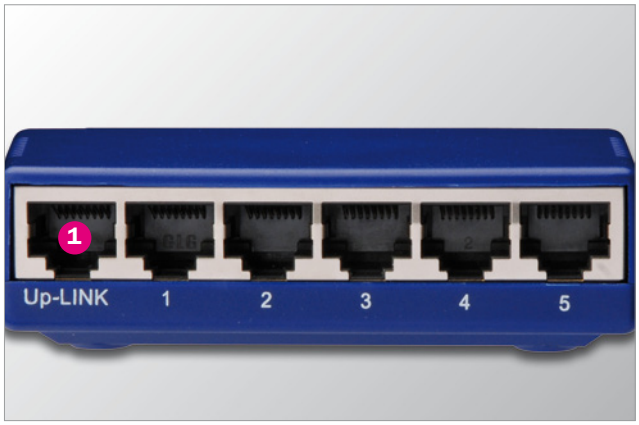

Fig. 4: 1 Like this Switch represented here, many network- products of the lower price segment do not contain an automatic medium recognition "Auto MDI (x)".

This control comfort and flexibility with networking clearly - either the user uses that additionally as "crutch" existing Uplink - Port for the connection to a further Switch, or it needs special so-called Crossover – cable in order to extend its network. The results are constant problems with the allocation. Respect therefore with the purchase of routers and switches always on the Auto MDI (x) technology.

If one compares concerning the price a product with outdated technology with such current technology, one compares "apples with pears". Naturally the old technology functions also somehow, but do not fulfill however the market requirements to a product developed technologically.

It will give surely to the one or the consumer also for the old technology. Considerably for the product equipment of a DIGITUS® article it is not meanwhile, since we want to always offer our customer the most current technology and the market expects from a mark such as DIGITUS®.

Cable Configuration

Frequently the number of strand is reduced with the cables illicitly. In place of 7 braids per vein (see picture 1) only 5 braids per vein (see picture 2) are used. This reduces the efficiency of the cable. Since one does not recognize the smaller number from the outside, the smaller diameter is faded frequently by thicker PVC - coat. Hereby the consumer is deceived fraudulently and led over the true, worse characteristics behind the light. These quality-reducing characteristics are simply concealed.

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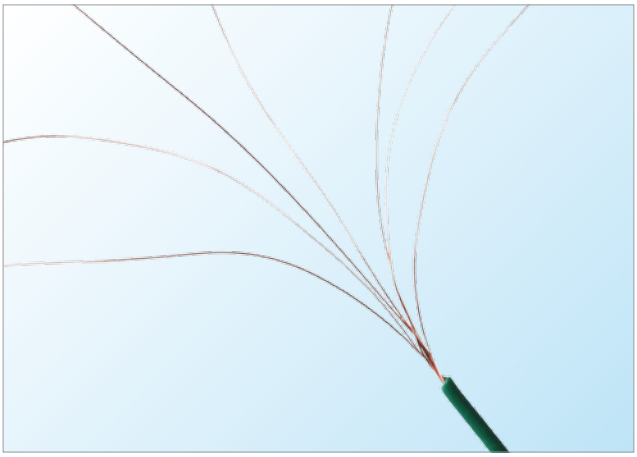

Fig. 1: Seven conductors per strand

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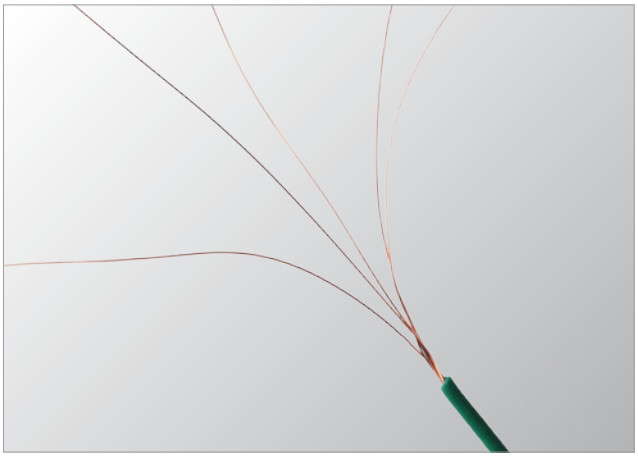

Fig. 2: Five conductors per strand

Vein Diameter/AWG - Number of cables

On the cable frequently misleading information is printed, which misleads over the actual inferior cables structure and a better quality is tried to pass on, than is actually present.
The vein/wire diameter is coded shortened by the American Wire gauge, AWG. It marks conductions from braids and solid wire and particularly in electro-technology for the designation of the cross section by veins is used.

Warning: The higher the AWG - number so much more thinner (!) are the single veins and the cable quality becomes worse. Here it is cheated very frequently in the hope of the end customers the swindle will not be already noticed. Wrong AWG - Numbers are unfortunately still the most frequently wiring cable deceit.

