

## Demonstration Apartment with Polymer Optical Fiber (POF)



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### Audio Distribution System

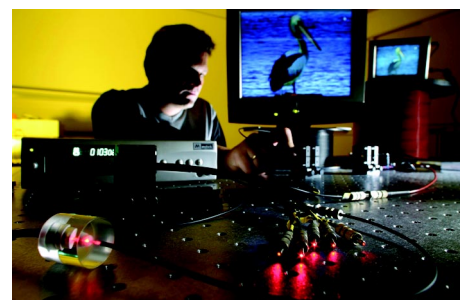
Polymer Optical Fiber (POF) is commonly used for connecting digital audio devices, but audio data can also be distributed throughout apartments. For this purpose speaker boxes with optical input are demonstrated. The appropriate audio channel for the location of the speaker box can be selected at each speaker and the corresponding signal is filtered out of the audio data stream.



Audio distribution system

### TV Transmission with POF

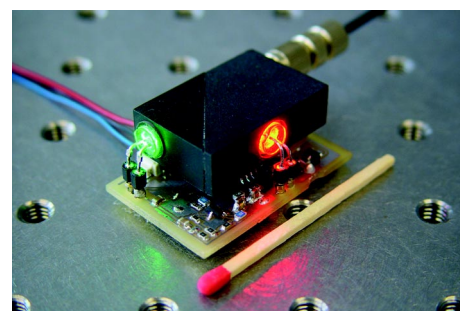
The transmission of multichannel Community Antenna Television (CATV) signals with standard POF is demonstrated. Optical transmitter and receiver modules were developed, capable to transmit carrier frequencies up to 470 MHz – well above the nominal bandwidth of POF.



TV transmission with POF

### WDM Modules for POF and Polymer Clad Fiber (PCF)

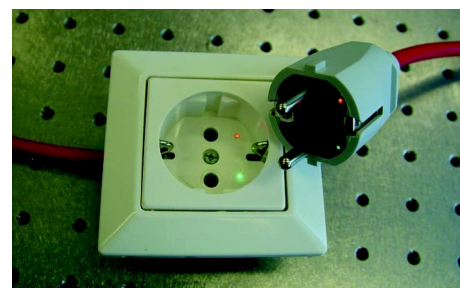
Wavelength Division Multiplexing (WDM) allows the transmission of different protocols on the same fiber as well as bidirectional transmission. The WDM modules with low insertion loss and good cross talk suppression can be mass produced by injection moulding.



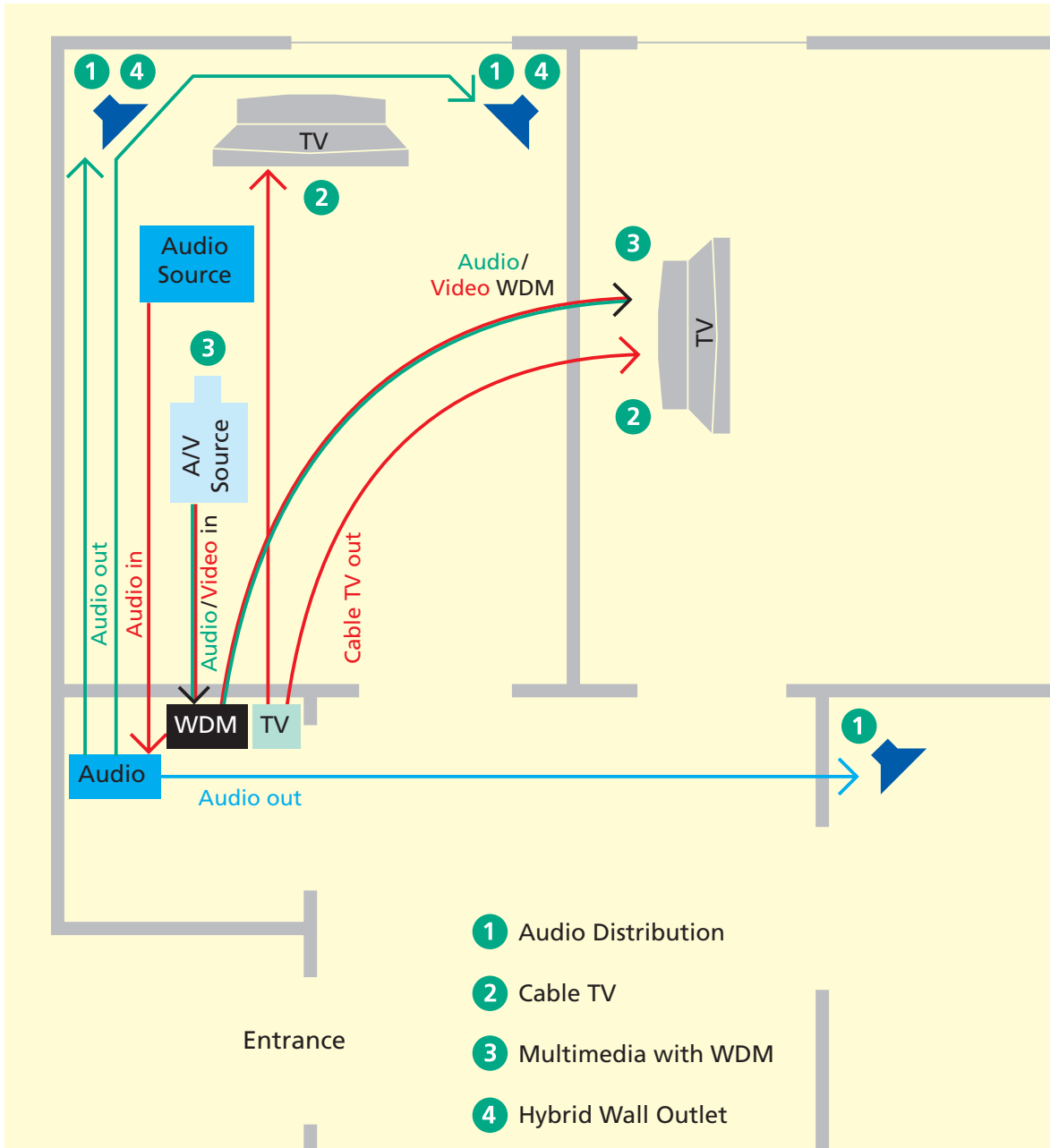
WDM with POF and PCF

### Hybrid Optical & Power Outlet

We demonstrate an optical interface integrated into a standard wall socket with a passive optical backbone of low initial costs. A hybrid installation with the electricity network is possible. A star topology enables the connection of any socket to the desired data service (TV, voice, data).



Hybrid optical & power outlet



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