ALGE
TIMING

THE SPORTS TIMING EXPERTS

Athletics

ATHLETICS

The various equipment required in athletics begins with simple training systems for the timing with photocells and goes up to the photo finish system, which is used in bigger events. For this purpose, there are all kinds of accessories, such as wind gauges and lap counters, concentration clocks, distance measuring devices (theodolites) and various display systems from ALGE-TIMING.

Stadium Cabling

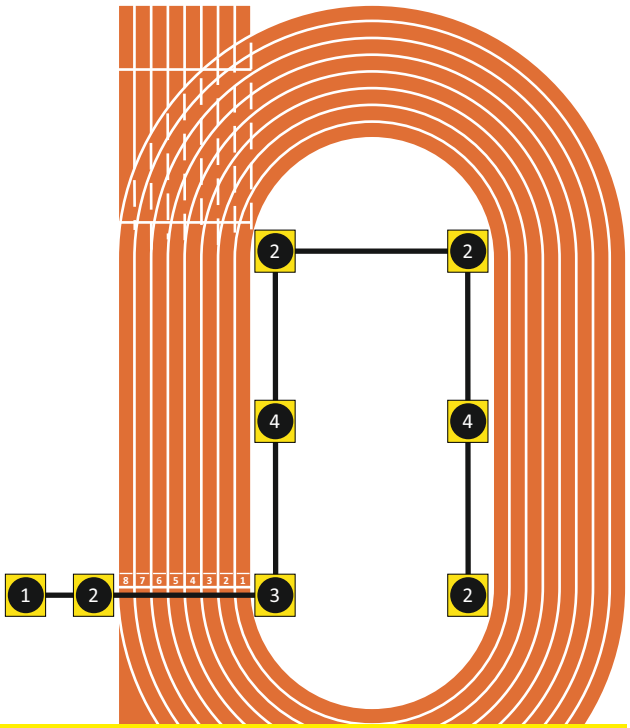
For the timing in stadiums, ALGE-TIMING offers cabling for fixed as well as for mobile installations.

Depending on the local circumstances, the ideal solution can be chosen.

Fixed Installation
The cables are installed permanently and a distributor is fixed into cable manholes. This cabling has the advantage that it can be used any time without effort.

Mobile Installation
The cables are on cable reels and the distributors are integrated in the cable reel. A cable reel can be connected to another one and thus there is no problem to build an infrastructure for the timing in the complete stadium. The mobile stadium installation is employed if the timing is used in different stadiums or if due to a high groundwater level the manholes in the stadium are continuously flooded

