# CLEBER The new multi–purpose platform

## DESCRIPTION

Cleber is the 2013 new born from Elber R&D department; it offers a powerful, flexible and modular hardware and software platform for broadcasting and contribution networks, where customers can install up to six boards with no limitations in terms of position. Based on a Linux embedded OS, the Cleber detects the presence of the boards and shows the related control interface to the user, either through web GUI and Touchscreen TFT display. Two power sources (AC and DC) are always available; for the DC source, the customer can chose between 22-65 Vdc or 10-36 Vdc for site or DSNG applications.

Thus Cleber can host any combination of boards, particular applications and use cases can be considered and described separately. Cleber is the control unit for Elber's new **portable link** XPM; in case of transmitter control unit, the chassis is equipped with digital modulator (DVB-S/S2 and DVB-T), up-converter and, if needed, one or more encoders HD/SD (MPEG-2 or H-264) while in case of receiver control unit it hosts a digital demodulator, down-converter and decoders.
In case of **DSNG** applications, the chassis can be equipped with encoder(s), TS switches, modulator(s), L-band switch and up-converter to C, Ku and Ka band.

Multiple ASI to IP and IP to ASI interfaces are available for the convergence to a **broadband** network, both on fiber and copper support.

For satellite **DVB-S2** contribution to transmitting sites in a TV or radio network, a multistream or single stream receiver is available.

Applications are multiple, you can design your own platform!

## FEATURES

- Self-contained compact solution (1U RACK 19")
- Six plug-in slots available for any combination of boards
- TFT front panel control
- Embedded Linux OS
- AC and DC inputs
- WEB interface, SNMP v2 and GPIO

APPLICATIONS:

- DVB-S/S2 Modulator, Multistream, ASI inputs, L-band and IF output
- DVB-S/S2 Receiver, Multistream, 4 ASI outputs, L-band input
- C, Ku, Ka band up converter
- TS network adapter (Broadcast and Telco networks convergence)
- MPEG-2 HD/SD 1080p Encoder and Decoder, 4:2:0/4:2:2
- H.264 HD/SD 1080p Encoder and Decoder, 4:2:0/4:2:2

# SPECIFICATIONS

## XS4

| | |
|---|---|
| **Function:** | DVB-S/S2 satellite receiver |
| **Input:** | L-band |
| **Output:** | 4 x DVB-ASI (TS) |

## MS2

| | |
|---|---|
| **Function:** | DVB-S/S2 satellite modulator |
| **Input:** | 2 x DVB-ASI |
| **Output:** | L-band |
| | IF 70 MHz |

## EHD

| | |
|---|---|
| **Function:** | Encoder |
| **Coding:** | MPEG-II and H.264 |
| **Profile:** | HD/SD |
| **Video:** | HD/SD-SDI, CVBS |
| **Audio:** | SDI-embedded, AES-EBU, analogue |
| **Output:** | DVB-ASI (TS) |

## DHD

| | |
|---|---|
| **Function:** | Decoder |
| **Coding:** | MPEG-II and H.264 |
| **Profile:** | HD/SD |
| **Input:** | DVB-ASI (TS) |
| **Video:** | HD/SD-SDI, CVBS |
| **Audio:** | SDI-embedded, AES-EBU, analogue |

## SRS-03

| | |
|---|---|
| **Function:** | AES/EBU to ASI gateway (needs SRS-04) |
| **Input:** | 4 x AES/EBU |
| **Output:** | 1 x DVB-ASI (generic) |

## SRS-04

| | |
|---|---|
| **Function:** | ASI to AES/EBU gateway (needs SRS-03) |
| **Input:** | 1 x DVB-ASI (from SRS-03) |
| **Output:** | 4 x AES/EBU |

## SRS-05

| | |
|---|---|
| **Function:** | AES/EBU to ASI and ASI to AES/EBU gateway |
| **Input:** | 4 x AES/EBU |
| | 1 x DVB-ASI (generic) |
| **Output:** | 4 x AES/EBU |
| | 1 x DVB-ASI (generic) |

## Control

**Front panel** (TFT touchscreen display)
**Web browser**
(embedded http server, no additional software required)
**SNMP v2**

## Electrical

| | |
|---|---|
| **Supply:** | 100-240 V~ 50/60 Hz IEC 320 |
| | 2 pin plug: |
| | • DC 22 ÷ 65 V |
| | • DC 10 ÷ 36 V |
| **Power consumption:** | Base chassis: 4.5W |
| **Maximum consumption:** | 120 W (six boards installed) |

## Mechanical

| | | |
|---|---|---|
| **Chassis:** | | 1U Rack 19" |
| **Dimensions:** | Width | 482.5 mm |
| | Height | 43.65 mm |
| | Depth | 380.65 mm |
| | | (without connectors) |
| | | 357.80 mm |
| | | (without handles and connectors) |
| **Weight:** | | Base chassis: 2.5 Kg |
| | | Maximum up to 7 Kg |
| | | (depending on number of slots) |

## Environmental

| | |
|---|---|
| **Operative temperature range:** | -10 ÷ 55°C |
| **Relative Humidity:** | 0 - 95% non-condensing |

# ORDERING INFO

| Code | Description |
|---|---|
| RK610 | Modular chassis 1U 19", 6 plug-in slot, power supply AC+DC, web interface, SNMP |
| XS4 | DVB-S/S2 receiver plug-in board for RK610, Single/Multistream, L-Band input , 4 ASI outputs |
| MS2 | DVB-S/S2 modulator plug-in board for RK610, 2 ASI (8 ISI max) inputs, L-band output |
| EHD | MPEG-2/H.264 HD/SD 4:2:2/4:2:0 encoder plug-in board for RK610 |
| DHD | MPEG-2/H.264 HD/SD 4:2:2/4:2:0 decoder plug-in board for RK610 |
| SRS-03 | AES3 to ASI uncompressed converter plug-in board for RK610, 4 inputs (need SRS-04 for decoding) |
| SRS-04 | ASI to AES3 uncompressed converter plug-in board for RK610, 4 outputs (need SRS-03 for encoding) |
| SRS-05 | AES3 to ASI and ASI to AES3 uncompressed converter plug-in board for RK610, 4 channels bidirectional |