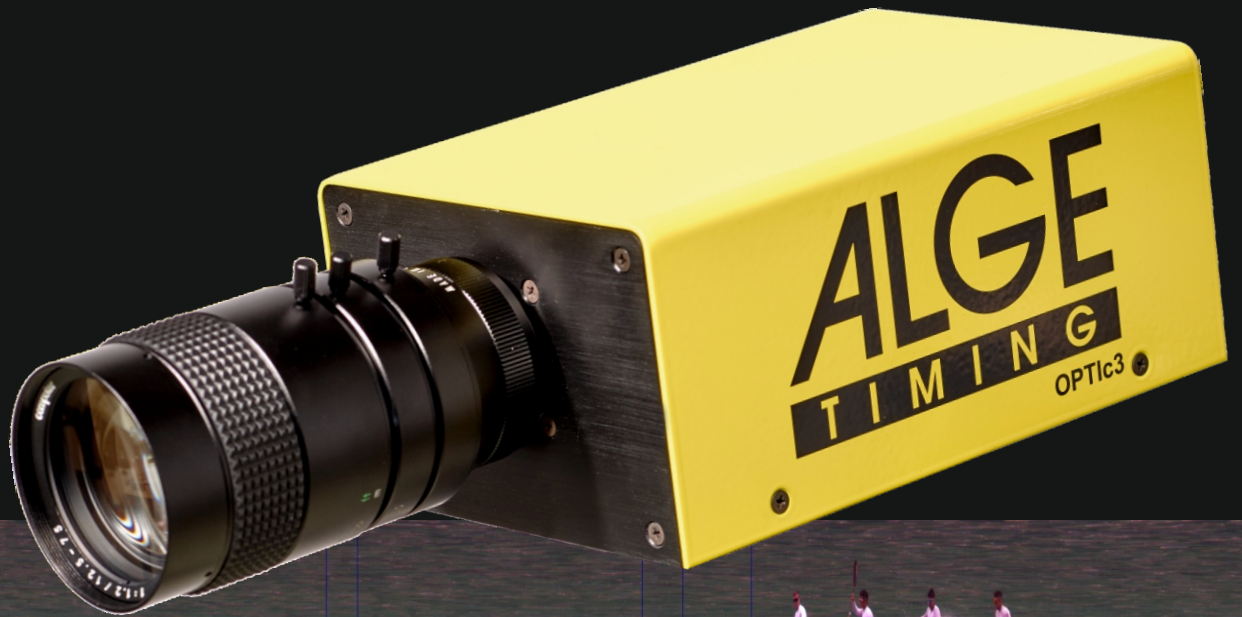


# ALGE

TIMING



## THE SPORTS TIMING EXPERTS

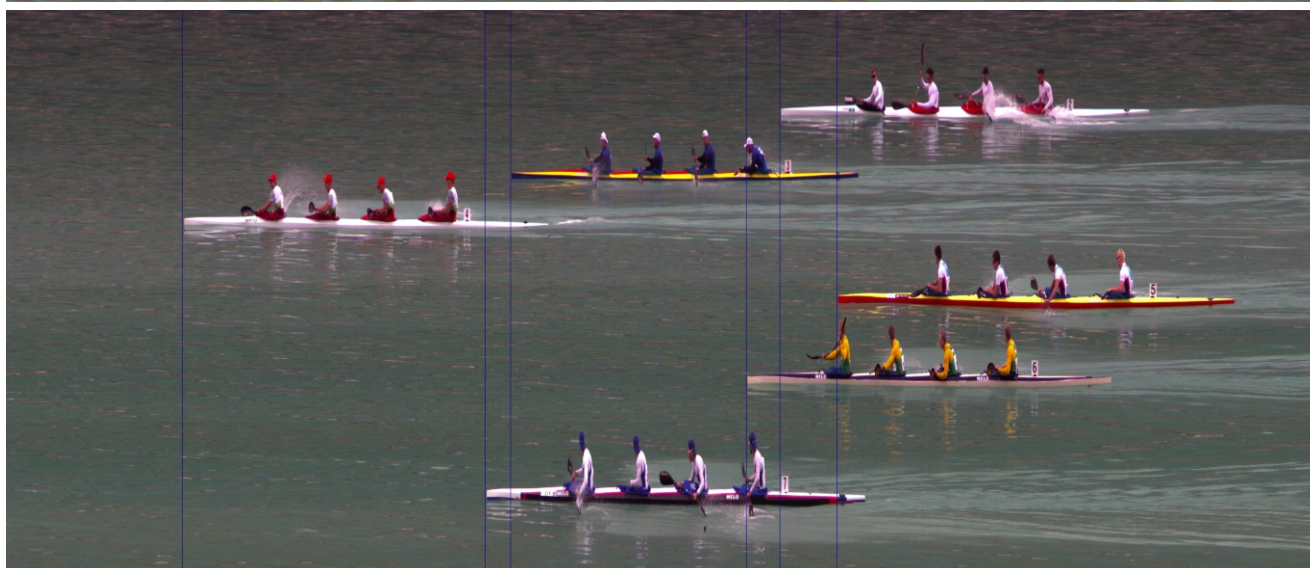
Rowing & Canoe



# ROWING & CANOE

Rowing and canoeing events are usually held on the same regatta courses with the same finish but with different distances. You need similar timing systems, but the structure is usually somewhat different (start and intermediate times are different). The number of lanes might be as well not identical. Of course, the photo-finish system is also used in dragon boat races.

ALGE-TIMING supplies timing systems for regatta courses for more than 30 years. Different systems are available from a simple manual timing system with radio transmission up to systems with intermediate times for each lane and photo finish used for major events.