Example for a Fix Stadium Cabling



Example for a Fix Stadium Cabling

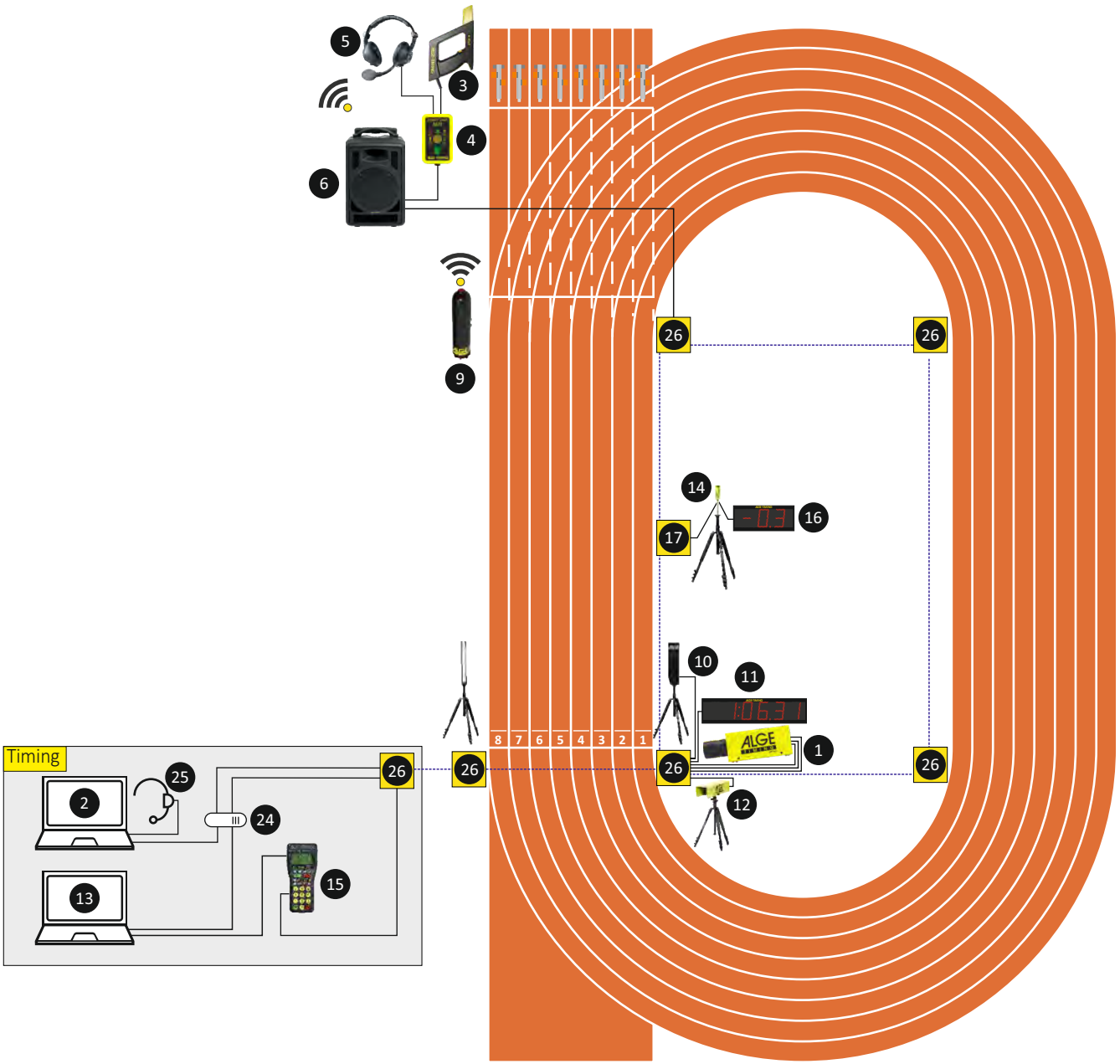
1. Track Box TB2 F in finish house with Ethernet
2. Track Box TB2 A-D in manhole
3. Track Box TB2 A-D-RJ in manhole with Ethernet
4. Track Box TB W in manhole for wind

ATHLETICS

Simple Timing System

No matter how large the track & field event, ALGE-TIMING can provide the complete equipment for its execution. The system below is the basic photo finish system for track competitions in the stadium. The system contains a photo finish camera OPTIc3 and a photocell for the finish. The start is signalized by an electronic start gun and a loud speaker.

The starter can communicate with the timing room through the headset. The wind gauge is positioned at the 50 metre mark next to the sprint track. The wind gauge terminal Timy3 W is connected to the photo finish PC so that measuring the wind is controlled automatically by the photo finish. The unofficial winning time is shown on the display board at the finish.

