

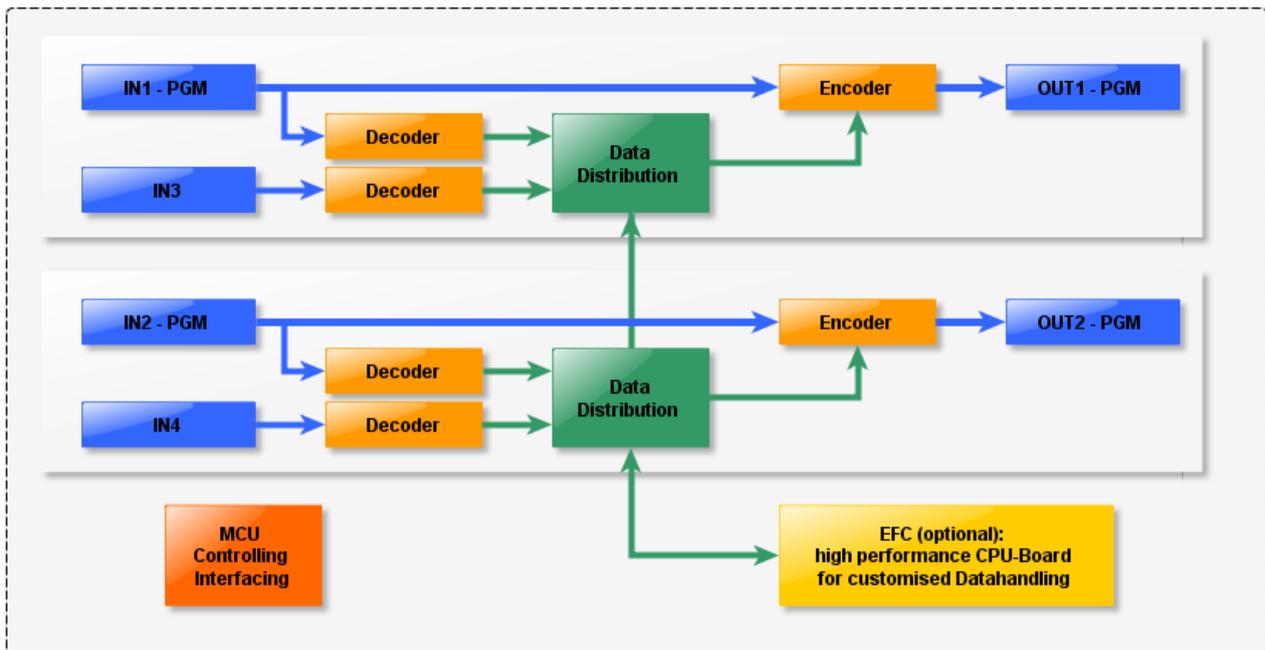


INSERTER SDI-3G-7DE

FUNCTION

The SDI-Inserter / Databridge SDI-3G decodes, generates and inserts data into 3G-, HD- or SD-SDI-signals. The Inserter is featuring auto-sensing C CVS / SD / HD / 3G-SDI Inputs combined with an automatic switch-over of the input dependent inserter configuration. Optional SFP-Modules are available for an alternative connection via fiber (SDI or IP (ST2110 or ST2022-6)).

There are two independent SDI-main signal paths with one additional input for VANC- or VBI-data signals each. These signals can be completely asynchronous to the SDI main signals. The inserter is transparent for embedded audio. Bypass relays bridges the SDI- main signals to the SDI-PGM outputs in case of power fail.



Decoder:

Teletext, subtitles, VPS-, WSS- and AFD-data as well as custom data can be decoded from any input using most common standards (modulated SD, OP47, SMPTE2031 etc.). The data can be modified or polled by any interface (for example: GPI-output 1: open when WSS 16/9, closed if 4/3 or extracting subtitles and send them to a client via IP).

Data Distribution:

Decoded data, as well as data provided by any interface (Ethernet, GPI, RS422, MCU and EFC-Board) can be used by both encoder modules.

Encoder / Overlay:

Data is encoded to the supported standards and inserted in the PGM-signals (SD-SDI, HD and 3G-SDI). Most information can also be displayed as text on top of the SDI-outputs. Teletext, Subtitles or other data can be delivered via Ethernet.

MCU: A low power Microcontroller setups the inserter and provides the interfaces. So the inserter is fan-less and ready for operation within five seconds after power-on.

Extension Board (EFC):

an additional high performance Board provides fast Ethernet for subtitles via IP, teletext streaming, extended logging and management.

Signal Processing:

Furthermore the inserter provides a graphical overlay module. Information e.g. subtitles, AFD status, VITC etc. can be shown on top of the 3G or HD-SDI-output.