# ROWING & CANOE

## Simple Manual Timing System

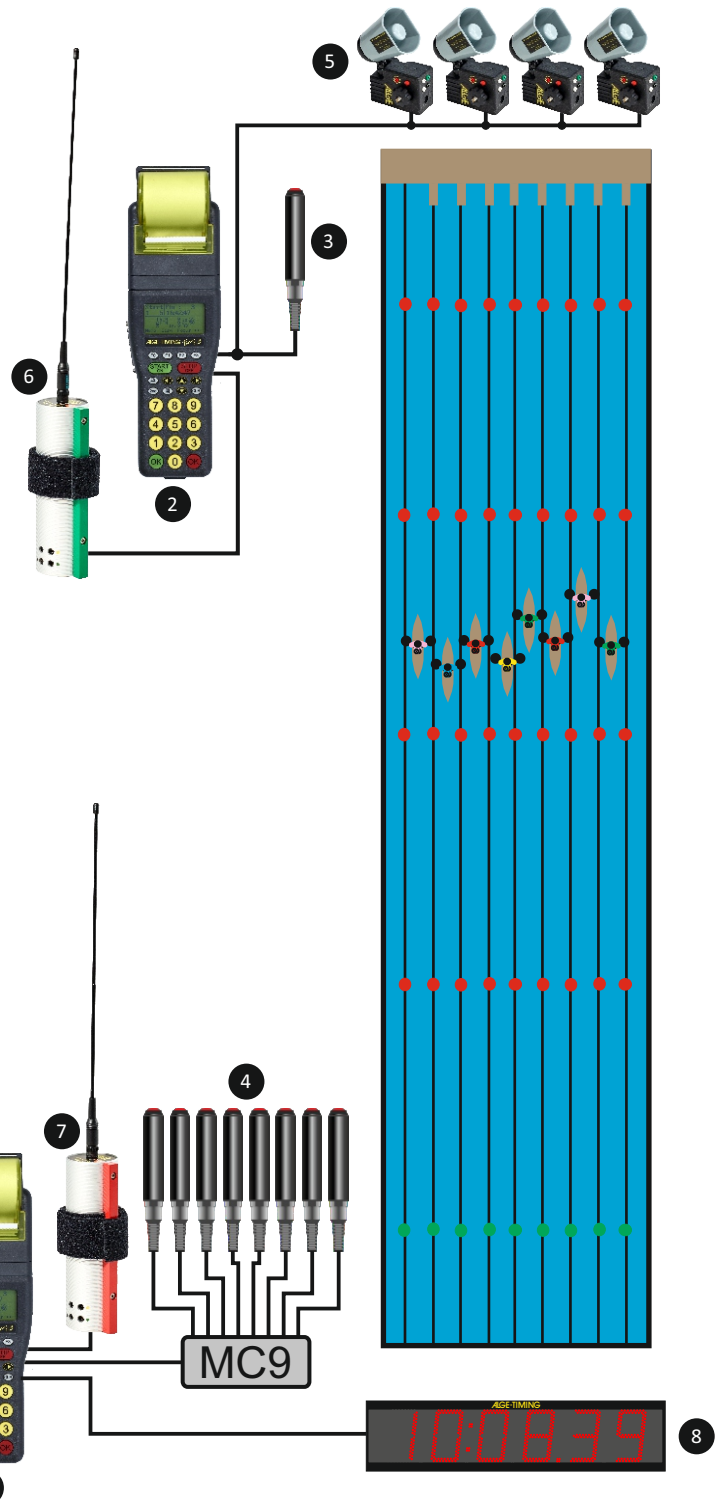


This manual timing system is inexpensive, easy to operate and to set up and can be used on a mobile basis. The start is triggered with a hand switch that emits a horn signal of the Startbeep STB1. One or more Startbeeps can be distributed in the start area.

The Timy3 WP in the start area is required for reliable backup of the start time.

The start impulse is transmitted to the finish by radiosystem TED. The Multichannel MC9 is connected to the timing device Timy3 WP at the finish. Up to eight push button O23-10 can be connected (one for each lane). Each push button impulse triggers the timing device and is printed by the integrated printer of the timing device.

It is possible to connect a display board to the timing device Timy3 WP, which shows the running time or the winning time.



- 1 Timing System Timy3 WP
- 2 Backup Timing System Timy3 WP for Start
- 3 Push Button 023-10 for Start
- 4 8 x Push Button 023-10 for each lane in the finish

- 5 4 x Startbeep STB1 for start signal
- 6 Teledata TED-TX400 Transmitter
- 7 Teledata TED-RX400 Receiver
- 8 Display Board D-LINE



# ROWING & CANOE

## Professional Timing System

The professional timing system with the TimeManager TM allows to output for each lane the time and lane identification for intermediate times and finish times. For a regatta course with nine lanes, this means there are at least 37 timing channels necessary; 1 start channel, 3 x 9 intermediate times and 9 finish times.

The speaker system BANG2 is used by the starter to give commands to the rowers and as well the start signal is output through the BANG2 speakers.

The start is recorded with the IDCam and the start image is immediately displayed on the PC monitor in order to trigger a possible false start.

For each lane of the intermediate points and finish line there is a push button. This allows to trigger each timing point separately. Alternative, it is possible to use a photo finish for each intermediate time.

A headset is available for communication between start, intermediate time, finish and timing.

At the finish line, the finish is also recorded and evaluated with an OPTIc3 photo finish system. The times of the photo finish will be used as official time.

With the horn of the Startbeep STB1 by pressing the push button the crossing of a competitor is signalized.

All data is transferred from the timing device to the PC and evaluated. The entire race management and printing of documents (start lists, result lists) is done on this PC.



- 1 **Photo Finish Camera OPTIc3**
- 2 **Power over Ethernet PoE**
- 3 **Push Button 023-10**  
to control the photo finish recording
- 4 **PC for Photo Finish**
- 5 **PC for Results (Meet Manager)**
- 6 **IDCam**  
webcam to record the start
- 7 **PC for IDCam** evaluation
- 8 **Timy3 W**  
timing device for the start
- 9 **Potential Free Output Contact ROW-PF**
- 10 **Start Light Controller ROW-SSR**
- 11 **Operating Consol for Start Light ROW-SST**
- 12 **Start Unit SU3**
- 13 **Start Light LED-SPOT** for each lane
- 14 **Start Speaker System BANG2**
- 15 **Start Ready Light LED-SPOT-SJ**
- 16 **Adapter ROW-C10-1**  
to connect the push buttons ROW3
- 17 **Push Button ROW3** for 3 tracks
- 18 **TimeManager TM** (timing device)
- 19 **Protocol Printer P5-8**  
for timing device
- 20 **Adapter ROW50**  
extension for 50 timing channels
- 21 **Startbeep STB1**  
horn for finish arrival
- 22 **Push Button 023-10**  
to trigger the horn of the STB1
- 23 **Speech Amplifier SV4-S**
- 24 **Headset SV4-2**
- 25 **Display Board** e.g. video wall





# ROWING & CANOE

## Photo Finish OPTIc3

The photo finish system OPTIc3 takes over the technical market leadership. It has a recording rate of up to 30,000 frames per second (fps) and up to 2,016 vertical pixels. This makes it the perfect timing device for any sport that relies on good photo finish images and accurate results.

Features such as 2-D images, autofocus, automatic iris adjustment, etc. make the system easy to use. The VoIP allows communication with the starter, and the timekeeper communicates without headset via microphone and speaker of the PC.



### Technical Facts:

vertical resolution:	up to 2,016 pixels
scan rate (fps):	up to 30,000 frames per second
recording time:	unlimited, depends on PC hardware
timing:	temperature compensated quartz oscillator TCXO, +/-0.06 ppm at 25 °C (0.0002 s/h)
power supply:	PoE+ or 9- 13.4 VDC
temperature range:	-20 °C to +50 °C

### Standard network

It is a simple way to connect almost every PC via Ethernet or WLAN.

### Automatic Iris Adjustment

With the motor zoom of ALGE-TIMING you can access functions such as autofocus and automatic iris adjustment.

### Live View

The camera image can be viewed via WiFi on a mobile phone or tablet. This allows to adjust the lens of an OPTIc3 camera that is

placed far away from a PC and has no motor zoom in an easy, fast and precise way.

### 2-D Image Adjustment

With the new 2-D image adjustment (maximum 2,016 x 360 pixels), you can accurately align the camera on the finish line in a very short time.

### High-Speed Camera with 2-D Images

With 2-D mode with 100 Hz (100 fps) and full-screen mode, the OPTIc3-PRO is ideal for sports such as swimming and rowing.

