TAGHeuer

PROFESSIONAL TIMING

PROTIME ELITE DECODER

User Manual

Version 06/2014

Introduction

The most accurate, flexible and reliable decoder in the world, the Protime Elite Decoder is suited to racing that requires the ultimate in precision (to 1/1,000th of a second).
The decoder stores all competitor's passings in its internal flash memory, enabling easy restore in the case of unforeseen problems with computers or networks.
The Protime Elite Decoder incorporates an internal battery which allows continuous operation during a power failure.
An LCD display provides real-time status information, allowing access at a glance to noise levels, loop detection level and last transponder crossing. It also includes the race time or time of day as supplied by either the inbuilt GPS or the connected computer.
The interface «DecoderSettings» allows you to set easily all parameters.
The decoder has both an RS232 interface and a network connection for communication to the computer running the timekeeping software.

1. Presentation

1.1. Front panel of the Elite decoder

Jack plug: MAN

Used to connect a Manual Contactor (HL18) to give impulses manually.
Warning: this input could be not use as precise input (only for manual purpose).

Jack plug Audio

Allows you to connect computer speakers or headset in order to listen the beeps emitted at each transponder passing. See “tone” menu
You can set the beeps frequency in the menu “TONALITY BEEPS” (setting from “DecoderSettings” software)

LED

STA Flashes red when a passage of a transponder is identified by the “STA” loop.

Box Flashes red when a passage of a transponder is identified by the “BOX” loop”.

Tx Flashes red every 10 seconds. It is to confirm that the decoder sent the synchronization to the distant decoder (only with Elite decoder) Led Indicator “Tx” will flash red when a passage of a transponder is identified by the intermediate loops. This led indicator also allows you to visualize the number of intermediate loops connected to the decoder.

ON Indicated that your Decoder is ON (on battery or on the sector)

LCD Two lines display allows you to get the setting of your decoder (without “MyDecoder” connected.
Main Menu

A: Race Time information
B: Time of the day
C: Status: Loop / Level of reception (last passing)
D: Transponder serial number (last passing)

Button Menu

This button allows you to navigate into the different setting information.
It automatically comes back to the main display after couple of second.
Main menu:

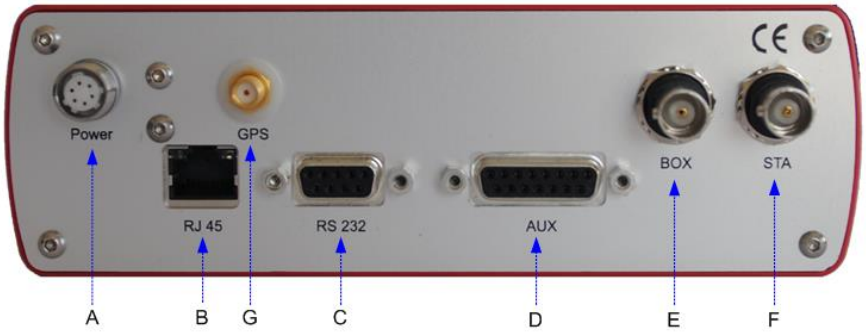
Each time you press the Menu button, you change as follow

1. Select send race (to Download internal memory)
2. Loops Noise (value BOX / STA)
3. Loops Level (value BOX / STA)
4. Detect Max (Yes / No)
   Prot. (protocols of the decoder)
5. GPS Sync (Yes / No)
   Time of Day (Yes / No)
6. Time Zone (value)
   GPS Status (Wait / OK)
7. IP Address (value)
8. Subnet (value)
9. Gateway (value)
10. Remote Host (value)
11. Print (Yes / No)
    Ext. Sync (Yes / No)
12. In Sec (Yes / No)
    Time Sync (value)
13. RS Inte. (Yes / No)
    Opto Into (Yes / No)
14. STA Tone (value)
    BOX Tone (value)
15. MAN Tone (value)
    Cell Tone (value)
16. BXX Tone (value)
17. ID / Version
    Power (ON / OFF) – if the decoder work on battery or on sector

