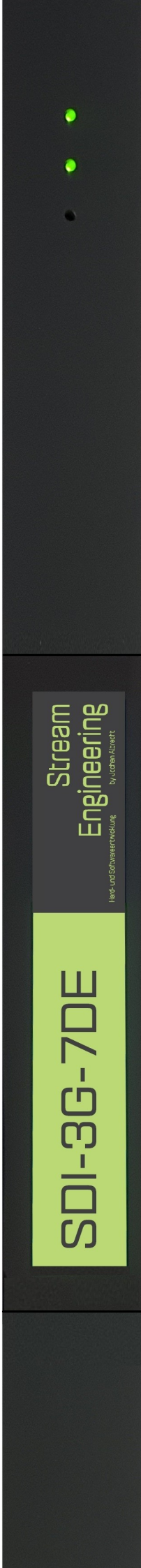
# INSERTER SDI-3G-7DX

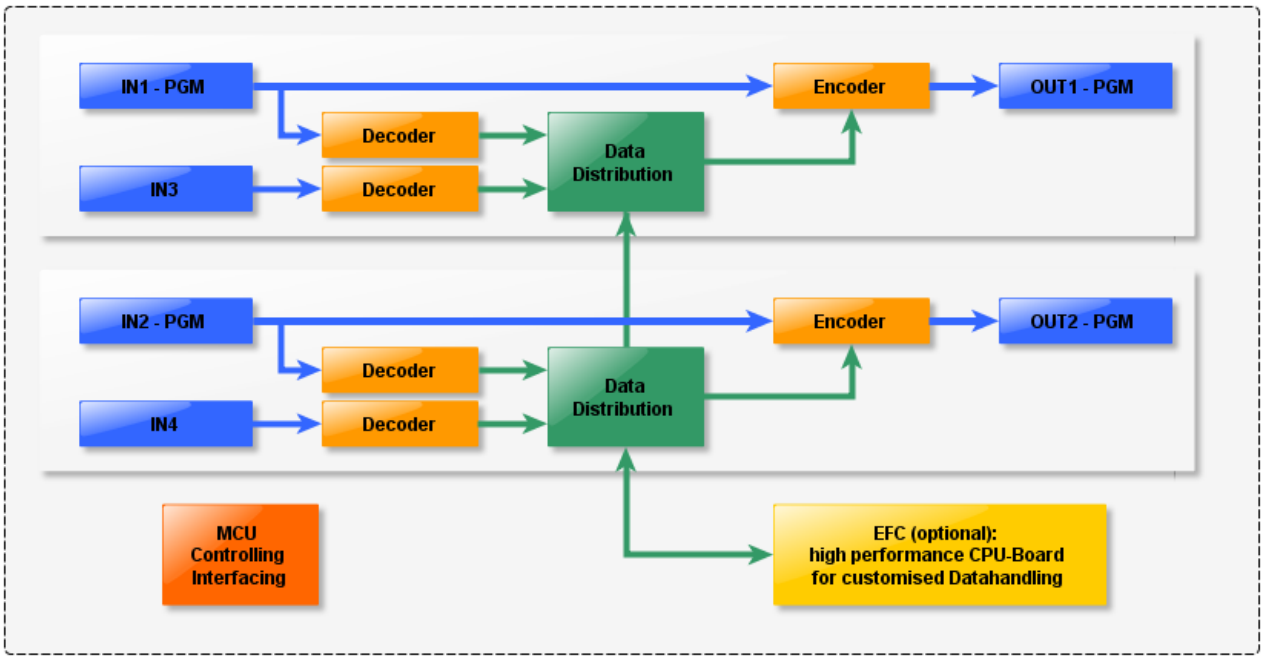
FLYER V3.42



# FUNCTION

The SDI-Inserter / Databridge SDI-3G decodes, generates and inserts data into a 3G-, HD- or SD-SDI-signal. The Inserter is featuring auto-sensing CCVS / SD / HD / 3G-SDI Inputs combined with an automatic switch-over of the input dependent Inserter configuration.