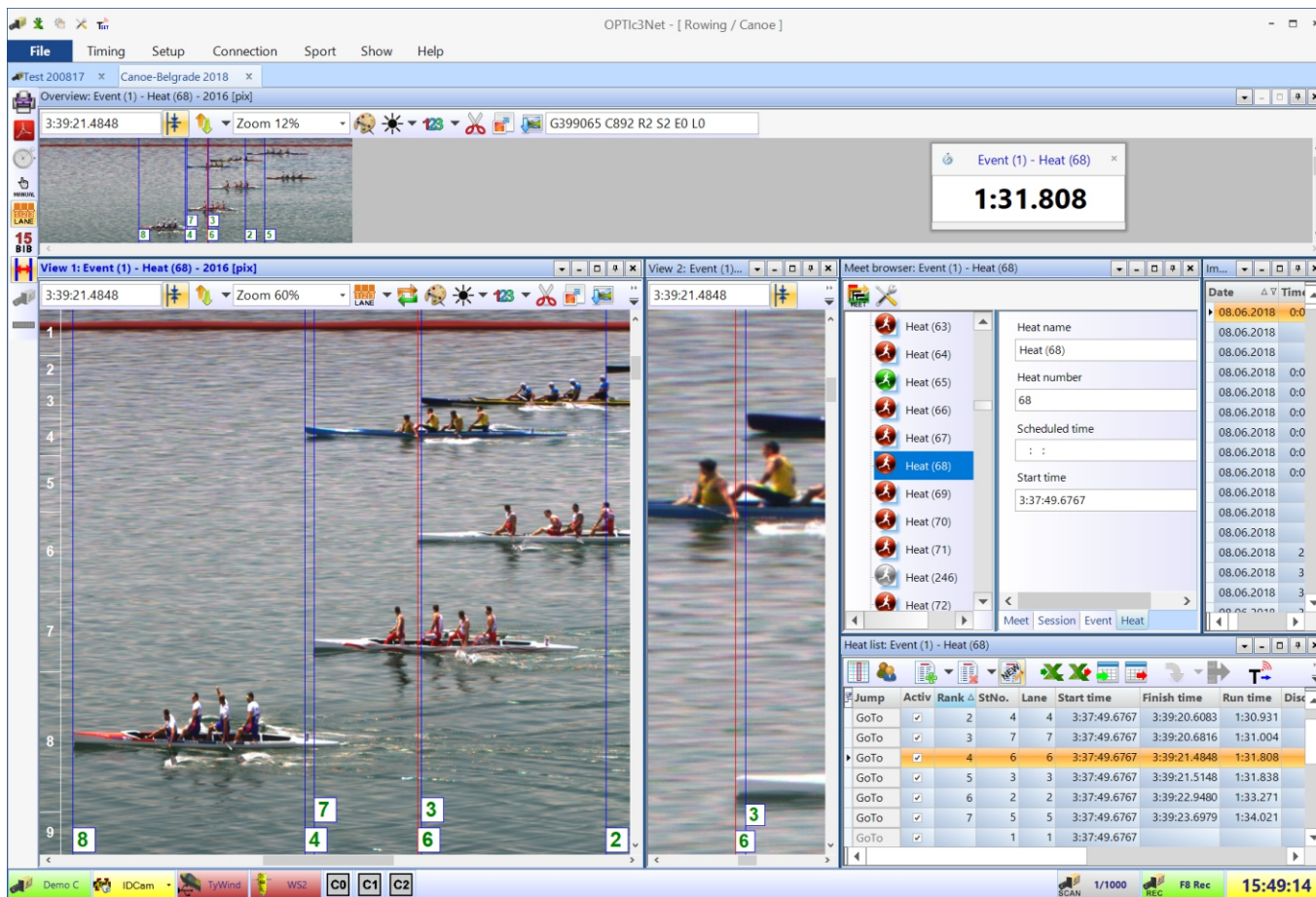
Since the OPTIc3 has a built-in timing device, exactly synchronized 100 frames per second can be guaranteed.

### PC Software

The modern, powerful evaluation software for the OPTIc3 enables quick and easy results. It is also possible to record on one PC and execute the evaluation on another. Following operating systems are supported: Windows 7, Windows 8.x, Windows 10

# ROWING & CANOE

## Photo Finish OPTIc3



The photo finish system OPTIc3 is available in two versions

### OPTIc3 Basic System

photo finish system for the small budget

- recording: up to 3,000 fps
- resolution: 1,360 pixel vertical resolution
- 2-D image preview to set and adjust the camera
- free updates of the OPTIc3NET software
- an upgrade with all features des OPTIc3-PRO is possible

### OPTIc3-PRO

The professional photo finish system that leaves nothing to be desired. The following features are integrated:

- high-speed recording: up to 30,000 fps
- high resolution: 2,016 pixels vertical resolution (48 % more than OPTIc2)
- 2-D image preview to set and adjust the camera
- eXtremLuX: various technologies for image improvement under bad light conditions
- motion detection: automatic recording with motion detection
- integrated WTN: wireless impulse and data transmission
- high-speed camera: It is possible to record 100 frames per second in the 2-D mode with a resolution of 1,024 x 768 or 360 x 2,016 pixels. The proven IDCam software is available for this function.
- VoIP: voice over IP enables communication with the starter without the PC operator having to use a headset
- recording on a PC, evaluation or photo finish control by judges possible on a second PC
- free updates of the OPTIc3NET software



# ALPLA



# ALPLA

## RUDERVEREIN HARD

### Results List

#### Regatta Hard 2018

Date: 27.06.2018

#### Hard

#### Event (1) Heat (54)

Session name:	Session (1)	Actual start time:	16:50:45
Number:	1.1.54		



Rank	Lane	Nation	Run time	Diff.
1	5	ROM	1:24.518	Winner
2	6	SWE	1:25.201	0.683
3	4	FIN	1:25.301	0.783
4	2	FRA	1:27.328	2.809
5	1	ITA	1:27.518	2.999
6	3	GER	1:27.714	3.196
7	7	POL	1:27.794	3.276
8	8	BUL	1:27.938	3.419