Button Enter

Allows you to Start the decoder manually

1.2. Rear panel of the Elite decoder



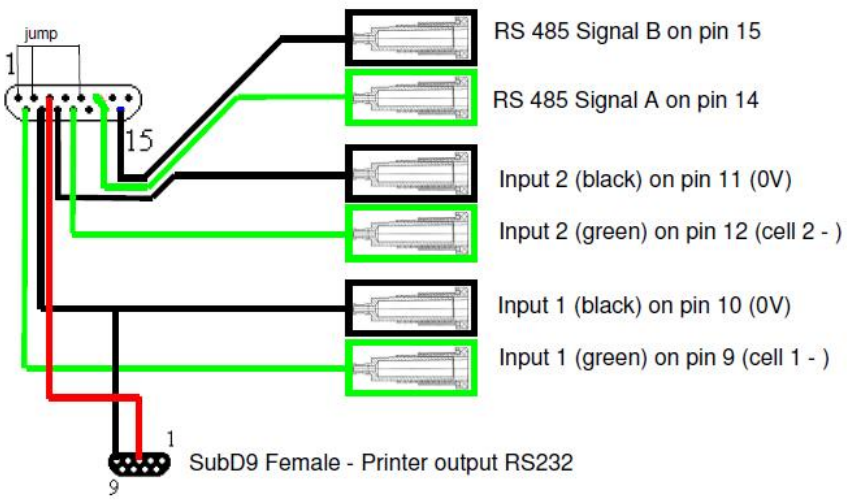
A : 12Vdc Power supply connection (800mA)
B : RJ45 network connection (cannot be used at the same time as the RS232) up to 2,8km
C : RS232 connection (19200,N,8,1)
D : DB 15 Auxiliary connection
E : BOX input BNC connector (50 ohms)
F : STA input BNC connector (50 ohms)
G : GPS connection

Decoder with Fiber optic option (ST 09/125)

PIN OUT of the DB15

1 : Input Cells 1 +
2 : Input Cells 2 +
3 : TX RS232
4 : RX RS232
5 : +12 V
6 : Resitance RS485
7 : Output 1
8 : Output 2
9 : Input Cells 1 -
10 : 0 V
11 : 0 V
12 : Input Cells 2 -
13 : +12 V
14 : RS485 A
15 : RS485 B

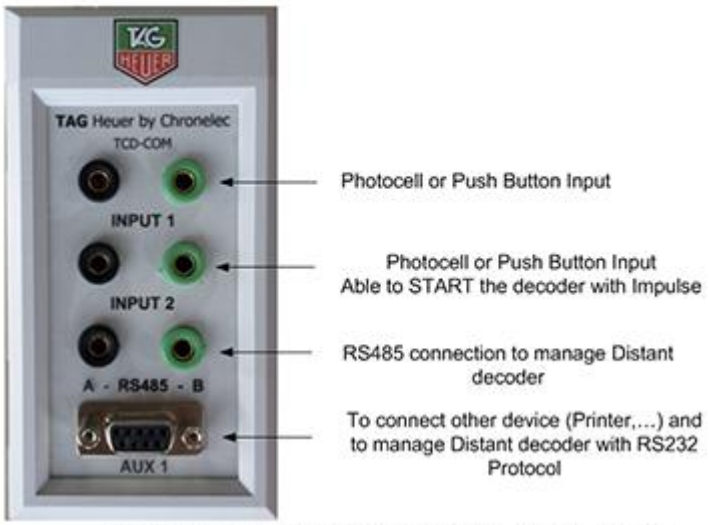
CABLING EXAMPLE



1.3. Connection with Distant Decoders

A) RS485

Use the DB15 Aux connection. You can even use our TCD-COM Box.

