

# SDI-INSERTER

## SDI-3G-7xx

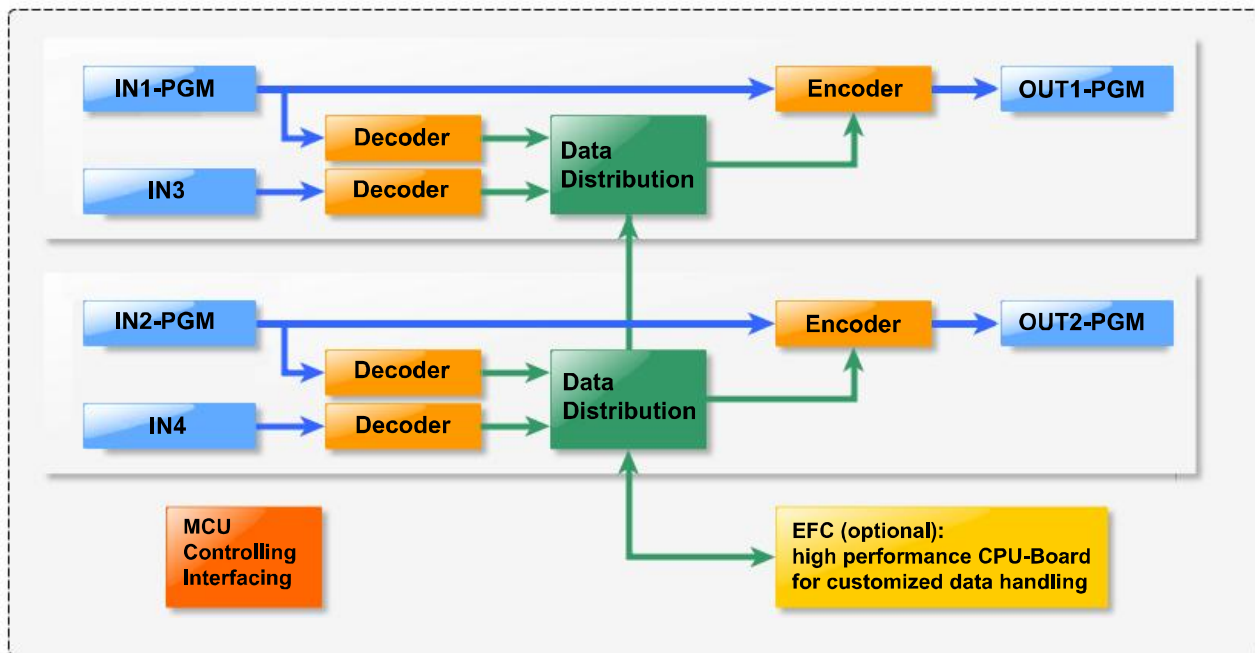


**FLYER**  
V2.50

## FUNCTION

The SDI-Inserter / Databridge SDI-3G-7xx decodes, generates, formats 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 complete Inserter configuration.

There are two independent SDI-main signal paths with one 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 and videoindex. Bypass relays bridges the IN- and OUT-PGM connectors in case of power fail.



### Decoder:

Teletext, subtitles, VPS-, WSS-, AFD-data as well as custom data can be decoded from any input. The inserter supports a lot of standards (modulated SD, OP47, SMPTE2031, etc.). 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) or EFC-Board) can be used by both encoder modules.

### Encoder / Overlay:

Data are encoded meeting the supported standards and inserted into the PGM-signals (SD-SDI, HD and 3G-SDI). The EFC-Board can provide graphical data for overlay, e.g. for subtitle monitoring.

### MCU:

A low power micro-controller is setting up the inserter and provides the interfaces. So the inserter is fanless and ready for operation within five seconds after power-on. There is a WEB-Interface for setup and status control. SNMP can be used for device monitoring.