Disqualification

9 SUI

DNS



# BÜCHELE



Photofinish: ALGE-TIMING OPTIc3  
Software: ALGE-TIMING OPTIc3.NET

2020-08-26 / 17:05



Timing: ALGE-TIMING  
<http://www.alge-timing.com>

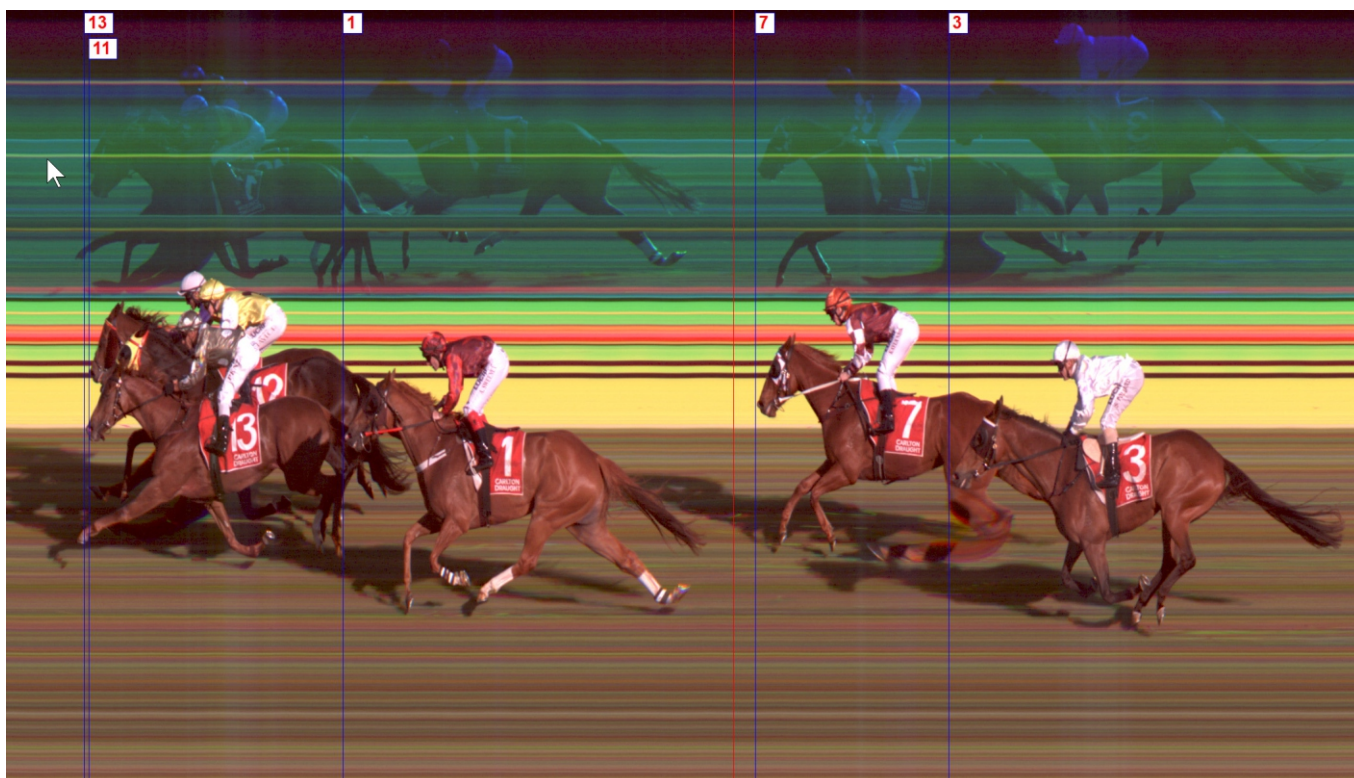
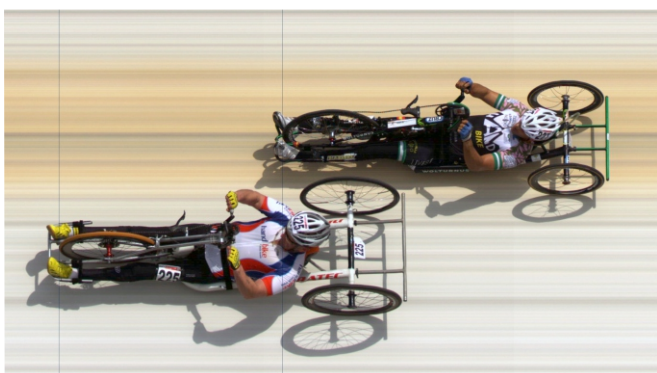
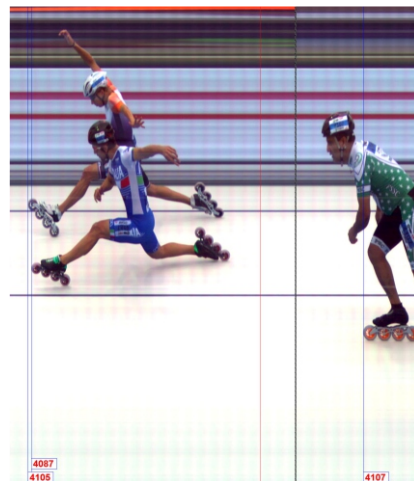


# ROWING & CANOE

## Photo Finish OPTIc3



The OPTIc3 is used for sports where several participants reach the finish at the same time. In addition, the OPTIc3 is the ideal device to monitor the finish arrival. When discussing a result, the picture of the OPTIc3 shows the proof. Here the saying is true “a picture is worth a thousand words”.





# ROWING & CANOE

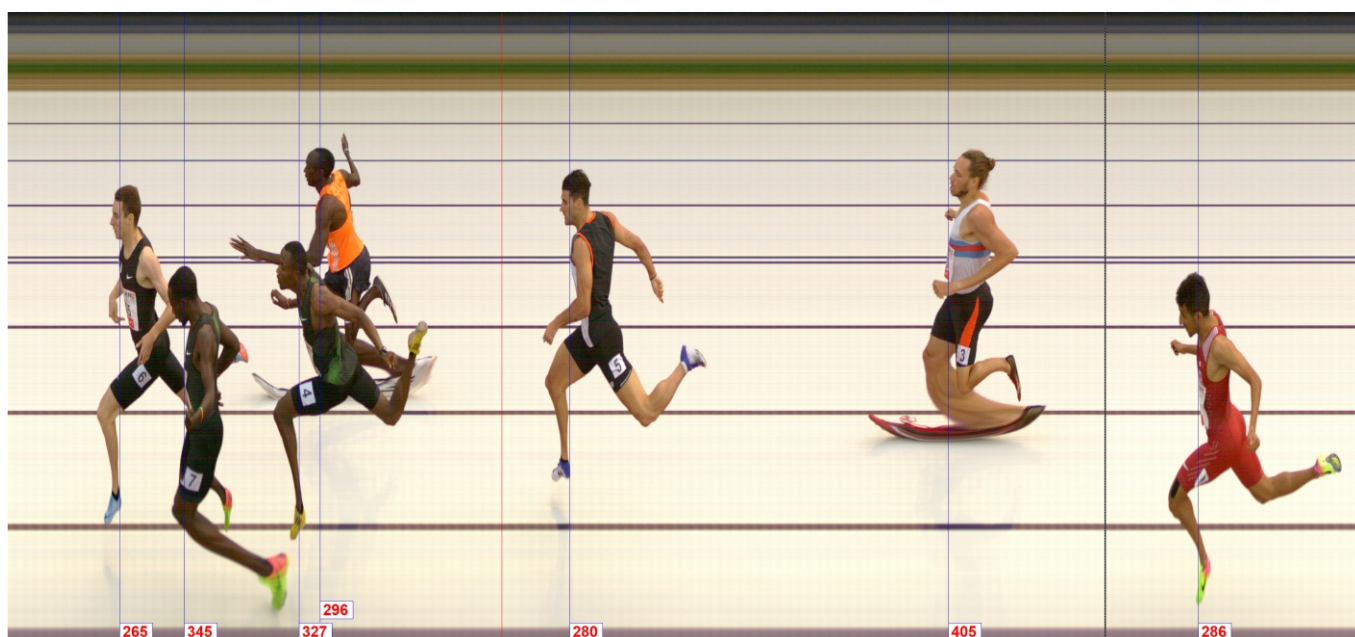
## Photo Finish OPTIc3

### Sports:

- Track and Field
- Cycling
- Horse Racing
- Motorsport
- Rowing
- Canoe
- Dragonboat
- Inline Skating
- Snowboard
- Ski Cross
- Alpine Skiing
- Cross Country Skiing
- Biathlon
- Short Track
- Speed Skating