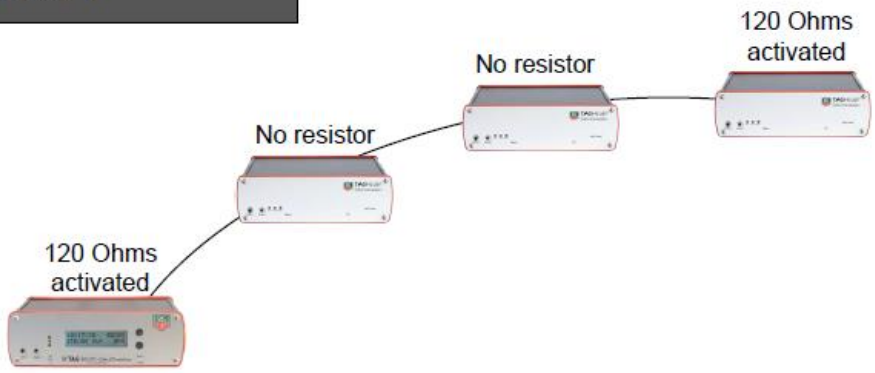


Example with connection between Distant and Master decoder

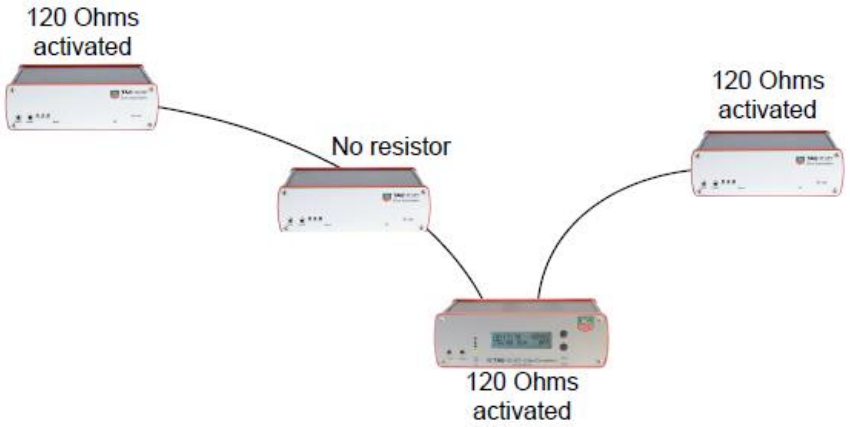
Important Note

In order to set a correct RS485 communication, you will have to use a termination resistor.
The requested resistor is already mounted inside the decoder.
In order to activate it, jump pin 14 and 6 or change the switch inside the TCD-COM Box

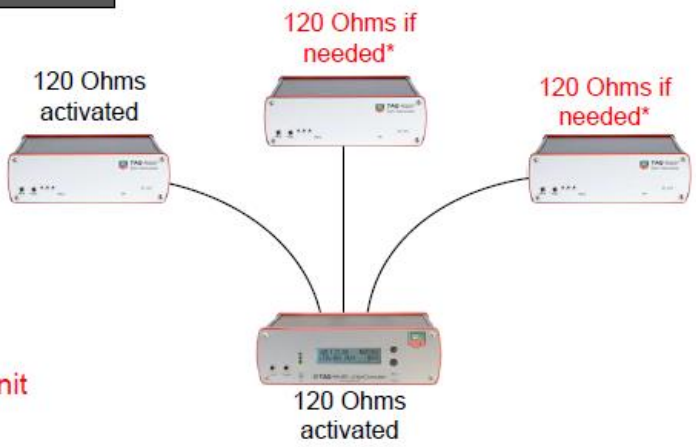
Case 1



Case 2



Case 3



*only if you see some transmission issues on this unit

B) FIBER OPTIC link (optional)

This single mode fiberOptic system uses a ST 09/125µM connector.

You need a standalone fiberoptic network in order to set the communication.
Decoders are daisy-chained over FO. Elite decoder can be connected to the Laptop over RS232 or IP.

Depending the attenuation you have on your network, you may reach easily 3.1 miles (5 km) up to 6.2 miles (10 km)

2. Technical specification

Specification :

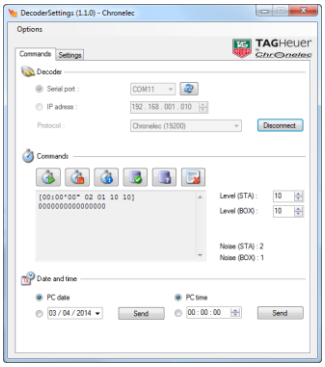
- GPS Synchronization
- Intermediate loops (1 to 32)
- Clock stability : Oscillator TCXO 0.5 ppm
- Power : 12 VDC via adapter
- Temperature range : -20 à 55 °C (-4 à 131 °F)
- Dimensions : 160 x 100 x 52 mm (6.3 x 3.9 x 2 in)
- Resolution : 0.001 s

Detection loop :

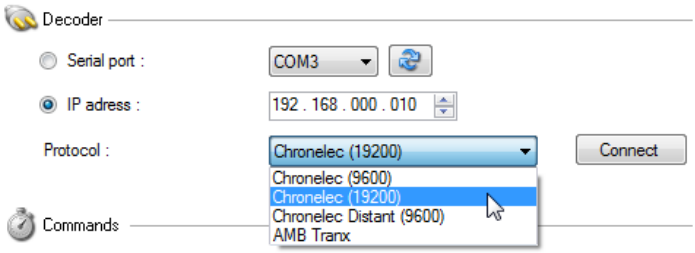
- Maximum width of the track (passive loop) : 25 m (82 ft)
- Maximum width of the track (active loop) : 12 m (34 ft)
- Maximum lenght of the coaxial cable : 100 m (330 ft)

3. Software settings with Decoder Settings

This software is available here: http://www.chronelec.com/soft/DecoderSettings.msi



1. Connection



Select the Serial Port or Ethernet connexion. Several Protocols are available:

