

MOST Network Interface Controller OS8104

Multimedia Network Protocol Chip

Features

Low Cost Multimedia Network Solution

- 24,5 Mb/sec MOST Network Interface Chip
- Programmable bandwidth for up to 11 Mbps Packet Data, or up to 60 channels of Stream Data
- Over 2900 control messages per second

On-Chip Network Management

- Automatic stream data allocation
- Network activity and data valid detection
- Node position and delay sensing, alive check and power management

Flexible Consumer Electronics Interface

- Parallel, I²C and SPI control interface
- I²S and various other serial stream I/O
- S/P DIF - IEC 958 digital interface, FIFO buffered parallel stream data interface



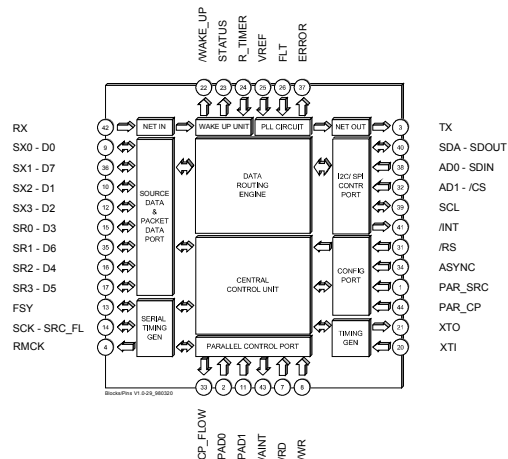
Description

The OS8104 is a highly integrated C-MOS Network Interface Controller with full featured interface to the 24.5 Mbit/sec MOST optical network system.

All relevant network management including source data allocation, physical layer interface, synchronization and network detection is on chip. Its ultra low jitter PLL guarantees high quality audio and video transmission and clock recovery over a wide frequency range. Coding is optimized for Plastic Optical Fiber.

The OS8104 works at ultralow bit error rate and supports real-time synchronous networking at ultra low cost and high data rate compromising up to 15 stereo CD channels at the same time. In addition to the control channel some of the available bandwidth can be allocated to Asynchronous Packet Data Transfer.

Programmable serial and parallel real-time data interfaces with different clock and data modes support various consumer electronic devices such as Coders, Converters and DSPs.



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Functional Description

The chip contains a MOST core and several peripherals including a clock manager, source data ports, and an I²C/SPI control port.

The network interface includes an ultra low jitter Phase Lock Loop (PLL) and a channel demodulator on the input side. The network output provides a channel coded signal. Those signals can be connected directly to an optical receiving/ transmitting device (FOT Unit) or a balanced line driver. Each device is able to generate the network clock or to synchronize to it. However, there can be only one device generating the clock and the frame structure within the entire network.

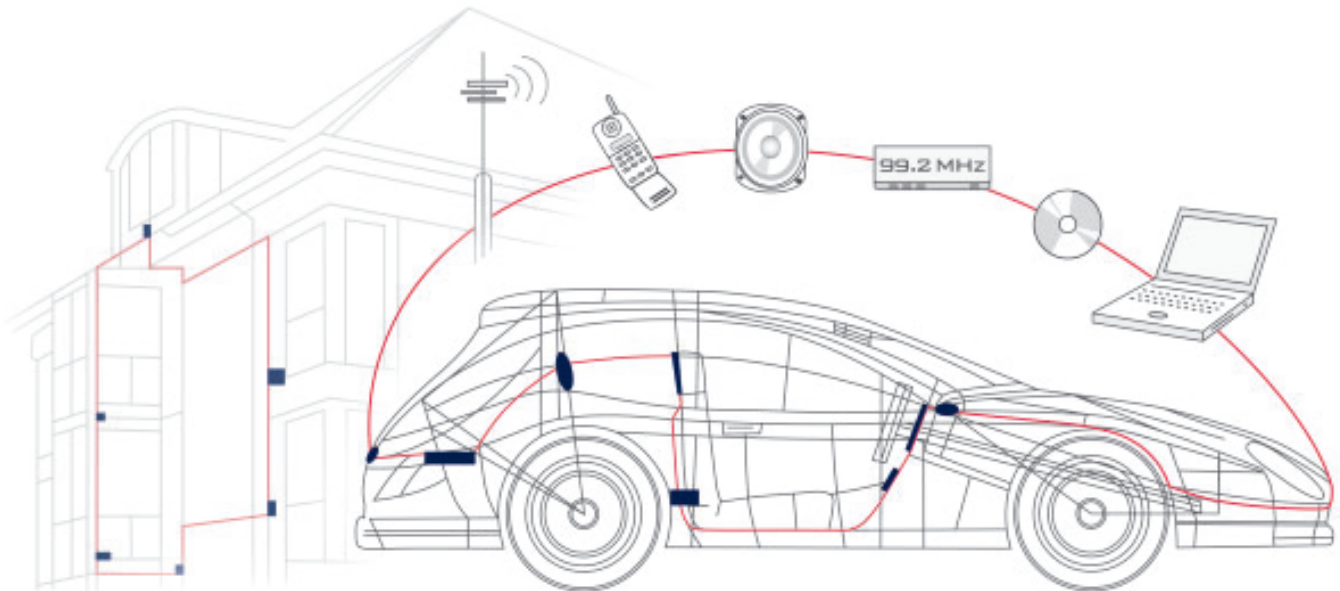
All kind of A/D converter, D/A converter, digital signal processing and Media Player (CD-AUDIO/ VIDEO/ ROM etc.)

devices can be synchronized using one of the different clock and serial interface modes.

The source data ports SR0-3 and SX0-3 provide a data interface to the serial bitstream. Data sources and sinks can be connected to the source ports to provide data to another node on the network, or receive data from another node on the network. Up to 4 inputs are usable as real time data input channels and up to 4 outputs as real time data output channels.

The MOST Network Interface Controller can operate in a real Peer to Peer Network or in a host centric architecture.

MOST Network Implementation



An example implementation including Audio/Video, Telephone and Computing Applications is shown above. Up to 64 devices with as many as 15 MPEG 1 Audio/Video channels can be implemented on one fiber without a central host.