### Special Solutions:

- Swimming
- Air Race
- Drone Racing
- Crashed Ice
- Timber Sports



# ROWING & CANOE

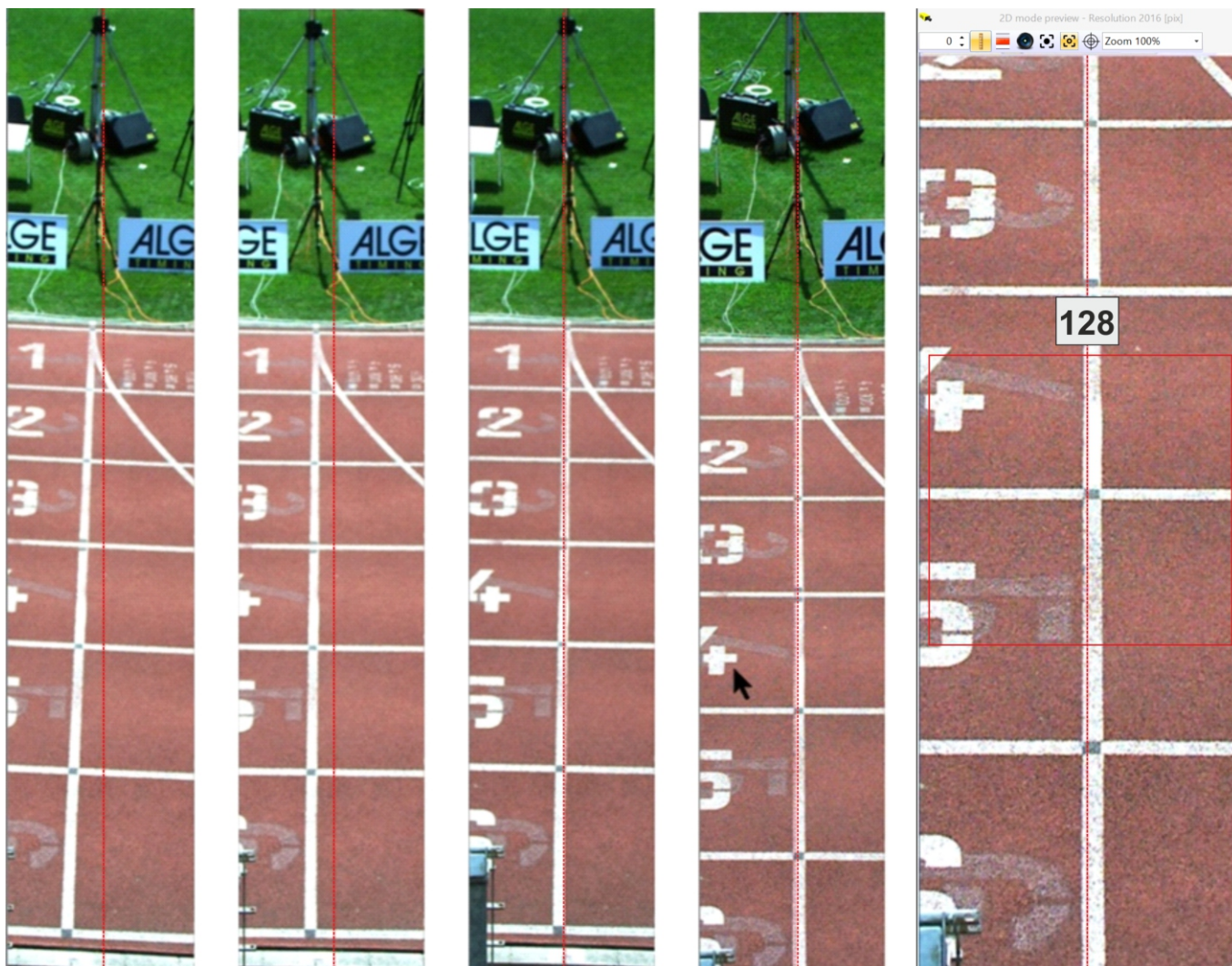
## Photo Finish OPTIc3



### Easy camera setting in 2-D mode

The OPTIc3 camera is switchable to a 2-D preview video image mode. This video preview displays a live 2-D image of the camera on the PC monitor. A vertical red line overlays the 2-D preview image.

This line represents the recording line in the line scan mode (competition mode). It allows an easy alignment and setup of the photofinish camera to the finish line. With the autofocus function, the focus can also be adjusted in the 2-D image.





# ROWING & CANOE

## Photo Finish OPTIc3

The photo finish system OPTIc3 can be extended as desired with practical accessories or equipped for specific requirements of sport events. In addition to the standard accessories, there are also unique special solutions that can be customized



**Zoom Lens Z75**  
manual zoom lens  
C-Mount  $\frac{3}{8}$ " , 12.5- 75 mm / F1.2



**Motor Zoom MZ75C**  
control of focus, zoom and brightness  
from the PC  
C-Mount  $\frac{3}{8}$ " , 12.5 – 75 mm / F1.2



**Motor Zoom MZ48C**  
control of focus, zoom and brightness  
from the PC  
C-Mount  $\frac{1}{2}$ " , 8- 48 mm / F1,2



**Motor Zoom MZ160G**  
control of focus, zoom and brightness  
from the PC  
C-Mount  $\frac{3}{8}$ " , 16 – 160 mm / F1.8



**Wide-Angle Lens L8C**  
C-Mount  $\frac{3}{8}$ " , 8 mm / F1.4



**Radial Polarizing Filter PF55**  
(on request) polarization filter to  
attenuate reflections (e.g. from water)



**Gearhead 410**  
three-dimensional, mechanical gearhead  
for a precise adjustment of the camera  
to the finish line



**Gearhead 410-E3**  
three-dimensional, electrical gearhead  
for a precise three-dimensional  
adjustment of the camera to the finish  
line directly from the PC (no further  
cabling necessary)



**Tripod STATIV6**  
tripod with a maximum height of 3.66 m

**Tripod TRIMAN**  
standard tripod TRIMAN with a  
maximum height of 2.4 m

**Tripod TRI-PRO**  
tripod TRI-PRO with a maximum height  
of 2.67 m



**Weather Protection Cover WPC3-75**  
for OPTIc3 camera with the lenses Z75, MZ75C,  
MZ48C and L8C



**Carrying Case KL-OPTIc3**  
case with foam insert to transport and store an  
OPTIc3 system safely



**Ethernet Cable K-RJ45G03**  
CAT6 patch cable with 3 m

**Ethernet Cable K-RJ45G10**  
CAT6 patch cable with 10 m

**Ethernet Cable K-RJ45G20**  
CAT6 patch cable with 20 m



**Cable Reel KT-RJ45G90**  
cable reel with 90 m CAT6 Ethernet cable for the  
OPTIc3 (with this cable, the POE can also feed  
the camera)



**Power over Ethernet PoE**  
power supply for the OPTIc3 camera via Ethernet  
cable (POE is included with the OPTIc3 camera-  
power supply 90- 240 VDC)