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Figure 3 : In DIGITUS® cables excluding appropriate AWG- values (here 7 conductors 0.126mm = AWG 28) of the conductors are used, which guarantee an optimal function and life time.

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Figure 4: The cable is proven with the strand diameter “AWG 28” (=0.127 mm strand diameter) although a by far smaller diameter (0.094 mm = AWG 32) of the only 5 blocked strands is used.

Strand Material

A criterion to the distinction is the used material for the cable cores and/or the individual conductors of the strand. Some suppliers use conductors/strand in place of the high-quality copper, CCA (copper cladded aluminum) or CCS (copper cladded steel). Those are with copper only flimsy vaporized or alloyed steel or aluminum conductors. These have at the disposal by far bad characteristics and a clearly shorter life span by far worse life time therefore they break simply faster. The quality of the cables decreases from there of copper (CU) over too CCA to CCS.
So you can identify the offered material very simply: heat up with a lighter the separately opened veins for the test of the material. The possible results you will see as below.

CU – COPPER

Figure 1: The conductor glows, the wire moves slowly to the rear and melts to a small ball. Here it concerns clearly full copper material.

Typical Characteristics

- Small corrosion susceptibility
- More elastic/ flexible than CCS and CCA leader, from there high mechanical Stressability
- High life span
- Less line resistance as CCS – and CCA leader
- Smaller impedance with high frequencies than CCS and CCA leader

CCA – COPPER CLADDED ALLUMINIUM

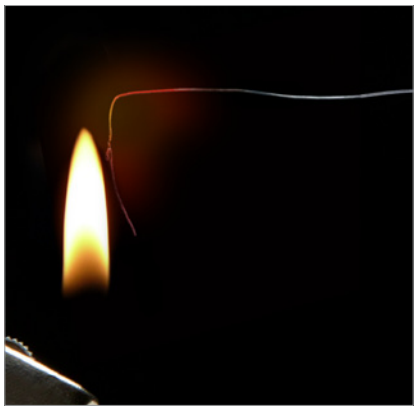

Figure 2: The conductor glows, breaks downward off and-evaporated. In this case it acts in all probability on CCA, thus the inferior copper / aluminum mixture.

Typical Characteristics

- Worse transmission characteristics and lower electrical conductivity than copper (for each square centimeter cable cross section)
- Need a larger conductor section than copper cable
- Material is substantially brittle and breaks faster than CU cable.
- The material is not solderable!

CCS – COPPER CLADDED STEEL

Figure 3: was processed in the wire CCS, the conductor glows and sprays sparks - similar a miracle candle (because of the CCS conductors the additionally added magnesium).

Typical Characteristics

- Smaller mechanical stressability as CU conductor
- Worse transmission characteristics and higher electrical-resistance than pure copper- conductor
- Needs a larger conductor section than copper cable, in order to reach over nearly same cable performance
- Material is similarly brittle as CCA and breaks likewise clearly faster than CU cable

As rough rule thereby the following price hierarchy can be put for the materials at the basis:
Copper as leftmost material has also the highest price. That for inferior CCA cable is clearly under copper and closely followed by the CCS - cable of similarly small quality.
In order to reduce the price, some suppliers use even still more adventurous mixtures of most diverse materials for the strands. Thus it occurs the fact that this consists for example to the half from copper and on the other hand half from CCS.

In addition, this does not offer in the end almost as good total characteristics, as the full copper - strands and only a further attempt is saved apparently at the costs. To the detriment of the buyers this reduces however the quality considerably.
Malicious is that one does not regard it to most cables and turns out so fast to inferior commodity. For this we brought the “Burn Your Cable” test into existance and demonstrated you here the results.

Should you have once again the feeling, you are offered inferior commodity, you can carry the test at any time and thus put the supplier to the acid test.

Cables Electromagnetic Shielding

A further not evident quality criterion for the comparison of cables is the structure of the shielding. The more closely the shielding the better and more expensive the cable. For the shielding three different kinds are used. On the one hand the foil shielding, the spiral – schielding and the network - shielding. Also frequently foils -, network- and/or spiral shieldings in combination are used. In addition, in some cases no shielding is integrated. Since e.g. USB cables in different standards/ versions resp. quality classes (USB I.I, USB 2.0) available and are given through the USB organisation and this given quality corresponding production costs causes, some supplier try to deceive the consumers by giving data, which let the customers assume that the cable exhibits a higher quality than it is the case in reality. To the comparison fig. 1 on page 10 points the structure of shielding of a USB 2.0 cable.

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Figure 1 : Network shielding of DIGITUS® cables

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Figure 2 : Here a spiral shielding is only processed.