## TYPICAL APPLICATIONS:

- decoding CCVS or SD-SDI teletext and inserting it as SMPTE2031 or OP47 in HD-SDI
- extraction of teletext subtitles for ingest systems
- data insertion and decoding for application control
- data cross conversion SD ↔ HD / 3G or OP47 ↔ SMPTE2031
- decoding of AFD, WSS, teletext with graphical overlay on one PGM-output for control rooms

## IMPROVEMENTS OF VERSION 7

- Input signals up to 3G supported
- two independent signal paths, both with power-fail relays
- optional dual power supply
- optional EFC Board for additional software, e.g. teletext combiner
- faster Ethernet (10 / 100 Mbit)
- auto detection of input signals (3G, HD, SD or CCVS) on all inputs

## AVAILABLE OPTIONS

SDI-3G-7E	with CPU extension board for complex software applications
SDI-3G-7D	dual power supply
SDI-3G-7ED	with CPU extension board and dual power supply
SDI-3G-4xx	this version provides one main channel only, but all other features of the SDI-3G-7xx version

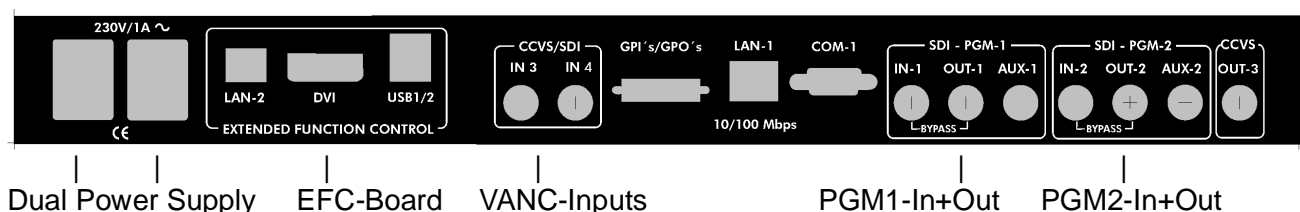
## FRONTPANEL



The LC-Display shows the type of 3G-SDI Inserter. When pressing any button on the right side of the display, the actual network IP-address will be shown.

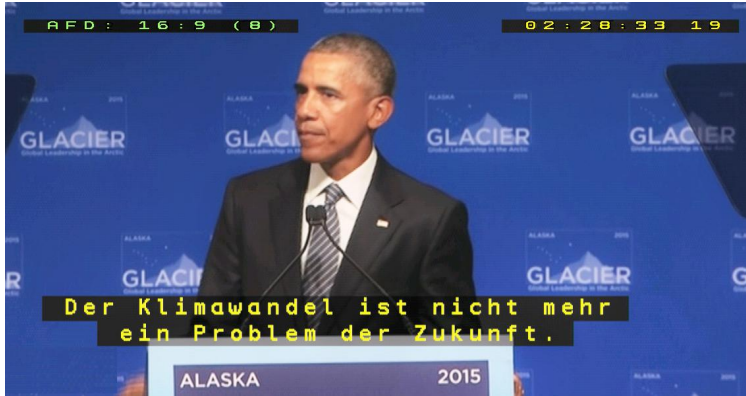
The IN-1 to IN-4 LED's as well as OUT-1 and OUT-2 showing, that the video signals are locked. EFC indicates the activity of the EFC-Board. Power1 and Power2 signals 'power-good'.

## BACKPANEL



## NEW FEATURES OF INSERTER SDI-3G-7xx

### Graphical Overlay for Information:



The inserter provides the option for graphical overlay. So any information like subtitles, AFD-status or timecode can be displayed on top of the video signal for monitoring and control.

### Detailed Logging:

The logging function protocols all events inside the inserter. The status of the video signals as well as the serial interface commands.

Subtitles can be analysed in detail based on the log-file.

### Extended Inserter Functions:

The actual firmware supports the simultaneous output of Teletext and Subtitles using SMPTE 2031 and OP47. The insertion of timecode is also possible.

## SPECIFICATION

### GENERAL DEVICE CONFIGURATION

The SDI-INSERTER of type SDI-3G-7xx provides two SDI-PGM and maximum 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.

### TECHNICAL DATA:

**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: INPUT 1 + 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: INPUT 3+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 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.

**DISPLAY:** shows type version and TCP/IP address of device.

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

**POWER SUPPLY:** 230V +15/-20%, connector IEC-60320 C14  
power consumption: < 20 W without CPU-extension  
< 40 W with CPU-extension  
additional 7W for second Powersupply

### SPECIAL FEATURES:

instant boot, fully operation within five seconds after power on  
no operating system, no hard disk, 5 year warranty

### 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**)  
**OP47 (Teletext), SMPTE 2016 (AFD)**