**Gigabit-SWITCH PoE+**  
with 8 RJ45 sockets and integrated Power over  
Ethernet (PoE+)



**Battery Backup BB1**  
battery power supply for camera (integrated 12  
VDC battery with mains adapter)

# ROWING & CANOE

## Photo Finish OPTIc3



Technical Data	OPTIc3	OPTIc3-PRO
Pixel (vertical):	1360 pixel	2016 pixel
Recording Speed (fps):	100 - 3,000 fps	100 - 30,000 fps
Voice over IP (VoIP):	optional	yes
Light Amplification eXTremLux:	optional	yes
Line Doubling:	optional	yes
Wireless Timing Network:	optional	yes
High Speed Video (100 pictures per second)	optional	yes
Sensor Type:	CMOS	
Time Base:	temperature compensated quartz ocillator TCXO: +/- 0.006 ppm at 25 °C (0.0002 s/h)	
PC Connection:	Gigabit Ethernet / WLAN	
Lens Mount:	C-Mount / F-Mount with adapter	
Distance Camera to PC:	CAT6 cable: up to 100 m Fibre Optic: up to 2000 m (with converter)	
Connection for Electronic Gear Head:	yes	
Option for ALGE-TIMING Motor Zoom:	yes	
Remote Control for Zoom:	yes (for ALGE-TIMING motor zoom)	
Remote Control for Iris:	yes (for ALGE-TIMING motor zoom)	
Remote Control for Focus:	yes (for ALGE-TIMING motor zoom)	
Autofocus:	yes (for ALGE-TIMING motor zoom)	
Automatic Brightness Adjustment:	yes (for ALGE-TIMING motor zoom)	
White Balance:	automatic and PC software	
Gamma Adjustment:	PC software	
Recording Time:	unlimited, depending on the PC hardware	
Recording Speed Adjustment (fps):	software (adjustable at any time)	
Timing Impulse Inputs:	3 (start, intermediate time, finish)	
Connection for Display Board:	Rs232 / Rs485 / Ethernet	
USB Interface:	2	
Recording and Evaluation:	possible on 2 different PC	
Transputer Integration:	optional	
Power Supply:	Ethernet with PoE+ power supply PS12A (9- 13.4 VDC)	
Tripod Thread:	3/8 inch	
Operating Temperature:	-20 to 50 °C	
Measurements (excluding lens):	180 x 120 x 80 mm (L x W x H)	
Weight (excluding lens):	1.5 kg	



### Connections

- |   |                                 |
|---|---------------------------------|
| 2 x start input (banana socket)         | 1 x motor zoom                  |
| 1 x finish input (banana socket)        | 1 x gear head                   |
| 2 x DIN socket (3 input channels)       | 2 x USB (e. g. for WLAN)        |
| 1 x display board RS232 (banana socket) | 1 x RJ45 (Gigabit Ethernet)     |
| 1 x display board RS485 (banana socket) | 1 x power supply (9 – 13.4 VDC) |



# ROWING & CANOE

## Start Control with IDCam

The IDCam records reliably the start of the regatta and saves the start sequence with a series of high-resolution images that includes the time of day and running time on a PC.

The system permanently records images and saves them in a buffer on the PC. It overwrites the buffer with new images every few seconds.

The start signal starts the recording of the images by the IDCam. The pre-run and post-run time of each start can be set. Because of the buffer it is now possible to have the picture sequence previous to the start recorded as well.

The recorded images help to control the false start detection. Immediately after the start, the image that is closed to the start signal is displayed.

**The IDCAM is the ideal addition to any ALGE-TIMING timing device.**

- number of images: up to 30 frames per second
- image resolution: 2,592 x 1944 pixels (5 MP)
- connections: camera IDCam to PC: Ethernet CAT5  
cable up to 100 m  
timing device with PC: RS232 or USB
- recording time: unlimited, depends on storage capacity of PC
- PC operating system: Windows 7, 8 or 10
- power supply: PoE: 90- 280 VAC



# ROWING & CANOE

## TimeManager TM & ROW-CH50



### TimeManager TM

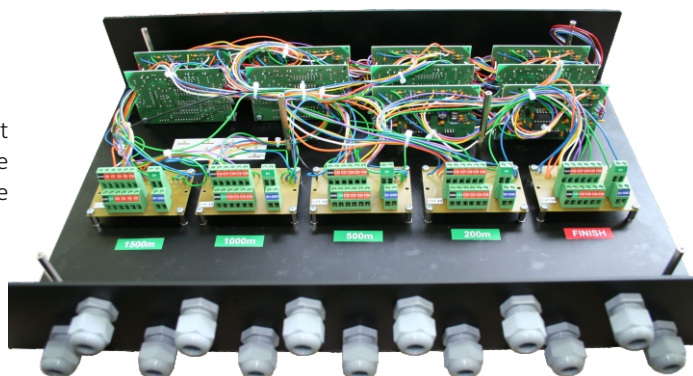
The TimeManager TM is a timing device that is controlled by a PC. It is designed for the use of many timing channels. The operation area is mainly in swimming, bobsleigh, sledding and rowing.

It is a high-precision timing device with temperature compensated crystal oscillator and built-in amplifier and has a possibility to measure up to 241 timing channels. A built-in rechargeable battery pack ensures that the TM continues to function in case of a power failure. The connection to the PC is made via a USB-interface.



### ROW-CH50

The ROW-CH50 adapter is plugged into the TimeManager. It contains the connections for 50 timing channels. For the cable that leads to the finish, intermediate times and the start there are clamps built-in.



A look inside the ROW-CH50



# ROWING & CANOE

## Timy3

The ALGE-TIMING Timy3 is a compact timing device with unique high-quality technology. The Timy3 impresses with an ergonomic design and absolute reliability, thanks to its robust design.

Despite its handy dimensions, the Timy3 has a large and easy-to-use silicone keypad, which can be used in any weather conditions, even with gloves on. The printer is integrated into the Timy3 WP and logs times of the entire competition. The Timy3 has an internal wireless modem of the WTN Wireless Timing Network series.

The Timy3 can be connected via radio to all devices of the WTN series, and, for example, can receive start impulses, intermediate times and finish impulses, control a display board and send data to a PC with result software. The low power consumption allows it to be used even in cold weather with internal batteries independent from mains.

The Timy3 is equipped with all necessary interfaces for communication with external devices, a USB interface, an interface for a display board, an RS232 and an RS485 interface.



### Display

The Timy3 has a monochrome LCD graphic display with 128 x 64 pixels and backlight. With this, displaying up to 8 lines of text is possible. Different character sizes, and also graphic symbols for easier operation, can be displayed. The display has an extended temperature range for use in extreme weather conditions (up to -20°C).

### Keypad

Despite its compact dimensions, the Timy3 has a large and easy-to-use silicone keypad, with 26 keys. Even with gloves on, an easy use is ensured.

### Accuracy

The Timy3 works on a time of day basis and records it with an accuracy of 1/10,000 seconds. That means that calculated net times of a precision of 1/1,000 seconds are exactly calculated. Highest accuracy at any temperature is guaranteed by a temperature-compensated quartz.

### Printer

The Timy3 WP has an integrated thermal printer. This quiet and extremely fast printer allows easy and simple paper change. The transport roller is connected to the paper cover and saves the tedious threading of the paper.

### Memory

Approximately 30,000 times can be stored with the corresponding bib and timing channels. The software is stored in a flash memory. Updates of the software are available free of charge, via the Internet.

### Casing

Particular emphasis was placed on ergonomics and stability. The aim of the development was to bring a timer with all the advantages of modern technology into a handy and shock-proof casing. The Timy3 is suitable both as a hand-held timing device and as a table device.

### Connections

Regarding the wide range of possible connections with external devices, the Timy3 offers unequalled opportunities in its class and size. For example it is possible to connect several devices by the RS485 interface to work as a network.

### Radio Network - Wireless Timing Network WTN

An integrated WTN module allows to communicate with all devices of the WTN series (WTN wireless radio, WTN-PB wireless push button, PR1aW photo-cell, WTN-DB and Windspeed WTN-WS scoreboard).

