

CW-4841 ASI to IP CONVERTER

CW-4842 IP to ASI CONVERTER



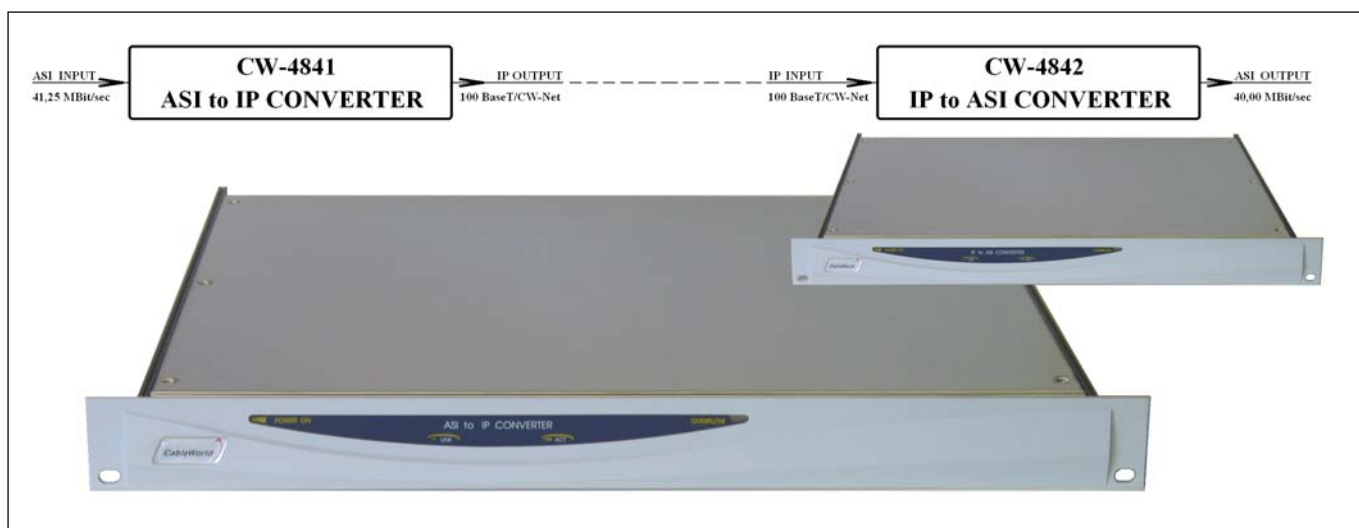
Digital television technology constitutes a part of the high-speed wideband data transmission systems. Thus the change of the television technology to digital requires designers and operators of cable television systems to extend their activity to the field of computer technology and data transmission.

The signals of digital television can be transmitted beyond coaxial cable through nearly any network, thus digital television offers the possibility of implementing new facilities such as IP television, feeding television signals into high-speed data transmission systems or even supplying cable television headends through the SDH networks.

The CW-4841 ASI to IP Converter receives the transport stream at its ASI input, implants it in UDP/IP packets to send them through 100 MBit/s Ethernet network with internet protocol (IP) to the desired destination.

The CW-4842 IP to ASI Converter receives the transport stream through with Internet protocol (IP) and after processing, it outputs the stream at its ASI output.

The protocols of both converters are conformed to each other, therefore their use is recommended in pairs, however in individual solutions they can be used singly, too. Such single usage can be e.g. feeding the transport stream into the computer, or outputting in ASI environment data streams generated in the computer.



Main features:

- Transferring the transport stream in IP environment using UDP/IP protocol
- Establishing standard Ethernet communication in 100 MBit/s environment
- Solving the speed and timing problems arising from the intermittent transmission of the UDP/IP packets
- Free programmable IP address
- Free managing software available at www.cableworld.hu
- Open managing instruction set for designing individual solutions:
www.cableworld.hu > Papers > Technical articles > CW-Net (CW_Net_a.pdf file)

CW-4841 ASI to IP CONVERTER

The **CW-4841 ASI to IP Converter** receives the transport stream at its ASI input, converts it to UDP/IP packets, then sends them through 100 Mbit/s Ethernet network to the pre-set IP address. The IP address of both the transmitting and the destination device are free programmable. After switching on the device, by sending out ARP messages it establishes connection with the addressed device, then it starts sending the transport stream. In lack of response, sending out the ARP messages is repeated continuously and sending the TS does not start until response is received. After response arrived, the UDP/IP packets are sent to the MAC address given in the response, thus the connection can be built through router or gateway, too.

