

Multimedia solution for data networks

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The CATVsolution lets you integrate TV, video and radio into your structured cabling system to provide convenience, flexibility and investment security.

R&M

Convincing cabling solutions

Major investments? – Broader use of existing installations

MULTIMEDIA IN DATA NETWORKS

The structured LAN cabling is already installed. Multimedia has arrived. Does that mean the entire installation must be redone? Not with the CATVsolution from R&M. The CATVsolution brings TV, video, broadcast radio and multimedia services directly to the workplace via existing data cabling – in offices, training centers, the public sector and even private homes.



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CATVsolution

A more secure investment

- CATVsolution uses existing cabling
- No parallel installation required

Higher quality

- Excellent symmetry for optimum signal quality
- Range up to 90 m

More flexibility

- Simple Plug & Play system
- Easy patching when changing workplaces

Better security

- Excellent shielding for high active and passive interference resistance

Multimedia has become part of our everyday routines in the workplace. At banks, for example, traders use cable television (CATV) to keep a close watch on current trends in the markets. Schools and training institutes use video to communicate with their students and trainees. Department stores, tradeshow organizers and travel agencies use multimedia services at their points of sale. Hotels and hospitals have a wide array of multimedia offerings to entertain their guests and patients. Generally, however, all of these applications require an on-site CATV connection using coaxial cables.

USING EXSITING INSTALLATIONS

Since multimedia is no longer a luxury, no one wants to pay luxury

prices to be connected. With the CATVsolution, R&M has created a system that brings in multimedia simply and economically wherever there is already LAN cabling. Expensive additional installation of coaxial cabling can therefore be entirely avoided.

EASY TO INSTALL

The solution is simple: the R&M CATV 862/8 Panel is installed in the floor distributor. This device feeds the CATV signal coming from a coaxial cable from the riser zone to up to eight data cables with RJ45 connectors for distribution on the floor. At the workstations, a special cable connects the RJ45 outlet to the coaxial connector on the TV or multimedia device. Any installer, with no special training, can handle the job. Plug & Play.

DISTANCES UP TO 90 METERS

The range will be dependent on the data cables and the frequency band used by the video signal. The sensitivity of the multimedia device will also play a role. Using Cat. 7 cabling, a CATV signal with a 300 MHz bandwidth will have a range of up to 90 meters. This tends to be much more than is needed in most applications.

CHANGE OR EXPAND ANYTIME

If more than eight multimedia connections are needed, a second or third panel can be installed. Thus, there is the same flexibility as with LAN connections. This is very practical for temporary installations for special events or presentations, or when moving within the same building: in just a few minutes, each employee will have access to his usual infrastructure and very little work time is lost.

SAVING COSTS WITH A COMPREHENSIVE SOLUTION

The CATVsolution from R&M makes it possible to bring CATV signals to any data outlet anywhere in the infrastructure via the existing data cabling. Coaxial cable networks that are installed separately at a later point in time tend to be island solutions since they only connect a few selected points. When changes are needed, cost-intensive cable installation work is usually necessary. On the other

hand, the CATVsolution is a comprehensive solution which builds on the existing data network and will not generate future costs. There is a reason why it is called “application-neutral” cabling.

THE UNDERLYING TECHNOLOGY

CATV signals are normally transported via unbalanced coaxial cables with an impedance of 75 Ohms. The R&M CATV 862/8 Panel actively transforms these signals with frequencies up to 862 MHz over to eight connectors for balanced 100 Ohm lines with RJ45 Cat. 6 connectors. The R&M CATV 862/8 Panel uses line pair 4, 5 from the four pairs used in LAN cabling.

At the workstation, a special cable is provided for the return path: the CATV balun patch cable has an RJ45 and a coaxial F-connector. The integrated balun (balanced/unbalanced)

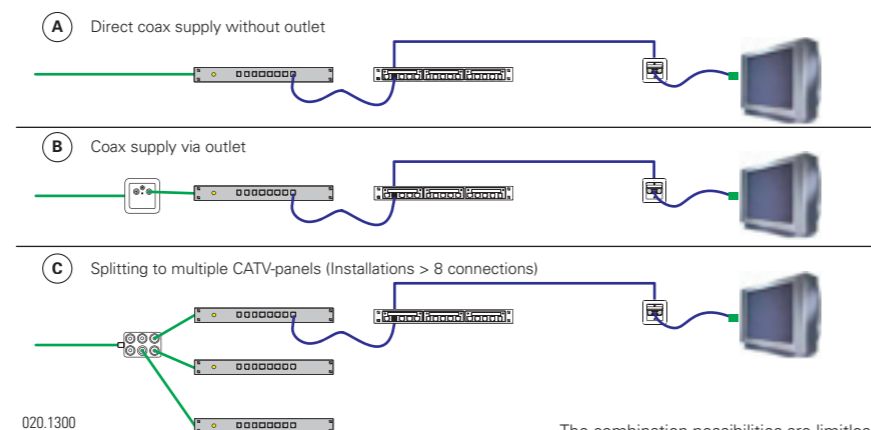
handles the conversion from 100 Ohm balanced to 75 Ohm unbalanced. As an option, the installation can also transport the return channel.

CATV

Once known as “community antenna television” but now commonly referred to as “cable television”, CATV has come a long way from the original goal of providing access to television programs using a common antenna. CATV now comprises a wide range of multimedia services which are in part interactive (via the return channel).

LAN

A local area network is a network that connects a group of computers within a self-contained space. The most popular transmission protocol is Ethernet. It is possible to use the same cabling for many other applications.



Picture quality as a function of cable length and frequency.

Green: Very good picture quality. Yellow: Picture quality depends on the type of cable or multimedia device that is used.

Cable length	Frequency range of the CATV signal			
	50 MHz	300 MHz	600 MHz	862 MHz
15 m	3.1	8.1	13	22
30 m	6	13	21	29
45 m	8	18	28	37
60 m	11	23	36	45
90 m	13	29	45	56

The table gives the cable attenuation values in dB (here, with a conductor diameter of 0.55 mm, e.g. R&M S-STP category 7 light). Depending on the cable and conductor diameter, positive or negative deviations are possible.