### Software

There is a great number of programs for the Timy3. The device is able to cover the entire spectrum for time measurement starting from a hand timer up to the main timer at major events.



# ROWING & CANOE

## Timy3

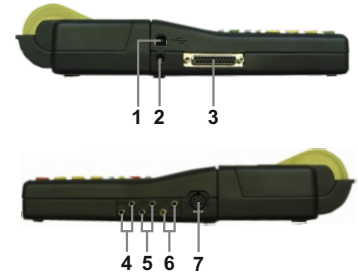


### Timy3 Software

- Backup: timing device to measure time of day (e.g. backup or reference timer for PC)
- Stopwatch: universal timing program which is able to time more than one run (net time/total time)
- TrackTimer: timing for events which have lanes (e.g. athletics and swimming)
- LapTimer: timing program with split and sequential time
- PC-Timer: professional timer (time of day) to work with a PC
- Timeout: timing program with timeout function (e.g. show jumping)
- Dual Timer: timing program with two courses, either with simultaneous or separate start
- Parallel-Diff: timing program for parallel slalom
- TV Timer: simple timing program to control a display board or TV time insert
- Speed Climbing: timing program for speed climbing
- Training Light: universal training software with intermediate times and one racer on course
- Training REF: training software with intermediate times and more than one racer on course
- Swim Trainer: training program for swimming
- Speed: speed measurement in km/h, m/s, or mph
- Commander: terminal to control ALGE-TIMING display boards
- Terminal: terminals for judges (e.g. ski jumping, figure skating, diving, artistic swimming)
- CycleStart: start control, lap counting and backup timing for pursuit cycling
- Track & Field: to measure the windspeed for athletics with a connected anemometer WS2 and to control a concentration clock
- Jumping: training program for jumping exercises
- Start-Liner: to control the ASC3 for cross country and Nordic combination
- Voting: judge terminal for artistic swimming and diving



Timy3 W timing device without printer



#### Connections:

- 1- 1 x USB
- 2- 1 x power supply 8- 22 VDC
- 3- 1 x D-Sub 25-pin
- 4- 1 x pair of banana sockets- scoreboard
  - 9 time measuring channels
  - RS232 (PC connection)
  - display board
  - RS485 (network)
  - power supply (8- 24 VDC in/out)
- 5- 1 x pair of banana sockets- start input
- 6- 1 x pair of banana sockets- finish input
- 7- 1 x DIN socket for photocell

### Technical Data

Crystal frequency:	TCXO, +/-1 ppm (+/-0.00036 s/h)	Power supply:	internal: NiMH power pack 7.2 V/2 Ah or 6 x AA alkaline (only for Timy3 W) external: power supply PS12A, 12 V battery or 8- 22 VDC
Time resolution:	1/10,000 s	Power consumption:	without printer about 100 hours with printer about 47 hours
Timing:	9 timing channels, external extension possible	Charging time:	approx. 14 hours
Program memory:	flash memory with 16 Mbit	Printer:	graphic thermal printer, max. 5 lines per second
Data memory:	RAM with 4 Mbit (about 30,000 times)	Temperature range:	-20°C to +60°C
Display:	monochrome LCD graphic display with backlight, 128 x 64 pixels, extended temperature range	Measurements:	Timy3 W: 204 x 91 x 50 mm Timy3 WP: 307 x 91 x 65 mm
Keypad:	silicone keypad, 26 keys	Weight (no battery):	Timy3 W: 450 g Timy3 WP: 650 g (without battery & paper)
Radio module WTN:	built-in 2.4 GHz radio, 15 adjustable frequencies and power output from 10 to 100 mW, 5 timing channels, for distances up to 350 m		





# ROWING & CANOE

## Start Speaker BANG2

The electronic start system BANG2 allows a simple, unproblematic start. It consists of a transportable amplifier speaker box (active speaker with 80 W<sub>max</sub>). The timing system gets the start impulse from the BANG. When the BANG2 is activated a start sound (imitated gunshot) is activated. If the BANG2 is triggered a second time within 5 seconds, a false start sound is generated.

The starter can use the BANG2 for oral commands for the athletes using the ALGE-TIMING communication system or a radio microphone BANG-HS.

The start sound is triggered by a push button (closing contact). If a flash is needed for disabled competitors or to have a more precise manual timing, a start trigger e-Start or FLASH-XL can be used. The electronic startgun e-Start has an integrated flash.

### Advantages of the Start System BANG2

- Start system is always ready, no reloading of a gun necessary.
- No starting problems due to unloaded startguns or bad blanks.
- No costs for expensive blanks.
- There is no cleaning of guns necessary after the end of a race day.
- No legal problems with the use of the start system (in many countries a gun license is necessary for a startgun).
- No problems to transport the start system (in many countries the gun and ammunition must be transported in separate vehicles).
- When using the "StartUnit3", it is possible to communicate with the time keeper and to make announcements over the speakers of the start system (e.g. StartJudge SJ) and the BANG2.
- The BANG2 works with cable or radio (WTN)



- 1 .....cable connection for BANG to timing devices
- 2 .....receiver for wireless headset BANG-HS
- 3 .....display for device adjustment
- 4 .....operator keyboard for device adjustments
- 5 .....Wireless Timing Network WTN
- 6 .....Amplifier for Speaker (connection and adjustments)
- 7 .....On/Off switch
- 8 .....Power supply for mains (100-240 V~)

# ROWING & CANOE

## Start Speaker BANG2

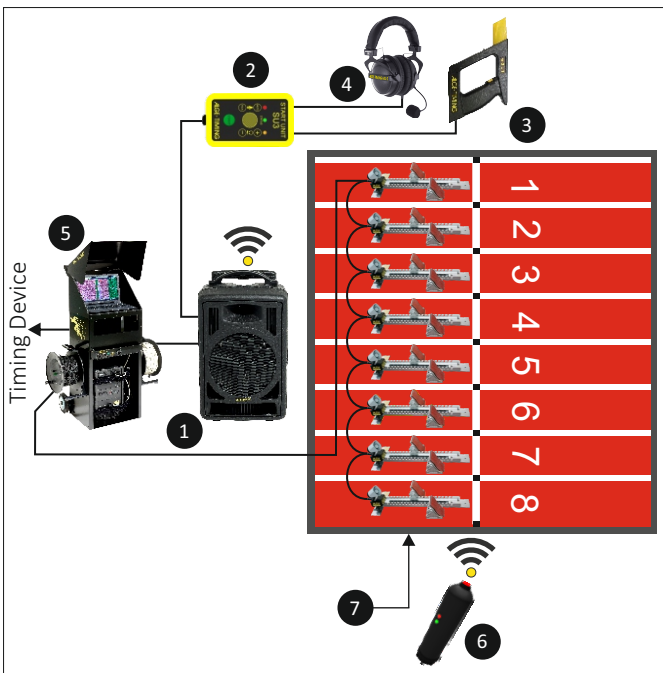


- |            |             |
|------------|-------------|
| 1 BANG2    | 3 e-Start W |
| 2 Timy3 WP | 4 BANG-HS   |

The start system BANG2 is ideal to combine with existing ALGE-TIMING devices. It is possible to use one or more BANG2 speakers in a start system. Attached we will show two setup possibilities:

The upper picture to the left shows a BANG2 connected by radio with the electronic start impulse device e-Start W. The e-Start W replaces a traditional startgun. If you trigger it, the start impulse is transmitted by radio to the BANG2 and it outputs the start sound. At the same time the start impulse is transmitted to the timing device (e.g. Timy3 WP). The starter can give oral commands (e.g. ready, take your marks) to the competitors using the wireless headset BANG-HS.

