SysMedia

WinCAPS

Interactive TV • Subtitling • Teletext

SDO7 Subtitle Inserter

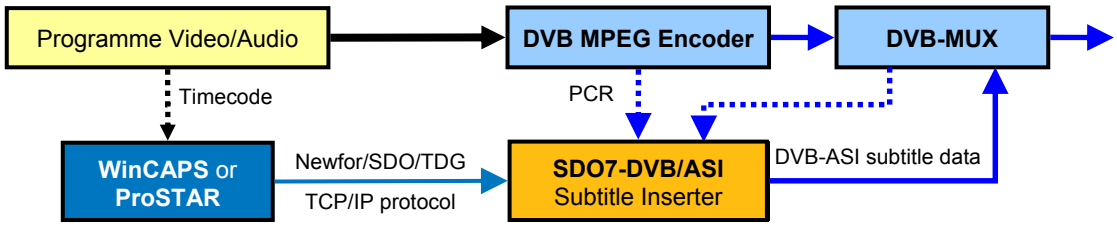
The SDO7 Subtitle Inserter can be used with WinCAPS for off-line tape dubbing * or for live insertion into a transmission stream. It can also be used with ProSTAR for automated playout against a programme schedule and/or automation system control.

The SDO7 is built on the same platform as SysMedia's TDG7 teletext magazine carousel/inserter unit: an industrial rack mount chassis PC running Linux with SysMedia's InSERT-7 broadcast quality data inserter card. The unit is physically robust and uses solid state memory rather than a hard disk to improve reliability. It automatically resumes operation following power failure and includes a by-pass relay for power loss or software lock-up. Connection to WinCAPS or ProSTAR software is via a conventional TCP/IP network.

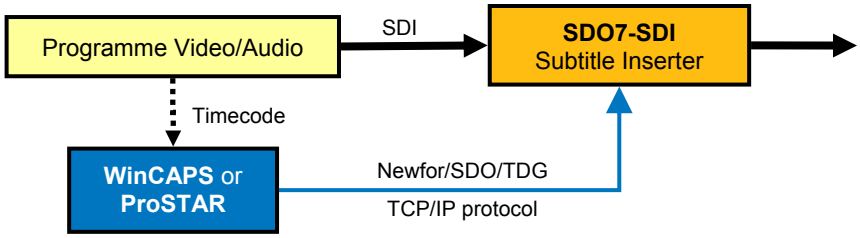
Four output types are available, each as a 1U rack-mount unit (single power supply) or 2U unit (dual hot-swappable power supply). Multi-output versions are also possible (2U only).

- **SDO7-SDI** teletext VBI subtitling inserter to ETS 300706
- **SDO7-PAL** replacement for SysMedia's previous SDO6 model, generally used with a PAL-SDI databridge
- **SDO7-ASI** DVB-ASI output of teletext VBI subtitle data to EN 300 472 (i.e. character code based)
- **SDO7-DVB** DVB-ASI output of DVB subtitles as bitmap images to EN 300 743

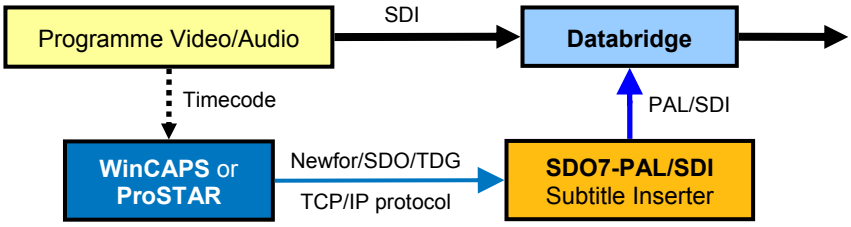
* ***WinCAPS InSERT Player****, a self-contained unit for subtitle insertion as part of an off-line dubbing process, is also available.*



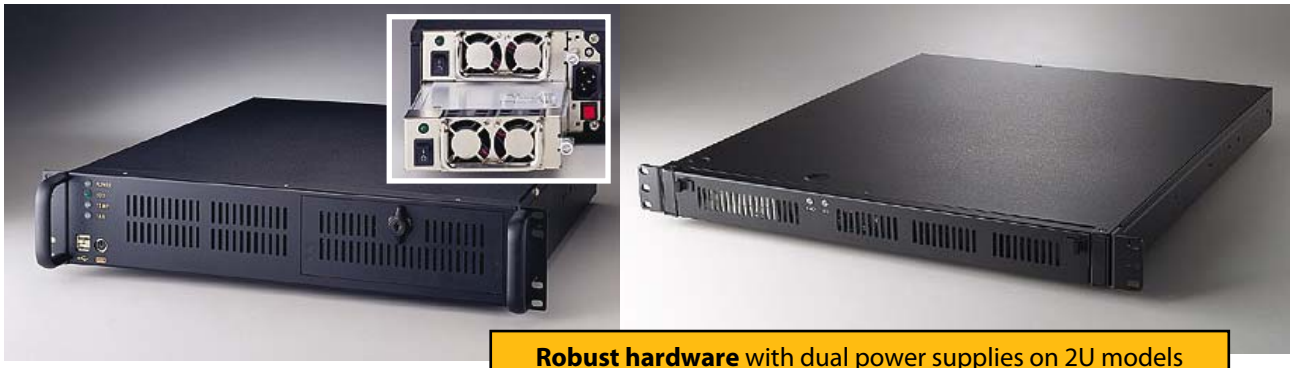
SDO7-DVB/ASI - typical usage for DVB Subtitling (region based graphics or DVB teletext)