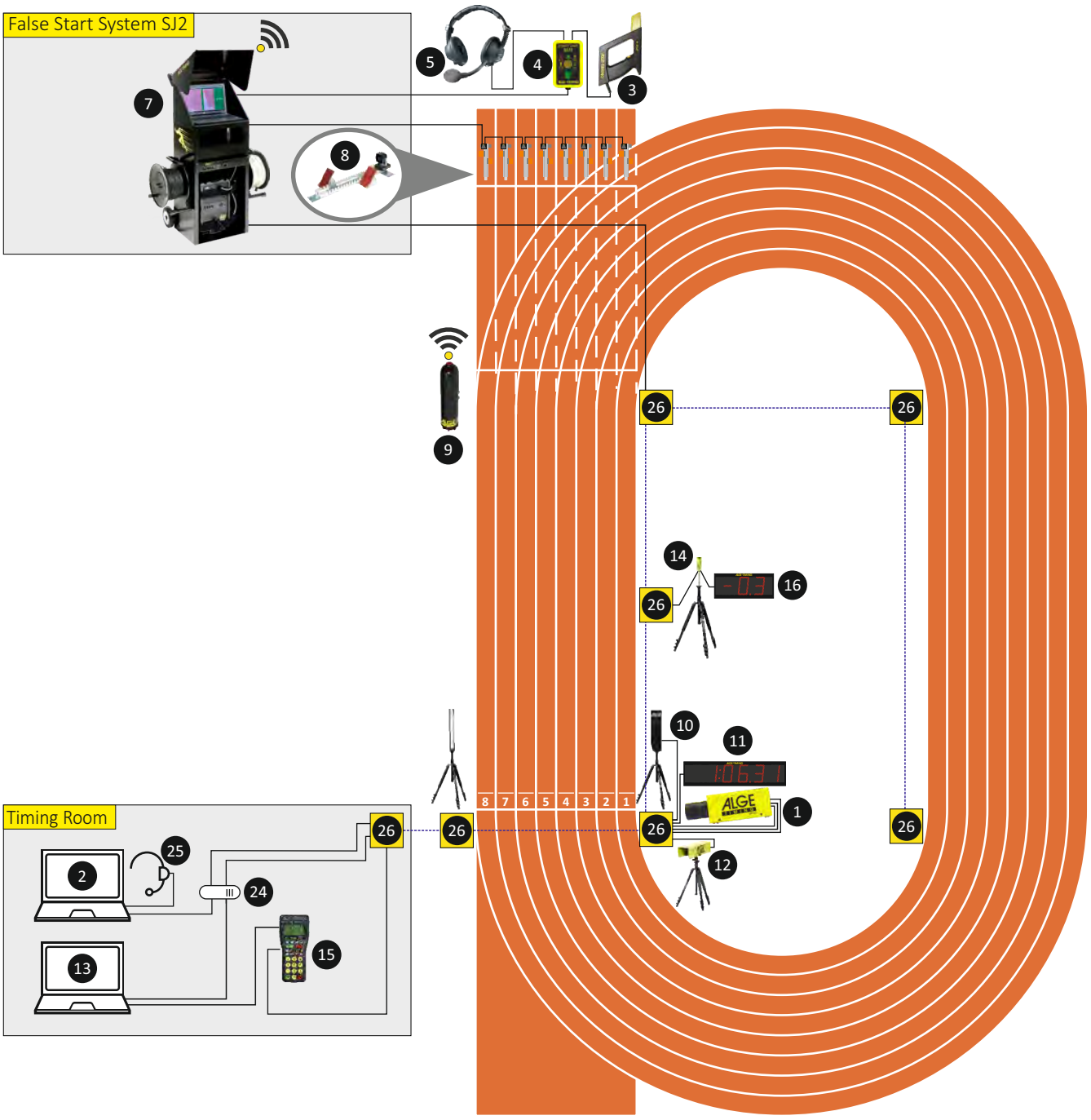


1	Photo Finish OPTIc3	9	False Start Trigger WTN-PB	15	Controller Timy3 W
2	Notebook OPTIc3	10	Photocell RLS3c	16	Display Board D-LINE (Wind)
3	Start Device e-Start	11	Display Board D-LINE (Time)	24	Switch (with PoE for Timing)
4	Start Unit SU3	12	IDCam	25	PC-Headset
5	Headset HS4-2	13	Notebook IDCam	26	Stadium Cabling
6	Speaker BANG2	14	Anemometer WS2		

ATHLETICS

Timing System with False Start System

The system on this page shows a complete timing system (only for running disciplines) including false start control. The finish arrival is controlled by a photo finish OPTIc3 and the finish arrival camera IDCam. For sprint runs the anemometer Windspeed WS2 will measure the strength of the wind and direction.