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, ...). The data can be modified or queried by any interface (for example: GPI-output 1: open when WSS 16/9, closed if 4/3).

**Data Distribution:**

Decoded data, as well as data provided by any interface (Ethernet, GPI, RS422, MCU (presets)) 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.

**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.

**Signal Processing:**

Furthermore the inserter provides 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

The most typical applications are:

- decoding CCVS or SD-SDI teletext and inserting it as SMPTE2031 or OP47 in SDI
- inserting subtitles from Newfor 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

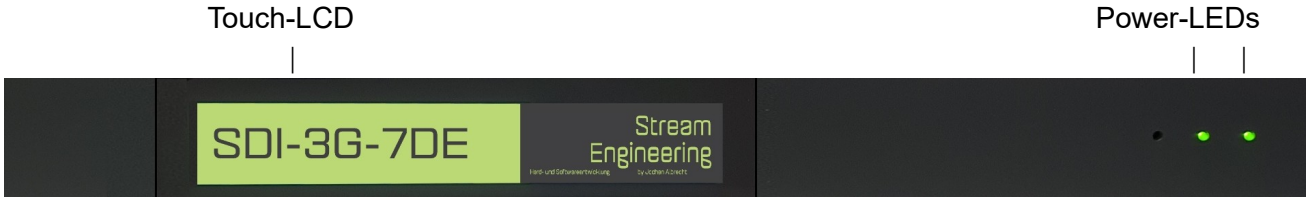
**Inserter SDI-3G-7DE**

the inserter type SDI-3G-7DE provides two independent program channels and dual power supply.

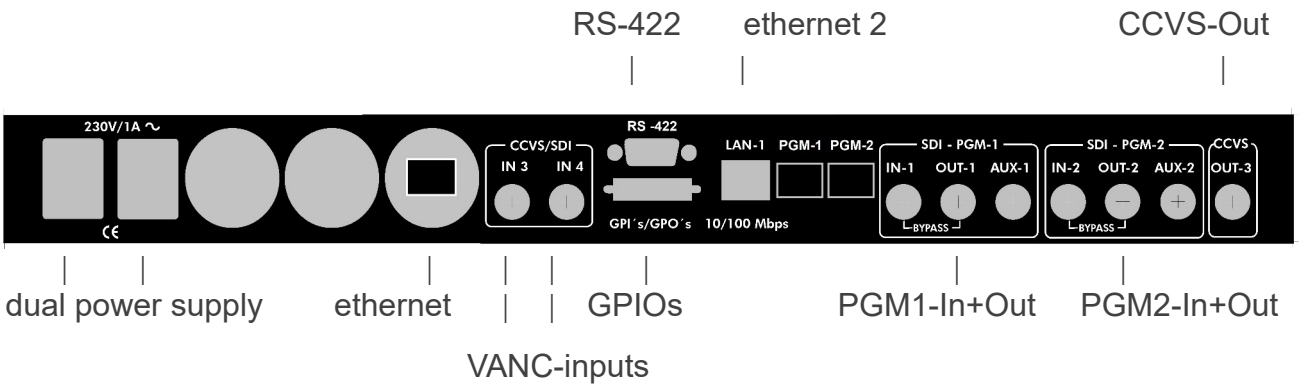
**Inserter SDI-3G-4DE**

the 4DE Version provides the same features as the 7DE version, but with one PGM signal path only.

# FRONT- / BACKPANEL




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 |

**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.

TEST-SIGNAL: CCVS-output, 1Vpp, PAL-Standard, available with video mode SD-SDI on PGM-1 only.

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

**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: | < 20 W without CPU-extension |
| | < 40 W with CPU-extension |
| | additional 7W for second Powersupply |

**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, **Videoindex** RP186-2008, **AFD** SMPTE 2016

**available standards (HD-modes)**

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