- Chronelec (9600): For previous Chronelec decoders
- Chronelec (19200): TAG Heuer by Chronelec Protime and Protime ELITE decoder
- Chronelec Distant (9600): for all distant decoders
- AMB TranX

2. Commands

 Start the decoder (note that this function on GPS Time of Day synchro is unavailable)

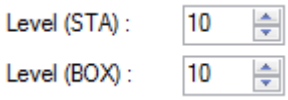
 Stop the decoder (note that this function on GPS Time of Day synchro is unavailable)

 Request status of the decoder

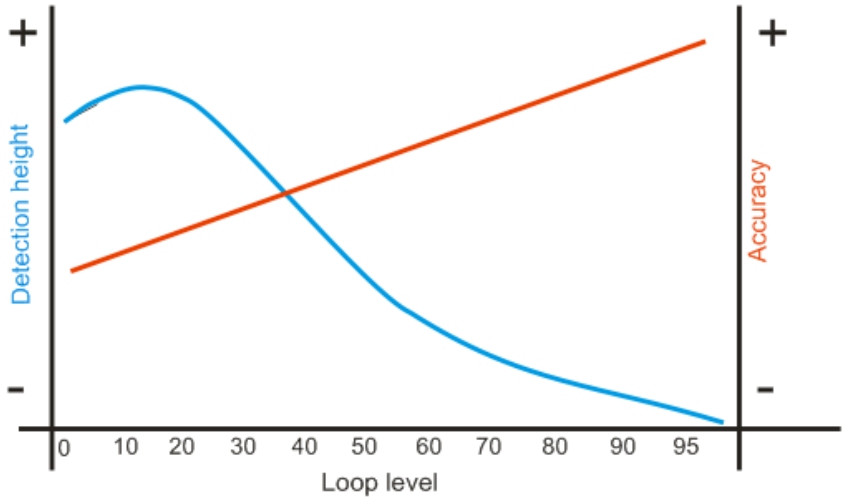
 Repeat last passing

 Ackoledge transponder passing

 Clear window

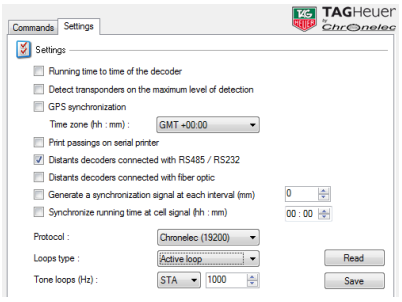


Default settings are set on 10 for each input. Increasing loop level will increase precision but decrease detection height.



3. Settings

In the settings tab you may change all important settings of your decoder:



- **Running time to time of the decoder**

  Option only available on a Protime Elite decoder. If this checkbox is checked, the decoder will run in time of day mode.

- **Detect transponder on the maximum level of detection**

  This feature takes several hits when a transponder cross the loop and select only the highest signal. Note that in this mode, amount of transponder crossing the loop at the same time is limited.

- **GPS Synchronisation**

Option only available on a Protime Elite decoder. The GPS antenna should be connected must have an unobstructed line of sight to the sky

- **Print passings on serial printer (see deocoder pinout description)**

In order to connect a printer on the serial output (DB15). All passings will be printed.

- Distant decoder connected with RS485/RS232

2 wire connection between Elite decoder and Distant decoder. For distances up to 2800m

- **Generate a synchronization signal at each interval**

A top minute will be generated on CELL2 (see decoder pinout description)

- **Synchronize running time at cell (hours : minutes)**

Set the time (decoder stopped). If a cell signal is given on cell2. Decoder will start on selected time eg. Manual synchro or Race time sync.

- **Protocol**

Setting should not be changed

- **Loop type**

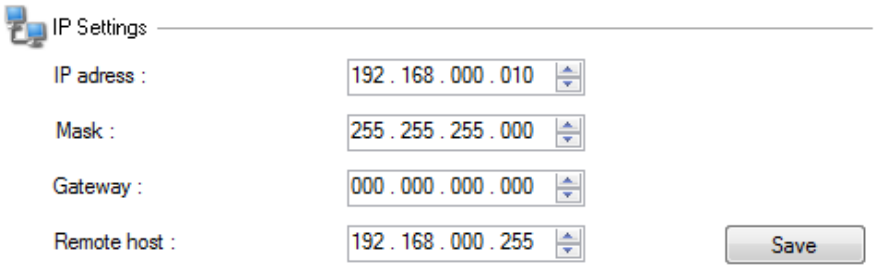
Activates the power supply of an Active loop / disactivated for a passive loop

- **Tone loops (in Hertz)**

Change the generated loop tone (when speaker or headphone connected on the front panel

- **Ethernet settings of the decoder**

Standard settings are as follow



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