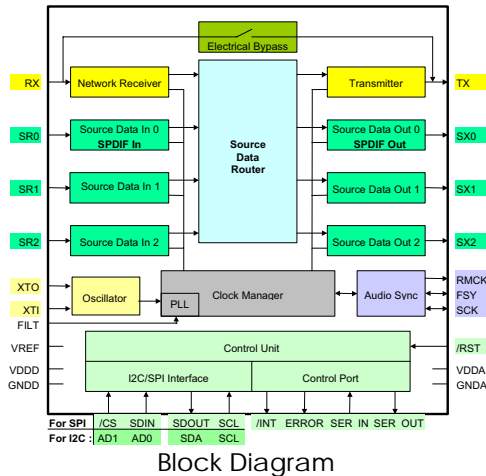# Product Datasheet 2.1.1

CONAN

Conan® OCC8001-02

Block Diagram

- Fully compliant with D2B Mode0 Protocol
- 4.2336Mbps source data rate (equivalent to 3 x 16bit stereo audio channels)
- Integration of source and control data
- Multiple source data channels
- SPDIF audio port
- I2C and SPI compatible control port
- Flexible source data routing
- Implements all low-level communication tasks:
  - Communication Protocol (sub-frames, synchronisation,...)
  - Communication Management (CRC, ACK, NAK, retries,...)
  - Transparent channels
- Easy hardware and software implementation
- Few external components required

THE D2B PROTOCOL

The Digital Data Bus (D2B) is a networking protocol for automotive multimedia data communication integrating digital audio, video and other high data rate synchronous or asynchronous signals, with the control data for network management protocols and APIs. The protocol enables robust single cable interconnection and compatible interoperation of in-car AV multimedia and ITS devices, such as Radio Head Units, CD Changer, CD-ROM, GPS Navigation, Voice Control, Car Telephones, TV and others.

CONAN® - OCC8001-02

The OCC8001-02 transceiver is a pin compatible successor of the OCC8001-01 with identical functionality, featuring decreased power and reduced EMI

The CONAN® is an advanced CMOS device which enhances network design by integrating source data routing and communication protocol management. handles multiple source data channels via common serial interface standards,

CONTROL PORT

Device control is handled via the control port, which can be configured as either an I2C or SPI compliant interface. The choice of interface is specified during hardware resets.

NETWORK INTERFACE

Data is organized in frames which are transmitted at the system sampling frequency. Frames contain source and control information and are further divided into sub-frames of 8 bytes fields. At the physical level, data is transferred as serial bits with bi-phase encoding.
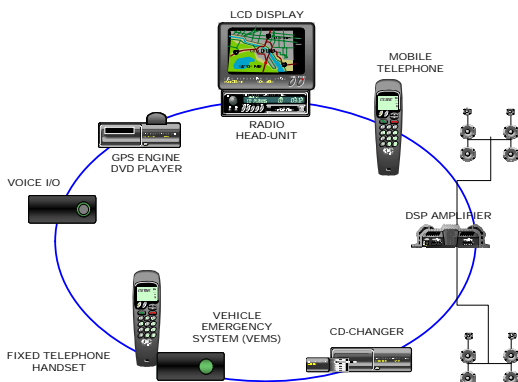
Control data is constructed into a control frame, which is transferred at a rate of two bits per sub-frame. The control frame comprises 128 bits and requires a block of 48 frames to transmit.

SOURCE DATA PORTS

Six source data ports are provided, giving the flexibility for multiple data
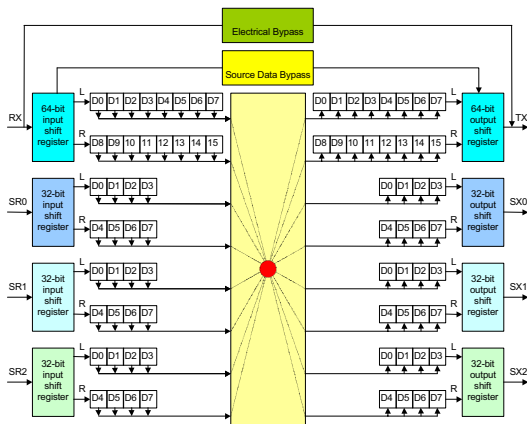

CONAN® RIT Table

sources and destinations to be handled by a single CONAN®.

All data ports share a common frame synchronization and serial bit clock. Data can be arranged as Philips I2S, Sony or Matsushita, 16 or 24 bit serial formats. Additionally, SR0 and SX0 can be configured for operation as an IEC-958 (or SPDIF) interface. Source and destination data is routed between the source data ports and the network interface via the Routing Information Table. This allows all data bytes coming from either the network receiver or source input ports to be re-arranged, mixed and re-directed to the network transmitter or source output ports.

D2B Protocol		Mode0
Data Rate @ f_s 44.1kHz		
▪ Gross Data Rate		Max. 11.2 Mb/s
▪ Synchronous Data		Max. 4.6 Mb/s
▪ Control Data		Max. 176 Kb/s
Line Coding		Manchester
Topology		Ring
Max. nr. of Nodes		24
Ultra Low Jitter		>80pS/node
Control Port	I²C	100 kHz
	SPI	100 kHz
ESD Protection		+/- 4 kV HB model
		+/- 400 V M model
Power Consumption		<500mW @ 5.5V
Supply Voltage		5V ± 10%
Temperature Range		-40^{0}C to +85^{0}C
Package		28 SOIC

Dim	Min. (mm)	Max. (mm)
A	2.35	2.65
A1	0.10	0.30
B	0.35	0.49
C	0.23	0.32
D	17.70	18.10
E	7.40	7.60
E*	1.27	
H	10.00	10.65
H*	0.25	0.75
L	0.40	1.27
a	0	8
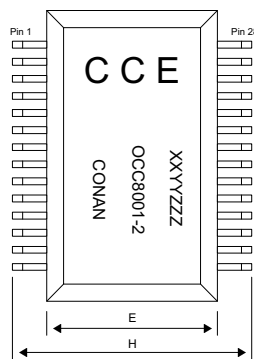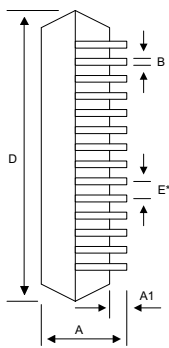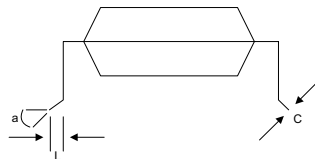
Order-information for Conan©

Part:
Conan® OCC8001-02

Order number:
2-02-001-01

For further information on any other C&C Electronics products, please visit our Web site or contact us:

http://www.candc.co.uk

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CONAN® Package Outline