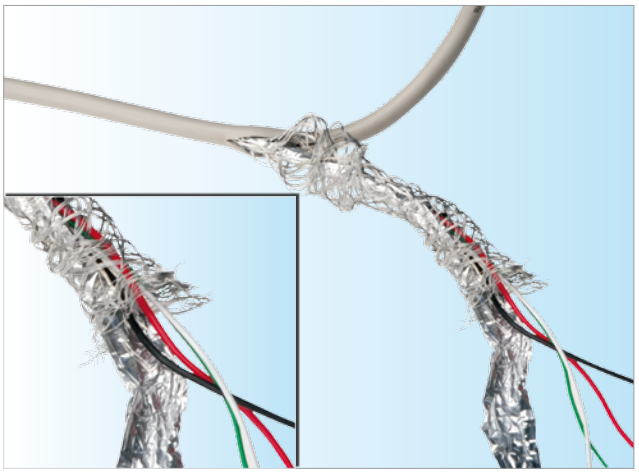

Figure 3: DIGITUS® cable : recognize clearly with the combination of foils and network shielding as the USB 2.0 guidelines design.

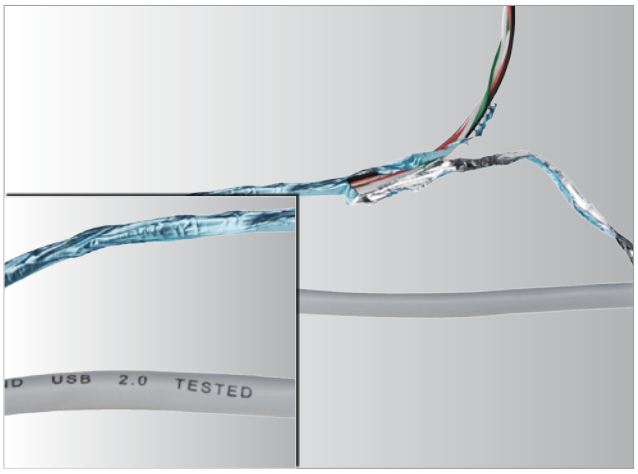

Figure 4: With this cable the impression of the customer implies that it concerns a USB 2.0 cable, although this is not the case. The USB 2.0 standard plans a combination of foils and network shielding, here concerns it however only a cable with foil shielding. By this deception the supplier makes the supplier and thus with it likewise the dealer punishable.

The end customers can hardly examine the cable quality to POS. Therefore we must guarantee along the delivery chain that frauds are excluded. In reflect also we offer your customers the full warranty over the quality of the products and that all markings, materials correspond both to the guidelines and are correctly characterized. They can trust on our expertise and honesty.

Certificates and Markings

Power cords need special test certificates. The plugs of the cables are provided with these “approval signs”. (See figure). The presence of the test characters means, a permission/license of the devices - /electric cables in accordance with the respective national or multinational standards.
These tests for the issuing of the certificates are cost-intensive and have crucial influence on the price of the cable.

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Abb. 1: DIGITUS® Cable with all required Approvals.

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Fig. 2: This plug has no certificates available, is thus not examined and above all not certified - a reason, to prosecute also the traders/dealers for it since the sale of such an product is illegal.

INTERNATIONAL TEST CERTIFICATES FOR ELECTRIC CABLE

Mark/Symbol	Standard	Approval	Country
	CCEE	China comission for conformity certification of electrical equipment	China
	VDE	Verband der Elektrotechnik, Elektronik und Informationstechnik e.V., Prüfstelle	Germany
	KEMA	Naamloze Vennootschap tot Keuring van elektrotechnishe Materialen	Netherlands
	SEV	Schweizerischer elektrotechnischer Verein	Switzerland
	SEMKO	Svenska Elektriska Materiel Kontrollanstalten	Sweden
	NEMKO	Norges Elektriske Materiellkontroll	Norway
	DEMKO	Danmarks Elektriske Materielkontrol	Danmark
	FI	Suomen Standardisoimislutto	Finland
	OVE	Österreichischer Verband für Elektrotechnik	Austria
	CEBEC	Norme Belge	Belgium
	IMQ	Istituto Italiano del Marchio die Qualità	Italy
	NF	Normes Francaises	France
	UL	Underwriters Laboratories, Inc.	USA
	C-UL	Canadian Standard Association	Canada
	CSA	Canadian Standard Association	Canada
SAA	SAA	The Standards Association of Australia	Australia
	BSI	BSI Product Certification	UK
	KS	Certificate of Comnpliance	Korea
	ITS-GS	Intertek testing Services ETL SEMKO	multinational
	SABS	NEFTA Test Report Toetsverslag	South Africa
	IRAM	Instituto Argentiono de Normalizacion	Argentina

DIGITUS®
Assmann Electronic GmbH
Auf dem Schüffel 3
58513 Lüdenscheid

Tel. **0800 - DIGITUS**

sales@digitus.info
sales@digitus-professional.com

www.digitus.info
www.digitus-professional.com