SDO7-SDI - typical usage for Teletext Subtitling



SDO7-PAL - typical usage (or alternative usage of SDO7-SDI) using databridge for added flexibility



Robust hardware with dual power supplies on 2U models

Technical specifications

Video I/O (PAL variant only)	Amplitude/Frequency Response 0-6MHz	+/- 0.1dB	Bar Tilt	< 0.25%
	Insertion Gain	< 0.1 dB	2T Pulse/Bar ratio	< 0.2%
	Luminance Non-Linearity	< 0.2%	2T Pulse K	< 0.25% K
	Differential Gain	< 0.15%	Chrom-Lum Gain Inequality	< 0.3%
	Differential Phase	< 0.1°	Chrom-Lum Delay Inequality	< 2.0 nS
	Return loss 0-6 MHz	> 32dB	Signal/Noise Ratio	- 66 dB
Teletext format (SDO7-SDI, PAL & ASI)	World System Teletext, 625 line, ETS 300706, CCIR Teletext System B, level 1, 1.5 or 2.5 Maximum 32 data lines in VBI range 7 to 22 & 320-335, serial or parallel transmission User configurable page number, block mode and scroll mode subtitles including add-ons Up to 4 simultaneous subtitle streams can be supported allowing multiple language services			
PTS timing synchronization (SDO7-DVB & ASI only)	PCR extraction via DVB-ASI (video) input to EN 50083-9 (from MUX or DVB-MPEG encoder) offset by user configurable period (corresponding to MPEG encoder & mux delay) to generate PTS			
DVB Subtitle format (SDO7-DVB only)	Region based graphic output to EN 300 743 using run length encoded images for block or scroll mode display. Scroll mode implementation (Stenographic subtitles) reduces bandwidth using progressive updates with vertical scroll commands. Configurable for font, size, surround effect and level of anti-aliasing (average 2/4/8 bits/pixel)			
Subtitle data input	Newfor/SysMedia TDG/SDO protocol via IP			
Fault behaviour	All fault conditions are logged with time and date (minimum storage 24 hours) *Loss of network connection and/or no data input:* automatic subtitle clear transmitted after time-out; normal operation resumes when input is restored *Loss of video input signal (PAL/SDI) or PCR input (DVB/ASI):* subtitle service interruption; normal operation resumes when input is restored *Loss of power:* bypass relay with full automatic system restoration approx 60 seconds after power is restored			
PC	Linux OS, flash 'disk', VGA graphics, 1 x 10/100Base-T Ethernet, 2 x USB 1.1 (via front panel), 1 x PS2 with keyboard/mouse splitter (via front panel or rear)			
Temperature range	Operating 0–40ºC / Storage -20–60ºC			

Model range

Video Type	**PAL**	**SDI**	**ASI**	**DVB**
I/O (BNC)	PAL/SECAM composite *	270 Mbps SDI EBU tech 3267 SMPTE 259M 800mV into 75 ohms *	DVB Transport Stream ASI to EN 50083-9 (no isolation)	DVB Transport Stream ASI to EN 50083-9 (no isolation)
Data format	EN 300 706	EN 300 706	EN 300 472 / EN 301 775	EN 300 743
Bypass	Yes	Yes	n/a	n/a
Monitor	PAL	SDI	ASI	ASI

* *Requires an input video signal (e.g. "black and burst"), a suitable signal sync generator with cross-hatch test pattern is provided on PAL models.*

Size	**1U (standard)**	**2U (option)**
Typical I/O configuration	either PAL, SDI, ASI or DVB (1 only)	PAL, SDI, ASI or DVB (1 card) or PAL, SDI & ASI (3 cards) or SDI & DVB (2 cards) *max 1 x PAL plus 2 other cards*
Power supply	100-264 VAC, 50-60Hz single PSU	100-264 VAC, 50-60Hz, option: dual (redundant) hot-swappable PSU
Dimensions	1U: 482 x 44 x 500mm	2U: 482 x 88 x 450mm
Packed	66 x 61 x 18 cm approx weight 11 kg	62 x 58 x 21cm approx weight 16 kg