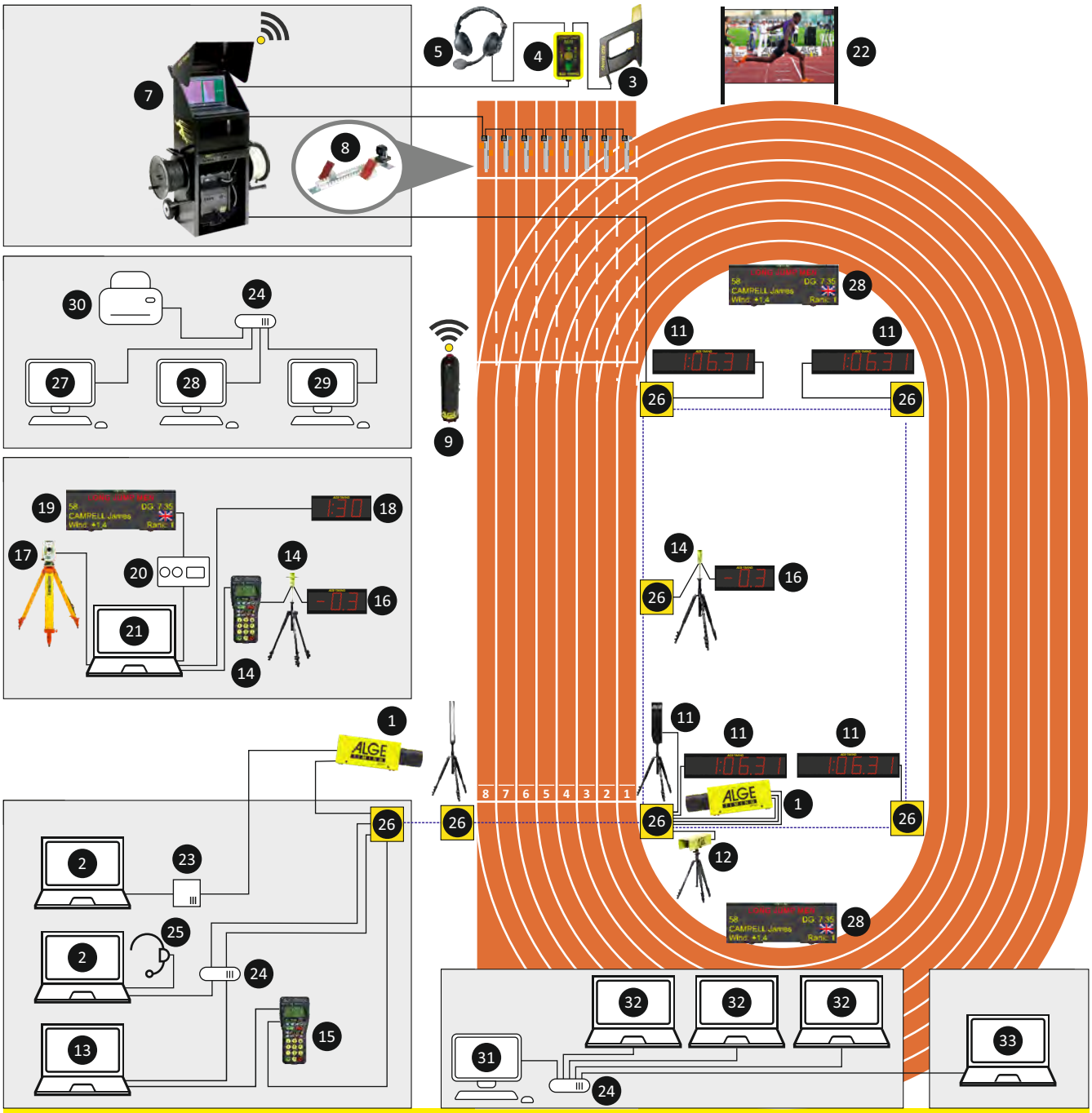


1	Photo Finish OPTIc3	8	Starting Block STAMA with SJS2	14	Anemometer WS2
2	Notebook OPTIc3	9	False Start Trigger WTN-PB	15	Controller Timy3 W
3	Start Device e-Start	10	Photocell RLS3c	16	Display Board D-LINE (Wind)
4	Start Unit SU3	11	Display Board D-LINE (Time)	24	Switch (with PoE+ for Timing)
5	Headset HS4-2	12	Finish Arrival Camera IDCam	25	PC-Headset
7	Start Judge SJ2	13	Notebook IDCam	26	Stadium Cabling

ATHLETICS

Complete System

A complete athletic track with a corresponding timing system and all necessary devices for the infield events can be seen in the sketch below. Depending on the amount of parallel happening infield events this equipment might be used double or even more time.

