



Video Time-Inserter TIM-10

- Insertion of current time to analogue video signal with highest precision
- Time synchronisation with GPS or DCF77

The Video Time-Inserter TIM-10 inserts time and date to every image of an analogue video signal. The reception of the DCF77 time signal or optionally the GPS satellite system is used as a time reference. In this way, the recording time of every image can be exactly determined.

Using DCF77 mode, the information of the long wave time signal transmitter in Mainflingen near Frankfurt (Germany) is received to calculate the exact clock time for insertion. The Time-Inserter is synchronized continually with the help of the received second marks. The transmitted and inserted time is Central Europe Time taking account of Summer and Winter Time (CET or CEST). Using DCF77 operation is possible only in Germany and in the neighbouring countries close to the border.

Using GPS, the time signal is received directly from a satellite system in every second. The exact beginning of every second is synchronized with the help of second marks. The GPS reception allows additionally the insertion of position. The GPS mode can be used worldwide providing a higher precision than the DCF77 system. Regardless of the position, the transmitted and inserted time is the Universal Coordinated Time (UTC).

The insertion parameters (e.g. text position, font size) can be set using configuration switches. The text brightness and the background brightness is adjustable continuously from black to white.



Applications:

- Astronomy
- Research & Development
- Production Monitoring
- Police, Firefighters
- Security Technology
- Traffic Monitoring



Specifications:

Connections

Video input	CVBS, 1 Vss, 75 Ohm, AC coupling, cinch female
Video output	CVBS, 1 Vss, 75 Ohm, black level clamp, 0 V, cinch female
Data input	GPS/DCF77, SUB-D connector female, 9 PIN
PPS LED	Puls per second LED output, TRS connector 3.5 mm, 3 PIN

Text display

Background	video signal or opaque (switchable)
Text brightness	adjustable black to white
Background brightness (opaque mode only)	adjustable black to white
Text size	switchable normal or small font
Vertical position of the insertional	lower screen border, can be shifted upwards by several steps

Supported video signals

PAL	625 lines, 50 half frames, modulation negative
NTSC	525 lines, 60 half frames, modulation negative

Display of time

Using GPS	Universal Coordinated Time (CET)
Using DCF77	Central European Time (CET or CEST)

Precision

Resolution of time	1 ms
Precision of time	0,1 ms (GPS) or approx. 10 ms (DCF77)
Internal clock deviation (if GPS/DCF77 signal is lost)	less than 10 seconds a day
Precision of position	better than 15 meters (95 % of time)

Power requirements

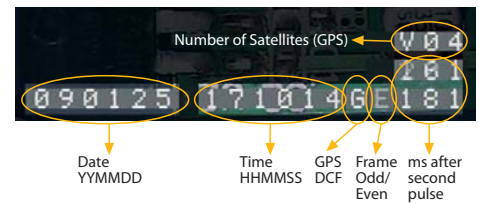
Voltage rating	DC 9–15 V (DC connector 2.1 mm, center PIN is plus)
Power consumption	70 mA (without receiver) 75 mA (with DCF77 receiver) 160 mA (with GPS receiver)

Enclosure

IP protection	IP 30 (protection against touching or foreign particles [$>2,5$ mm], no protection against water)*
Temperature range	+10 °C to +40 °C (+50 °F to +104 °F)
Dimension	approx 90 x 55 x 120 mm (W x H x D)
Weight	280 grams

*The GPS receiver is water resistant for outdoor assembling.

Time-Inserter TIM-10, incl. GPS receiver	Item No. 10 533
Time-Inserter TIM-10, incl. DCF77 receiver	Item No. 10 534
Time-Inserter TIM-10, without receiver	Item No. 10 393
Garmin GPS 18x LVC-5m receiver	Item No. 10 168
DCF77 receiver	Item No. 10 183
Receiver extension cord, 5 meter	Item No. 10 187



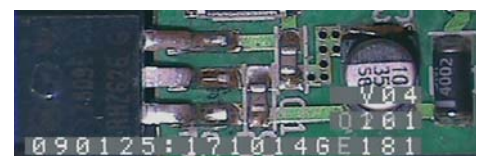
Display of position



Text background video signal



Small font size



Time display using GPS



Time display using DCF77

For technical details see the manual of the Time-Inserters at www.ame-engineering.de. Don't hesitate to contact our support team if you have any questions.