The UDP/IP packets include beside the transport stream data also continuity counting data and PCR signal. The device can handle all versions of the IP4 header; it answers ICMP Ping Request packets with ICMP Ping Replay, if the data content is between 0 ... 128 bytes. Response time is 1 ... 3 ms depending on the length of the data content. The detailed description of the message handling and the instruction set are given in the CW_Net_a.pdf file.

TECHNICAL DATA

INPUT DATA

TS input 1

ASI acc. to TM 1449 Rec.1
 Input voltage min. 200 mV_(P-P)
 max. 880 mV_(P-P)
 Input impedance 75 Ω
 Input connector BNC socket (insulated)

TS output 1

ASI acc. to TM 1449 Rec.1
 Output voltage min. 800 mV_(P-P)
 Output impedance 75 Ω
 Output connector BNC socket (insulated)

OUTPUT DATA

LAN output

Output data rate 100 Mbit/s
 IEEE802
 Operation mode Full Duplex
 Output connector RJ-45 socket

GENERAL DATA

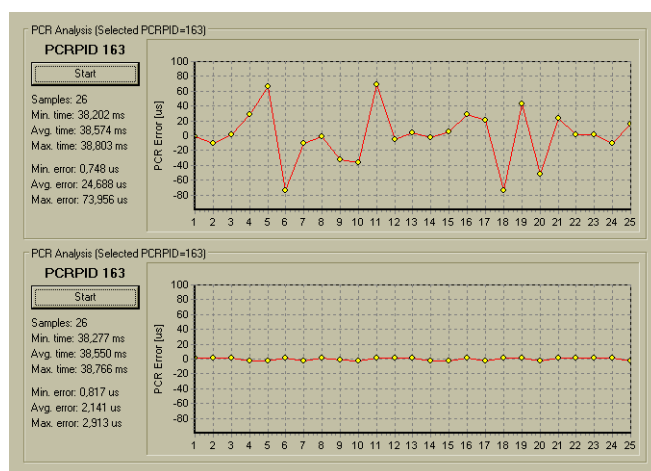
Mass approx. 3.5 kg
 Power consumption max. 30 VA
 Operating temperature range +5 ... +40 °C
 Storage temperature range -25 ... +45 °C
 Physical dimensions:
 Width 483.0 mm
 Height 43.6 mm
 Depth 473.0 mm
 Service period continuous
 Power requirement 230 V +10 ... -15 %
 50 / 60 Hz

CW-4842 IP to ASI CONVERTER

The **CW-4842 IP to ASI Converter** receives the 100 Mbit/s UDP/IP data packets at its Ethernet input and converts them into continuous transport stream, which is delivered at its ASI output. The IP address of the device is free programmable. On the ARP messages sent for establishing connection, the device sends answer with its own MAC address embedded. Handling of Ping messages is identical with that described at the CW-4841.

Transmission of the UDP/IP packets through the 100 Mbit/s network is made asynchronously, therefore the time connection of the transport stream gets lost. In order to facilitate processing the device's ASI output signal by QAM modulators without the use of a TS remultiplexer, the device is equipped with a mini TS remultiplexer, which removes the null packets from the data stream and then compiles a new data stream with the pre-set data rate. The difference of the data rates is compensated with adding null packets.

Restoration of the PCR data in the new built output data stream is solved with a switchable 24-element



PCR error in an actual operating system
 with switched off and switched on PCR corrector

PCR corrector.

TECHNICAL DATA

INPUT DATA

LAN input

Input data rate 100 Mbit/s, IEEE802
 Operation mode Full Duplex
 Input connector RJ-45 socket

OUTPUT DATA

ASI output

Number of outputs 2
 ASI format acc. to TM 1449 Rec.1
 Output voltage min. 800 mV_(P-P)
 Output impedance 75 Ω
 Output connector BNC socket (insulated)
 Output data rate 0.01 ... 7 MB/s
 (adjustable in 1 Hz steps)

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