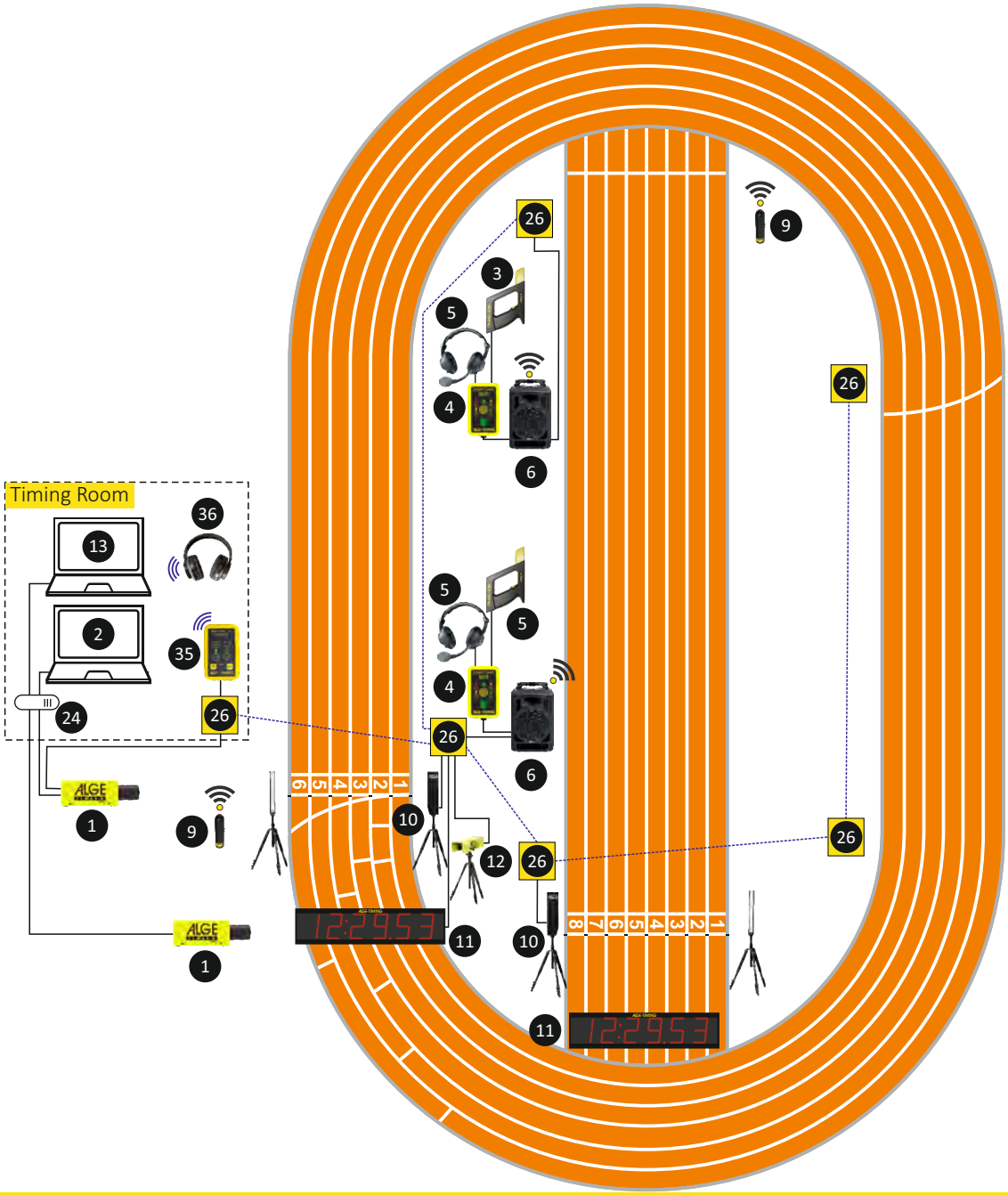


1	Photo Finish OPTIc3	12	Finish Arrival Camera IDCam	23	PoE
2	Notebook OPTIc3	13	Notebook IDCam	24	Switch (with PoE+ for Timing)
3	Start Device e-Start	14	Anemometer WS2	25	PC-Headset
4	Start Unit SU3	15	Controller Timy3 W	26	Stadium Cabling
5	Headset HS4-2	16	Display Board D-LINE (Wind)	27	PC for Meet Manager
6	Speaker BANG2	17	Distance Measurement	28	PC for Video Wall
7	Start Judge SJ2	18	Concentration Clock	29	PC for TV-Graphics
8	Starting Block STAMA with SJS2	19	Infield Display Board	30	Printer for Meet Manager
9	False Start Trigger WTN-PB	20	Video Controller	30	CIS Server
10	Photocell RLS3c	21	PC for Infield Events	32	CIS Client
11	Display Board D-LINE (Time)	22	Video Wall	33	Stadium Announcer

ATHLETICS

System for Indoor Meetings

Competitions in halls require a different system layout than those in stadiums as the layout of the track is different. Two photo finish systems are needed for both finish lines (round course and centre sprint lane). The sketch below shows the basic system. Of course components like false start system, infield-systems, video walls, lap counter, etc. can be added.



1 Photo Finish OPTIc3	9 False Start Trigger WTN-PB	26 Stadium Cabling
2 Notebook OPTIc3	10 Photocell RLS3c	35 Speech Amplifier SV5-BT
3 Start Device e-Start	11 Display Board D-LINE (Time)	36 Headset HS-BT1
4 Start Unit SU3	12 Finish Arrival Camera IDCam	
5 Headset HS4-2	13 Notebook IDCam	
6 Speaker BANG2	24 Switch (with PoE+ for Timing)	

TRAININGS SYSTEM

WTN-Set

This is a complete radio timing system with timing device and two photocells. The system is extendible with additional photocells or other timing equipment.