The start system BANG2 can also be implemented into an athletic false start system (see lower picture to the left). When the impulse device e-Start is triggered the BANG2 and the speakers of the false start system StartJudge SJ2 output the start sound. If the starter triggers the e-Start again within 5 seconds the speakers release a false start sound. With the radio push button WTN-PB the recaller can activate a false start signal as well.



- |                  |                                   |
|------------------|-----------------------------------|
| 1 BANG2          | 5 Start Judge SJ2                 |
| 2 Start Unit SU3 | 6 False Start Push Button WTN-PB  |
| 3 e-Start        | 7 Starting Block with Sensor SJS2 |
| 4 Headset HS3-2  |                                   |

### Technical Data:

- |                               |  |
|-------------------------------|--|
| <i>Output Power:</i>          | 80 W <sub>max</sub> / 50 W <sub>RMS</sub>                              |
| <i>Speaker System:</i>        | bass (20 cm / 8")<br>tweeter(2.5 cm / 1")                              |
| <i>Frequency Range:</i>       | 20 – 20,000 Hz   |
| <i>Mic-Input:</i>             | 6 mV   |
| <i>Line-Input:</i>            | 800 mV   |
| <i>Timing Input/Output:</i>   | 2 x LTW-socket (7-pin, male)<br>1 x banana socket (green / black)      |
| <i>Equalizer, Bass:</i>       | ±15 dB/100 Hz  |
| <i>Equalizer, Treble:</i>     | ±10 dB/10 kHz  |
| <i>Power Supply:</i>          | Mains: 100-240 V~/50- 60 Hz/2 A<br>Battery: 2 x 12 V/5.2 Ah (built in) |
| <i>Operating Temperature:</i> | 0°C to +40°C   |
| <i>Measurements:</i>          | 305 x 510 x 265 mm (L x H x W)   |
| <i>Weight:</i>                | 12,5 kg  |

### Radio Module WTN for Timing:

- |                                |                                     |
|--------------------------------|-------------------------------------|
| <i>Transmitting Frequency:</i> | 2.4 GHz band<br>16 adjustable teams |
| <i>Transmitting Power:</i>     | 10 mW                               |
| <i>Range:</i>                  | approx. 300 m (line of sight)       |

### Receiver for headset BANG-HS:

- |                           |   |
|---------------------------|---|
| <i>Receiver Module:</i>   | PLL multifrequency receiver               |
| <i>Carrier Frequency:</i> | 863- 865 Mhz<br>divided in 16 frequencies |
| <i>Operating Range:</i>   | about 30 m (line of sight)                |



# ROWING & CANOE

## Startbeep STB1

The Startbeep STB1 is a universal, start acoustic device. Due to its sturdy construction, the STB1 is very simple and user-friendly to operate.

### Startbeep STB1

- Nine fixed programmed start intervals can be selected with a switch: 10, 15, 20, 30, 40, 45, 60, 90, and 150 seconds.
- A freely programmable start interval can be selected between 6 and 99:59 minutes with step switch.
- special program for the 3-second countdown in speed climbing
- countdown start by internal or external push button
- countdown with or without standby signal (ten seconds before start)
- In the horn mode, the Startbeep can be used as a start gun replacement, triggered by an internal or external push button.
- It can be synchronized with other timing devices.
- start output, potential-free closed contact (e.g. for triggering a timing device)

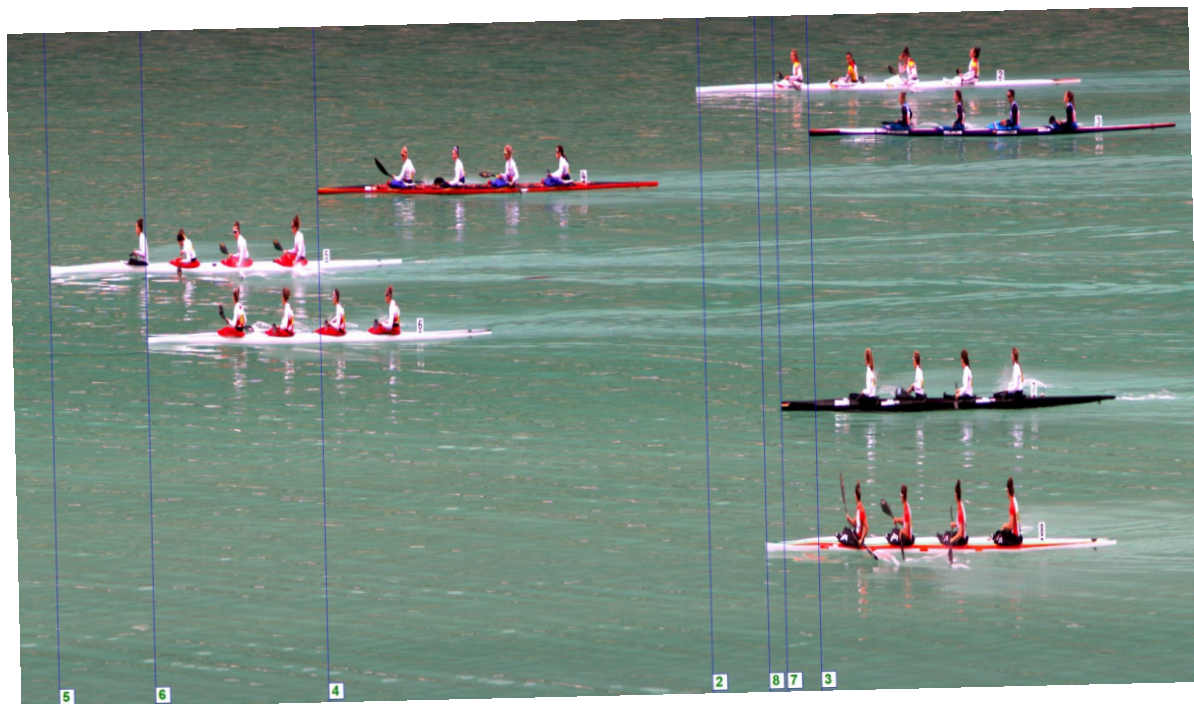


### Technical Data

Electronics:	μP-controlled in CMOS
Working temperature:	-25°C to +45°C
Power supply:	9 V Alkaline battery or external power supply
Connections:	potential-free closing contact for synchronizing or triggering of a timing device <ul style="list-style-type: none"> <li>· external push button</li> <li>· external power supply</li> <li>· on/off switch</li> <li>· internal push button</li> </ul>
Sound converter:	horn loudspeaker, swivelling
Housing:	polyamide, glass fiber reinforced (impact resistant)
Fastening:	chain fastening e.g. for mounting on a post
Weight:	1 kg
Dimensions:	132 x 205 x 88 mm
Operating duration:	up to 80 hours



# ROWING & CANOE



**ALGE-TIMING**  
Rotkreuzstrasse 39  
6890 Lustenau, Austria  
[www.alge-timing.com](http://www.alge-timing.com)

