



CW-4000

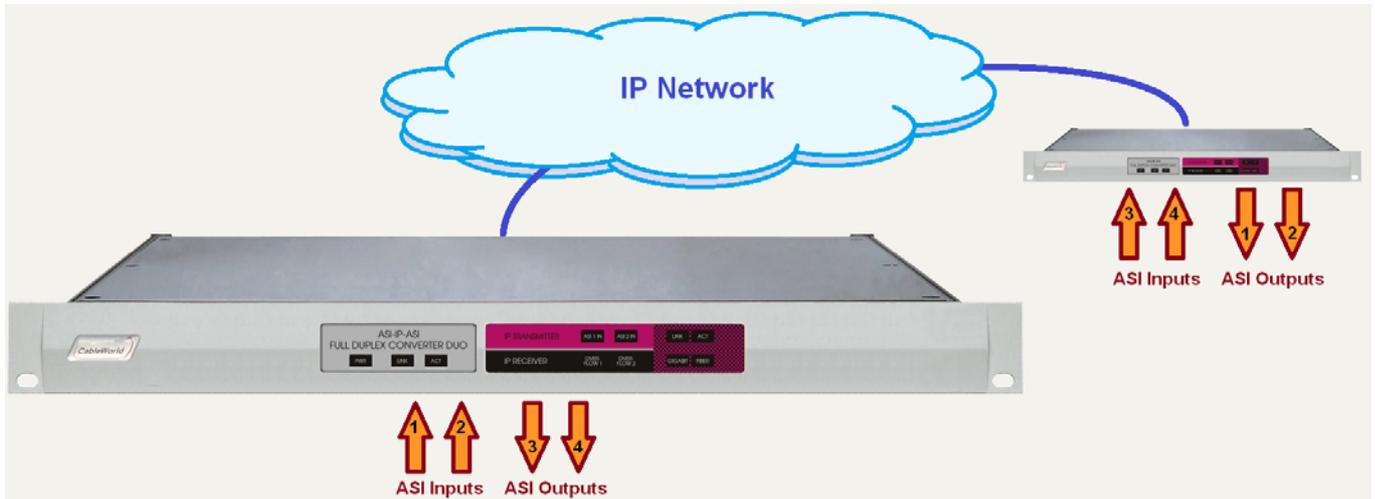
CW-4492 Full-duplex ASI-IP-ASI Converter Duo

two independent ASI to IP and two independent IP to ASI converters in common 1 HU frame

An eminent advantage of the IP network is that it permits data transmission between remote points using simple and inexpensive elements. Today also the SFP modules for transmitting signals to distances of several tens to hundreds of kilometres are available at very favourable prices.

Upon all these, for transmitting the data streams of the digital television with data rates of several tens to hundreds of Mbit/s the less expensive solution is offered by the IP environment, if the transmission distance exceeds several hundreds of metres. The transmitter unit of the CW-4492 Full-duplex ASI-IP-ASI Converter Duo is capable of converting two independent ASI signals to the IP network, while its receiver unit reconverts two such IP data streams into ASI signals. The optical interface integrated in the device permits through SFP module direct connection to the optical network.

A significant advantage of the full-duplex design is the possibility of using the same device in the transmitter and the receiver side, yet having simultaneous transmission and reception of the data streams. The web interface provides user-friendly GUI for configuring both the transmitter side and the receiver side. When used in DVB system the device provides extra facilities like transport stream analysis, displaying the number of transmission errors etc.



- Two ASI inputs and two ASI outputs
- 10, 100 or 1000Base-T connection through RJ45 IP socket or 1000 Base-X connection through optical interface with receptacle for SFP module
- Separate management port, web interface
- SDRAM buffer for managing the congestions occurring on the IP network
- Integrated TS analyzer and PID filter for inspecting and modifying the structure of the TS
- Integrated real-time TS analyzer for detecting the transmission errors
- Capability of producing from any ASI input signal 8 identical IP data streams with different IP/port values
- Diagnostics page
- Low power consumption (typically 12 W), high reliability, high life-time

The CW-4492 Full-duplex ASI-IP-ASI Converter Duo comprises two TS transmitters and two TS receivers that permit converting two independent ASI signals to the IP network and reconverting into ASI signals two data streams arriving over the IP network. Both two units can independently be programmed to transmit and to receive different data streams. For point-to-point connections the optimum solution is using one each CW-4492 at both end points, but the device is capable of working together with other manufacturers' products: sending stream for them or receiving their streams.

