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Time-frequency & Networks

SR1611

Time code reader board for VME bus

Features

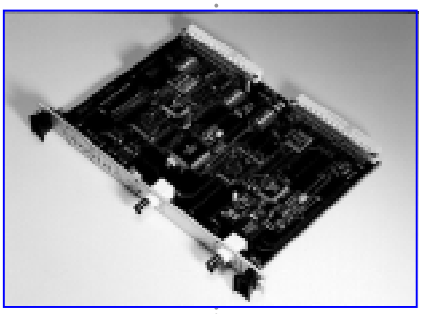
■ VME 6U size board. Reads all standard UT time codes in IRGIB, NASA36 formats and also countdown time code (modified IRIGB).

■ The board can be plugged in any 16 or 32 bits wide VME bus. The board needs a single (4TE) slot. On the front panel, the following indicators are available :

- A red led "FAIL" goes on if the board detects a failure while making its self-test,
- Three red leds give the time signal status : loss of signal, automatic gain control at min or max level.
- A green led "Decode" goes on when the input signal is correctly decoded.
- Four green leds give the current mode : IRIGB or NASA36 code format, universal time (UT) or countdown mode, normal or leap year mode.
- A green led "1 PPS" blinks at the beginning of each second.

■ The time signal can be input either on the front panel on an isolated BNC connector or trough the P2 board connector.

■ An isolated BNC connector provides a '1PPS' pulse. This pulse is also available on P2 connector.



TIME FRAME DECODING

■ The time information extracted from the time frame are written in a double access memory and can then be read through the VME bus by a processor board.

SECOND INTERRUPT

■ The board provides an interrupt request every second to indicate that new data is available. This interrupt request can be masked by software.

EVENT TIME STAMPING

■ On a processor write, the board stores the current time with a 1 ms precision in memory. This information is then retrieved on a processor memory read.

LEAP YEAR MANAGEMENT

■ The UT IRIGB and NASA36 time frames do not contain the year information. To set correctly the day number in the year, leap year must be taken into account. Normal or Leap year selection is made is by mean of either a logical level on a pin of P2 connector, software or a jumper on the board. Leap year management only concerns decoding in UT mode.

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Specifications

■ Time signal input : 1 KHz sinus modulated in amplitude1/3, 1/1 - Level 0.3 to 6 V peak-peak - Transformer isolated - 600 Ω impedance.

■ Time code : UT in IRIGB or NASA36, Countdown in modified IRIGB

■ VME Bus : Address decoding on 16, 24 or 32 bits.
Slave Mode for data transfer on 8, 16 or 32 bits (D0-D7 only are significant). The board doesn't use block transfer mode.
P1 connector is full compliant with VME standard. Row b of P2 connector is reserved to board addressing in 32 bits systems.

■ Time Information : A 128 word memory space is allocated to the board. This memory allows time information access and programming of working modes :

- 10 read only registers provide board status, day of the year, hours, minutes, seconds, year, month, and day of the month. Data is coded in BCD format.
- 5 read write registers control : leap year, working modes, enabling of interrupts, interrupt vector programming, auxiliary serial line communication parameters.

■ Periodic Interrupt : once per second, software enable/disable. The interrupt level is set by jumper from 1 to 7. The interrupt is raised with a precision of ±100 µs with regard of the second reference in the time code.

■ Synchronisation output : 1 pps, TTL level

■ Leap year : Selection by mean of TTL level, jumper or software.

■ Auxiliary serial output : an ASCII time frame is sent every second on a RS232 asynchronous output (located on P2 connector).

■ Integration : Signal inputs and outputs can either be on the front panel of the board or on row a and c of P2 connector. This feature provides with removing of the board without the nedd of removing cables.

■ Dimensions : Double Europe 6U,
H = 233 mm, W = 160 mm, Panel : 4TE = 20 mm.

■ Weight : 0.3 Kg

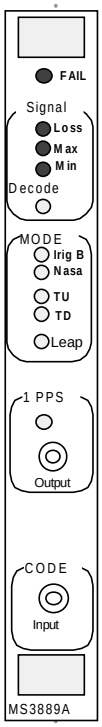
■ Power consumption : 10 W

■ Dependability : MTBF = 50 000 h

Ordering information

SR1611-X Standard model

F : French version
U : English version



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ZI du chapitre – 14, rue Jean Perrin
31100 Toulouse – France
Tél. : 33 - 5 62 20 17 80
Fax : 33 - 5 62 20 15 04
E-mail : microsystemes@mipnet.fr

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