TIMING DEVICES

TdC8001

The TdC 8001 is a proven, universal timer for professional timing. Integrated in a handy, sturdy case, the TdC8001 proves itself useful with universal timing software, at every event. Two separate operator panels and large, easy-to-read displays support the user-friendliness of the device.

The Special Features of the TdC8001

- high accuracy due to temperature-compensated quartz oscillator TCXO
- large, easy-operating buttons
- fast thermal printer with easy paper change
- separate operator keypad for start and finish allows it to be used by two operators at the same time
- large, easily readable displays for bib numbers and times on seven-segment LCD displays
- alphanumeric LCD display for operator guidance and information
- real-time clock replaces manual input of time of day (battery life approx. 10 years)
- printer buffer allows simultaneous printing and timing, as well as subsequent printing of times, for example, after paper change
- 10 independent timing channels (e.g. start, 8 intermediate times, finish)
- integrated speech amplifier to connect a headset for interference-free speech connection between the start and the finish, via a two-wire start cable
- integrated NiMH rechargeable battery ensures independent all-day operation, even in cold weather
- stylish, sturdy case with detachable lid
- instant ranking within groups (helps the announcer)
- universal programs for many different sports included
- enormous storage capacity for up to 9,999 times per race, with bib input up to 9,999
- four races can be saved with identical bibs
- buffer (9,999 times) for mass arrivals
- each time impulse is stored (time of day), no time is lost
- printout of the ranking list in any usual form
- large temperature range, also works in cold temperatures down to -25 °C without heating
- easy allocation of bibs to stopped times
- each time correction is marked
- automatic mode with automatic update of start and finish start number
- interfaces for scoreboards, PC (race evaluation) and data transmission with radio

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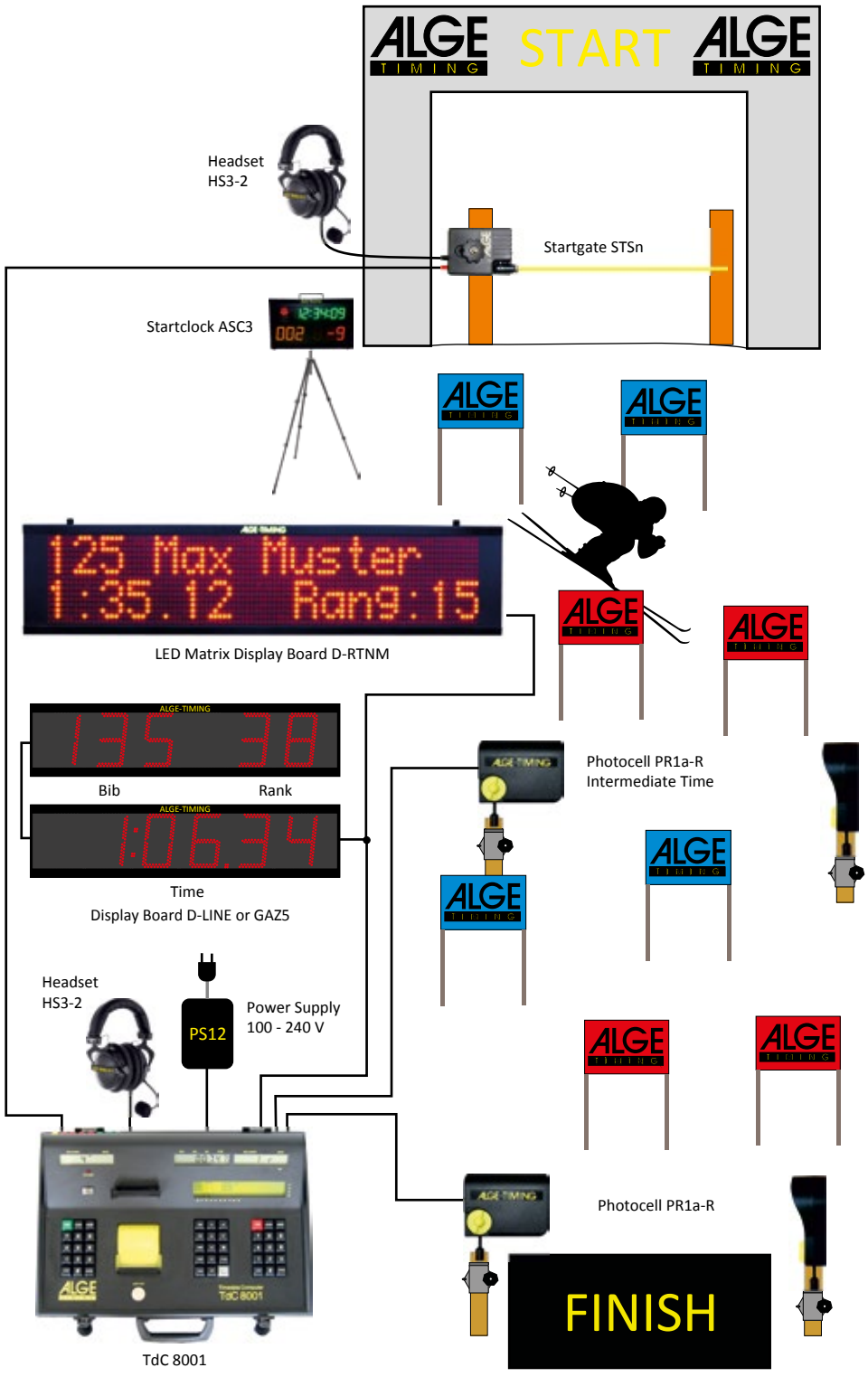
Program SPLIT