The transmitter unit of the device is suitable for producing both unicast and multicast streams alike. The delivered UDP packets can comprise 1 to 7 TS packets. Sending out the streams is continuous and independent of the state of the receiving side. The delivered stream can be SPTS, MPTS etc. alike, that is, any kind of data streams which is encapsulated in MPEG packets. With switching on the transmitter side PID filter module the data rate of the sent out stream can be reduced by removing the unnecessary packets. The integrated real-time TS analyzer serves the investigation of the structure of the stream, the number of errors etc. during operation.

Similarly the receiving side is suitable for receiving both unicast and multicast streams, moreover the incoming data packets can be filtered beyond for the Destination IP Address and Port Number also for the Source IP Address and Port Number. The receiving side inspects the data streams with two independent real-time TS analyzers, thus continuous statistical data are available from the transmission errors of the input streams.

For special applications the transmitter is capable of sending out the ASI stream beyond to the receiver to further seven, altogether eight different IP address and Port number values, until the resulting data rate does not exceed the 1 Gbit/s value.

At the receiving side the clock signal of the ASI signal will be restored with a digital oscillator programmable in a wide frequency range. In applications, where the signal is allowed to be in burst format by packet, restoring the clock signal is not needed. A SDRAM in the device supports the error-free processing of the data congestions occurring on the IP network.

The internal conditions of the device (supply voltages, internal temperature etc.) are displayed in the diagnostic module. The extremely low power consumption of the CW-4492 built of FPGA circuits permits the device to be built in systems with very high reliability requirements. A version equipped with the COP-3 error correction technique is being developed and will be available at a different model number.

The web interface of the device permits the device to be configured without installing any software and using the web browser of the connected PC only. Also the instruction manual of the device and that for building systems can be retrieved from the device. The items of the device control software can be updated through the management port. The necessary software can be downloaded from www.cableworld.eu free of charge and always in the latest version.

For those of our users, who want to get acquainted with the GUI of the device prior to buying it, or who would like to study its instruction manual, a proper version of the software is offered at www.cableworld.eu for download.

Technical data

ASI inputs

Protocol	according to TM 1449 Rec. 1
Impedance	75 Ω
Number of connectors	2
Connector type	BNC socket
Input data ratemax. 200 Mbit/s	
Packet format	188 or 204 Bytes/packet

ASI outputs

Protocol	according to TM 1449 Rec. 1
Impedance	75 Ω
Number of connectors	2
Connector type	BNC socket
Input data ratemax. 200 Mbit/s	
Packet format	188 Bytes/packet

IP connection for the TS input and the TS output

TS input and TS output	10-, 100-, 100Base-T
Connector type	RJ-45
Protocol	Ipv4, ARP, IGMP, UDP
Optical interface	1000Base-X
Connection interface	receptacle for SFP (mini-GBIC) module
IP Address default value	10.123.13.101

Management Port

Layout	separate management port
Connection	10-, 100Base-T
Protocol	TCP/IP
Connector type	RJ-45
Device control	through web interface
Software update	through the management port
IP Address default value	192.168.10.10

Transmission parameters

TS transmission	1...7 TS packet/UDP or RTP
PID filtering	for all PID values, without changing the PSI
TS reception	1...7 TS packet/UDP or RTP
Protocol	unicast or multicast
PCR correction	none

General data

LED displays in the front panel	LINK, ACT, POWER ON and OVERFLOW
LED displays in the rear panel	LINK and ACT
Mass	approx. 3.5 kg
Physical dimensions	19" × 1 HU
Width × Height × Depth	483 × 43.6 × 473 mm
Service period	continuous
Power requirement	90 ... 264 V, 47 ... 440 Hz
Power consumption	max. 15 W
Temperature range for operation	+5 ... +40 °C
relative humidity	max. 80 %
Storage temperature range	-25 ... +45 °C
relative humidity	max. 95 %, non-condensing

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