TimeLink
microsystems

TMA1250-TMA1251

Multi protocol Time Code display Ethernet IP, IRIGB, RS422, NTP

Key features

- Display IRIGB, RS422, NTP or Ethernet frame, time code

- Redundant operation according to multiple time sources

- Able to display 3 type of code : UT, CD (countdown) or H0 (time of launch)

- Display chaining

- 2U height (89.08 mm) or 144 mm

- Brightness control

TMA1250 and **TMA1251** are robust and light time displays, that can be used in a rack or wall mounted. They come in two models:
- **TMA1250**, 2U height, width 19', 80 mm depth, rack mount or wall mount. 7 red LED segments, 38 mm height, visibility > 15m.
- **TMA1251**, 144 mm height, 660 mm width, 80 mm depth, wall mount. 7 red LED segments, 76 mm height, visibility > 30 m.

This multi protocol display is able to receives, processes and displays a TU/TD/H0 time code, received in the following 3 formats:

- Digital ETHERNET IP (new interface and protocol available on the TimeLink © SYNCHRO2 clocks),

- Digital RS422, (same protocol as above but received in RS422)

- IRIG-B (UT/CD/H0 same time signals today broadcasted on the CNES/CSG BLA)

It can also display TU using NTP.

The display uses 6x7 LED segments for time with the format: HH:MM:SS LED and 4x16 segments LEDs for:

- The day of the year or the type : « UT », « CD » or « H0 »

- One default mark : "*"

- The sign + or – for the CD

To operate the display must be connected to the 230V AC sector source and get at least one of the following time sources:

- IP frame: network link, network cable CAT5 with RJ45 standard connector.

- RS485 frame: digital link carrying the time frame, twisted pair cable with Sub'D 9 pins male connector.

- IRIGB signal (UT, CD or H0): analog modulated signal, coax cable with BNC connector.

- NTP for TU only

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Settings

Display setting is done using one serial RS232 link with the following characteristics: 115200 bauds, 8 bits, no parity, 1 bit stop. The link "Console" allows the direct connection with a PC. Software like Windows HyperTerminal or Linux/ Minicom is well suited for terminal setting.

This configuration is stored in a non volatile memory of EEPROM type. It is restored when the display is powered On.

Brightness is adjustable with 10% steps. The setting is done using a push button. The setting is automatically memorized.

Code type

The choice of code type TU/CD or H0 is done with a push button. One press move to the next code. The display always shows the code type selected during changing.

The code type could be displayed or not. If displayed it takes place of the "day of the year" (UT and CD°

The selection of the displayed time is common for all the interfaces. The frames received from Ethernet or RS422 are carrying the 3 times. Instead IRIGB is only dedicated to one time.

Selection of the time source

The selection of the entry time source is done automatically. The processor received the times coming from the 3 possible sources: network, RS422 and IRIGB.

Displays chaining

The RS422 output allows chaining the displays. The RS422 output is always generated whatever the type of the received frame. The display is acting as IP converter to RS422 or IRIGB converter to RS422.

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Interfaces

Console: Standard: RS232 – 3 threads Connector: Sub'D 9 pins female

Ethernet Network: Standard: Ethernet 10/100 Mbs, RJ45 connector.

Input/output RS422: Standard: RS422 / RS485connector: Sub'D 9 pins female

IRIGB input: Standard: IRIG B. 1 KHz carrier, amplitude modulated 1/3 : 1/1: BNC connector.

Dimensions
Width 19", height 2U, depth 80 mm. Rack mount, or wall mount (mechanical adaptor provided) ; Weight 2 Kg.
144 mm height, 660 mm width, 80 mm depth, wall mount. Weight: 4 Kg.

Consumption
20 W (TMA1250), 25 W (TMA1251)

MTBF > 100 000 h

Options-specific requirements
On request the TMAXX displays are able to operate with specific time codes (specific IRIGB frames, UT+CD frames, etc…) and can be adjusted to specific size or connectors.
Don't hesitate to contact us for any requirements.