Technical Description

IRIG-B Timecode Board
7230

hopf
Elektronik GmbH
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1 IRIG-B Timecode Board 7230

After selecting the IRIG-B function the following picture appears on display.

```
SELECT IRIG-B CLOCK 1 - 8 > <
COMP: U = UTC L = LOCAL I = INTERN E = EXTERN
```

By selecting the board number (1-8) one out of a maximum number of eight IRIG-B decoder boards can be addressed.

In the second line of the display appears a list of the available orders to control the IRIG-B board. If you want to address the first IRIG-B board in the system you must press key "1".

The display now shows the actual setting of the IRIG-B board 7230 including the time.

```
1. IRIG - B
12.34.56
TIME
CODE
DAY
256
C1: 00
C: 00
C3: 00
> <
```

By pressing "U" and "ENT" the IRIG-B output changes to UTC.

Pressing "L" and "ENT" changes the IRIG-B board to local time output.

When pressing "E" and "ENT" the reread time on the IRIG-B board is displayed. EXTERN appears on display without stating LOC or UTC.
2 IRIG-B Information

2.1 System Structure

The IRIG-B board contains 2 independent µP-systems.

- System 1 serves to code the IRIG-B time information
- System 2 serves to decode the IRIG-B data string (optional)

2.1.1 System 1 - code

The base system distributes the DCF77 synchronized time information plus some additional status values to the internal bus one second in advance. System 1 takes this information and transposes it into the IRIG-B code also one second in advance. Exactly on the next second change this data string is transmitted at millisecond intervals to a 1 kHz carrier frequency.

The carrier amplitude is reduced according to the IRIG-B code. The modulated carrier is put out via a BNC-connector on the board while the TTL-data string is available at the clamp. By means of a potentiometer the whole carrier amplitude can be adjusted from 0.5 Vss to 3 Vss. The output impedance is 50 Ohm.

2.1.2 System 2 - decode

(This system is not implemented at present. It can be requested by requirement.)

System 2 runs independent from system 1. Via another BNC-Connector a modulated IRIG-B carrier can be sent to the system. It is decoded and displayed in the IRIG-B position.

It is therefore possible to put out the actual IRIG-B time and display a different IRIG-B time (e.g. audio tape) simultaneously.

The input amplitude may range from 0.25 Vss to 3 Vss. The input impedance is 50 Ohm.

Are several IRIG-B boards present in the system, a display of the individual times is not possible.

3 System Test

The hopf IRIG-B board can be used to carry out a system test. For this test the inputs and outputs (IN a. OUT) must be connected with a BNC cable.

Also the time base in the IRIG-B menu must be set to EXTERN.

This test checks if the put out time information is interpreted correctly.
4 Technical Data

- max. permissible ambient temperature: 0 ... +55°C
- IRIG-B output impedance: 50 Ohm
- IRIG-B output amplitude: 0,5 - 3 V\text{ss}
- IRIG-B input impedance: 50 Ohm
- IRIG-B input amplitude: 0,25 - 3 V\text{ss}
- IRIG-B TTL output: 24 mA
- max. cable length: 30m RG58/RG59

Other specifications: soft- and hardware alterations according to customer's specifications are possible

Please note: The hopf Company withhold the right to alternations in specifications of soft- and hardware without notice.

\(^1\) only with ideal conditions (no interference's by HF cables, power cables etc.)