- program to measure run times
- start channel, 8 intermediate time channels, finish channel
- precision adjustable to 1/1,000, 1/100, 1/10 or second
- up to 256 runs (heats)
- individual, start, group start or mass start
- time of day or absolute measuring
- up to 9,999 participants on the course, at the same time
- ranking list

Types of Sports: alpine skiing, cross-country skiing, biathlon, mountain bike, white water canoe, motor sport, etc.

```
      ALGE TIMING
       TdC  8001
      ENG V 03.51

Program 1:  V01.72
SPLIT

Work on:
Race 1
Heat 1

Precision: 1/100 s

Timing:
DIFFERENCE

Startmode:
SINGLE START

Channels on:
0,1,2,3,4,5,6,7,8,9

Synchrontime:
   = 09:00:00

0001 ST  9:46:02.8702
     FT  9:47:21.4133
     RT     1:18.54
0002 ST  9:46:02.8618
     FT  9:47:31.2779
     RT     1:21.72

Heat 2

Precision: 1/100 s

Timing:
DIFFERENZ

Startmode:
BIBO: 15

0001 ST 10:48:16.1121
     FT 10:49:27.6383
     RT     1:11.52
0002 ST 10:48:24.7473
     FT 10:49:35.0293
       RT     1:10.28
       MT     1:21.29
       TT     2:31.57

Classement:

   ALL

      TOTAL TIME

   1.
0001 RT      1:11.52
     MT      1:18.54
     TT      2:30.06
   2.
0002 RT      1:10.28
     MT      1:21.29
     TT      2:31.57
```