TYPICAL APPLICATIONS

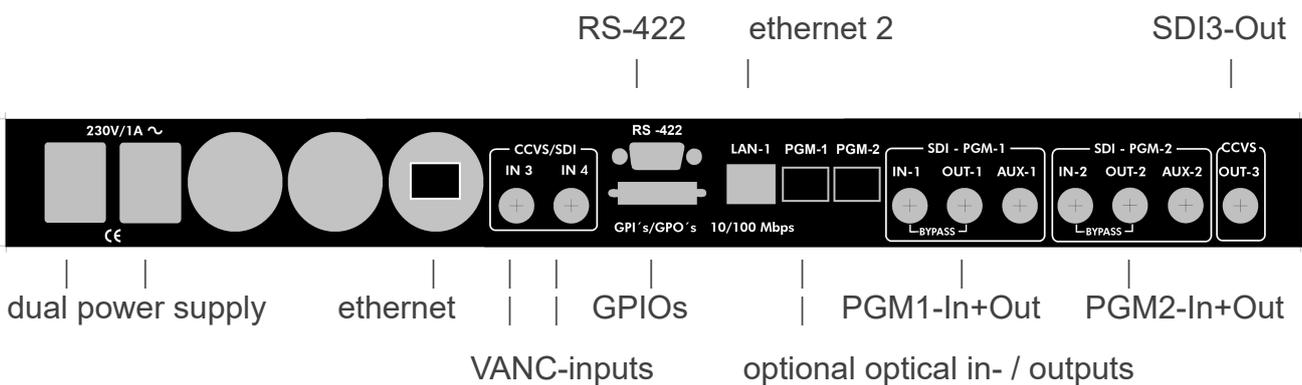
- decoding CCVS or SD-SDI teletext and inserting it as SMPTE2031 or OP47 in SDI
- inserting subtitles from Newfor or HLS into SDI-Teletext
- inserting and logging of SCTE104 Messages
- extraction of teletext subtitles for ingest systems
- data insertion and decoding for application control
- data cross conversion SD ↔ HD / 3G or OP47 ↔ SMPTE2031
- teletext control via WEB-Browser

FRONT- and BACKPANEL

The two Power-LEDs are on, if Power is connected, one for each power-supply.



The LC-Display shows the type of 3G-SDI Inserter. When pressing the touch-display, the actual state, then detailed device information and network settings will be shown.



SPECIFICATION

The SDI-INSERTER of type SDI-3G-7xx provides two SDI-PGM and two additional Inputs for CCVS- and/or SDI-signals. Data can be extracted from the VBI/VANC of these inputs and inserted into the SDI-PGM signal. Additional data and control signals can be pushed via network, RS422 and/or GPI-inputs. The inserters are transparent for embedded audio.

SDI-SPECS: for SDI-PGM SIGNAL and VANC-Inputs:
 3G-SDI (2.97 Gbps): SMPTE 424M (video format 1080p up to 60 Hz)
 HD-SDI (1.485 Gbps): SMPTE 292M (video formats 720p or 1080i up to 60 Hz)
 SD-SDI (PAL 270 Mbps): SMPTE 259M-C
 IP: SMPTE ST2022-6 or SMPTE ST21101

INPUTS:

SDI-PGM: INPUT1 + 2:

3G/HD/SD SDI-program-signal, Impedance 75Ohm, 3G/HD/SD auto-sensing with automatic switch-over of video output mode, automatic cable equalization, active Loop Out. Bypass to SDI-PGM output in case of power fail.

SDI-VANC: INPUT3 + 4:

3G/HD/SD/CCVS SDI-Signal, Impedance 75 Ohm, automatic 3G/HD/SD/CCVS detection with cable equalization, VANC (SD) can be read from line 7 to line 23.

GPI's:

8x GPI Inputs (high : 3V – 6V) with PhotoMOS-Relays for operation control and generator input of SDI-inserter.

OUTPUTS:

SDI-SIGNALS: 2 outputs for each SDI-program-signal, reclocked with drivers according ITU/SMPTE standards, impedance 75 Ohm.

GPI's:

8x GPI Output (< 28 V with internal resistor), using PhotoMOS-Relays for control of external functions and devices

ALTERNATIVE IN-/OutPUT via optional SFP-Modules:

input / output via optical SDI or IP (**ST2110** and **ST2022-6**) instead of coaxial BNC

CONTROL:

serial via RS422, e.g. for controlling of the integrated VPS- and WSS-generator by an automation system, and /or control via 10/100 Mbit/s Ethernet TCP/IP or SNMP network.

CASE:

19"/1 HE (hxwxd = 44 mm x 448 mm x 228 mm), integrated power supply, passive cooled.

POWER SUPPLY: 230V +15/-20%, connector IEC-60320 C14
 (with switch, fuse and filter for single power supply),

power consumption: apparent: < 60VA
 active: < 30W

SPECIAL FEATURES:

instant boot, basic functions ready within five seconds after power on

available decoder and inserter modules (SD-mode)

VPS EN 300 231, **WSS** EN 300 294

Teletext EN 300 472, **Videotext** RP186-2008, **AFD** SMPTE 2016

available standards (3G / HD-mode)

SMPTE 2031 - ETSI EN 301 775 (**VPS**, **WSS**, **Teletext**), **VITC**,
OP47 (Teletext), **SMPTE 2016** (AFD), **SMPTE 2051**, **SCTE 104**