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Timing Examples

Parallel Slalom

Parallel slalom with difference time

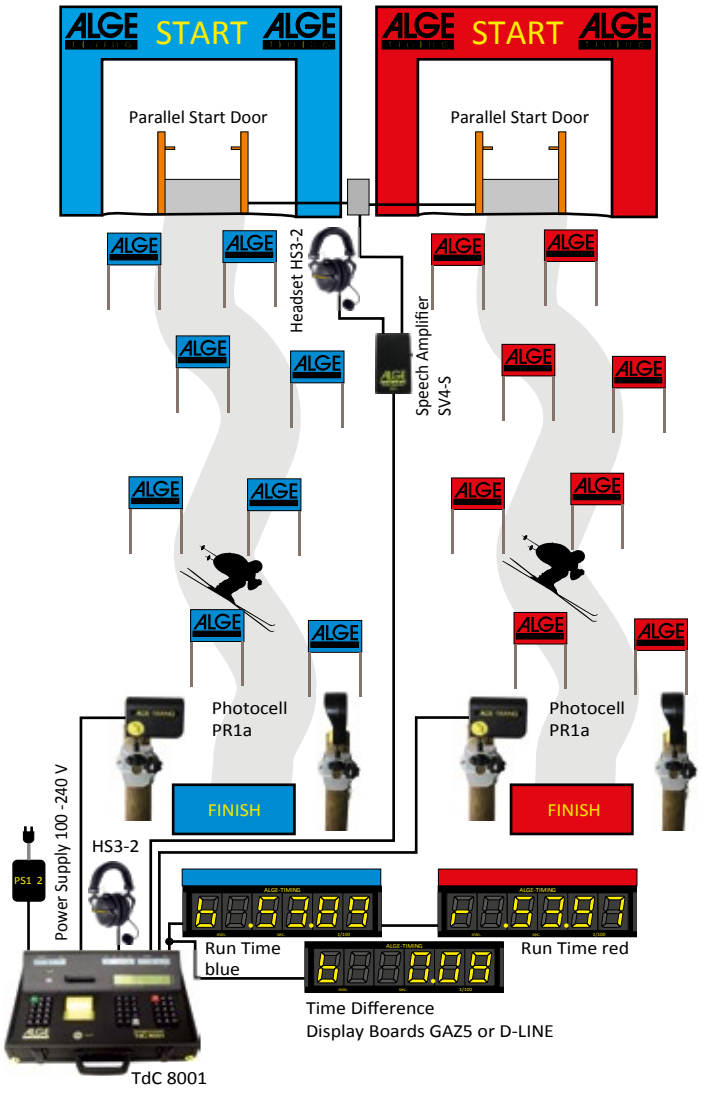
· difference time between both competitors
· identification of the winner (red or blue)

Types of Sports: skiing, snowboarding

Parallel slalom with net time and difference time

· parallel start for both competitors
· run time of both competitors
· difference time between both competitors
· identification of the winner (red or blue)
· total run time after changing the slope
· total difference time after change of slope

Types of Sports: skiing, snowboarding



Equestrian / Show Jumping

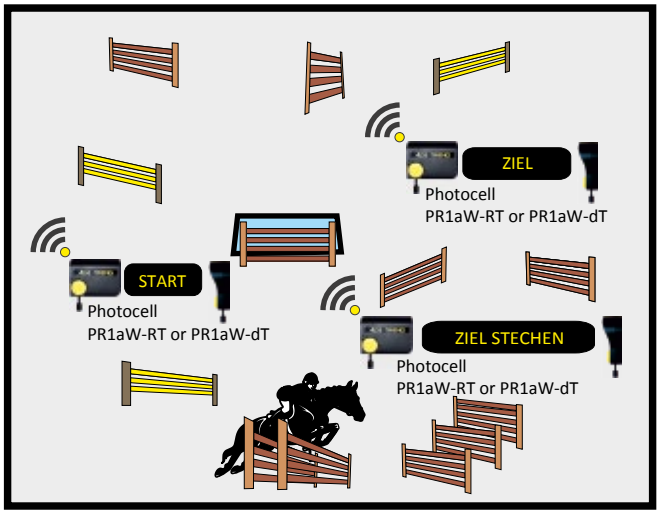
Contains all jumping competitions of the FEI

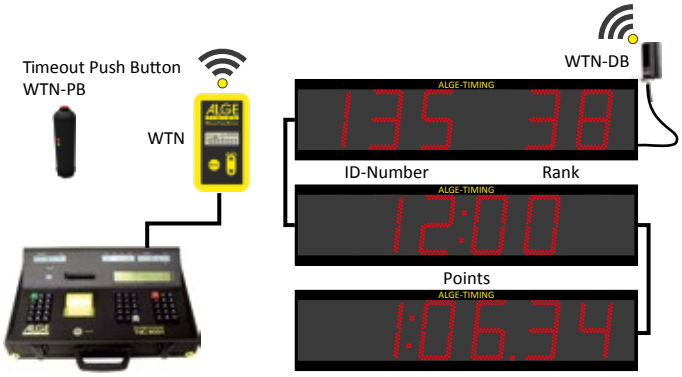
· standard show jumping
· standard show jumping test with two rounds
· time jumping
· two-phase jumping
· american jump-off
· standard jumping test and time jumping test
· team jumping
· carriage driving
· etc.

Example: Print out of standard show jumping

```
0014 C9   11:23:14.5900
     CD         13.92
0014 SZ   11:23:45.6853
     P     + 4.00
     C9   11:24:14.6926
     TO        29.02
     PTO     + 6.00
     C9   11:24:25.0320
     P     + 4.00
     ZZ   11:24:52.1161
     LZ        56.11
     ----------------
0014 PTO        6.00
     PTM   2.00
     PP    8.00
     ----------------
     LZT       62.11
     TP   10.00
     ================
```

Count-down Start
Start at 13.92 of the count-down
Start time (daytime)
4 penalty points
Time-out start
Time-out run time
6 penalty seconds
Time-out end
4 penalty points finish time (daytime)
Run time
Penalty seconds
Penalty points for exceeding the time
Penalty points for obstacle drops
Total run time
Total penalty points





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DUAL TIMER
· timing on two courses simultaneously
· measurement of intermediate and run times
· calculation of total time after reversal of courses
· separate of combined start
· only one racer on each course
· selectable calculated precision from 1/1,000 to 1 second
· results for each course individual or combined

Recommended for: alpine skiing, snowboarding

Other Software

Speed
· adjustable measuring distance from 1 to 9,999 meter
· display and printout in km/h, m/s and mph
· bidirectional measurement possible

Types of sports: motor sports, skiing, ski jumping, cycling

Street Cycling
· measures the winning time
· shows of the average speed of the winner
· shows the time difference between winner and others

Types of sports: street cycle racing

Motor Sports
· mountain racing
· car slalom
· dragster races

Speed Skating
· automatic lane change
· shows on separate display boards times of competitors

Dog Agility
the software includes the following programs for agility:
· dog agility
· gambler

Speed Skiing
· fixed speed measurement at 100 meter
· display and printout of start, run time and speed
· ranking list

Technical Data

Measuring range:	23 hours, 59 minutes, 59.9999 seconds
Time reference:	TCXO (temperature compensated crystal oscillator)
Frequency deviation:	+/- 0.1 ppm at 25 °C (+/- 0.00036 s/h)
Areas of use:	-25 °C to 50 °C
Electronics:	state-of-the-art C-MOS technology
Memory:	approx. 2 x 10,000 times with start numbers, keeps data when switched off by internal rechargeable battery
Display:	start display (1): numeric liquid crystal display 8 digits, figure height 12.7 mm finish display (5): numeric liquid crystal display 8 digits, figure height 12.7 mm finish display (6): numeric liquid crystal display 8 digits, figure height 12.7 mm info display (7): alphanumeric liquid crystal display, 4 x 40 characters, figure height 4.8 mm
Operating elements:	on/off switch (g), start keyboard (12) with 15 keys, function keyboard (9) with 15 keys, finish keyboard (8) with 15 keys
Power supply:	internal: NiMH rechargeable battery 7.2 V/4.5 Ah external: 100 - 240 VAC (alternative 115 VAC) with charger PS12
Power consumption:	no external devices, from the internal NiMH battery: about 80 mA; when printing: about 500 mA
Charging supply:	11 - 16 VDC
Output:	stabilized with 5 VDC: total maximum 120 mA
Interfaces:	RS232 interface for PC; RS232 and RS485 interface for display boards
Loudspeaker output:	for 8 Ω speaker
Casing:	lockable case with removable cover, front panel aluminum
Dimensions:	450 x 320 x 150 mm
Weight:	7.5 kg

Operation elements and connectors
1 - start display
2 - LED charging status light
3 - meter to monitor power supply and photocell
4 - paper roller
5 - run time display
6 - start number display for the finish
7 - info-display, alphanumeric with 4 x 40 characters
8 - finish keyboard
9 - function keyboard
10 - paper feed button
11 - paper tray with thermal printer
12 - start keyboard

a - connection for multi channel
b - volume for headset
c - socket for headset
A'/A socket for photocell and supply (identical)
B - socket for photocell and supply (different channels)
C - socket for photocell and supply (different channels)
d - socket for RS232 and RS485 (2x)
e - socket to connect a display board
f - socket to connect a speaker
g - on/off switch
h - banana sockets for all 10 timing channels
i - banana socket for display board