Sprint times, lap times or the speed can be measured. The complete system works with a from ALGE-TIMING patented radio system „Wireless Timing Network“ (WTN). No cables are needed. It is simple to set up and flexible and universal usable.

The system includes the timing device Timy3, which includes in the WTN-Set2 a built-in printer.

1 Timing Device Timy3 W or Timy3 WP

2 Photocell PR1aW

3 Reflector Ref-L

4 Tripod TRI-S5

Timy3 W Timy3 WP

Photocell PR1aW

case KL-WTN-SET to transport and store the entire system, including tripods

Advantages of the WTN training set

- new innovative radio system
- simple handling, proven ALGE-TIMING robustness
- Timy3 with extensive timing software
- highest timing precision with temperature compensated quartz (measuring to 1/10,000 seconds)
- speed measuring possible (km/h, m/s or mph)
- integrated USB interface in timing device
- photocell with integrated radio
- up to 5 different timing channels at photocell
- extension of system with further photocells or impulse device possible
- up to 15 different radio channels are adjustable
- complete system is battery supplied (battery runtime about 35 hours)
- devices are for outdoor use
- stable case with foam insert for easy and safe transport

Two WTN-Training-Sets are available - The difference between set 1 and 2 is the integrated printer in the timing device of set 2.

WTN-Set 1 includes
1 x timer Timy3 W with alkaline batteries
2 x photocell PR1aW
2 x reflector Ref-L
4 x tripod TRI-S5
1 x case for complete system

WTN-Set 2 includes
1 x timer Timy3 WP with rechargeable battery and charger
2 x photocell PR1aW
2 x reflector Ref-L
4 x tripod TRI-S5
1 x case for complete system

TIMING DEVICES

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 10.6 - 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.

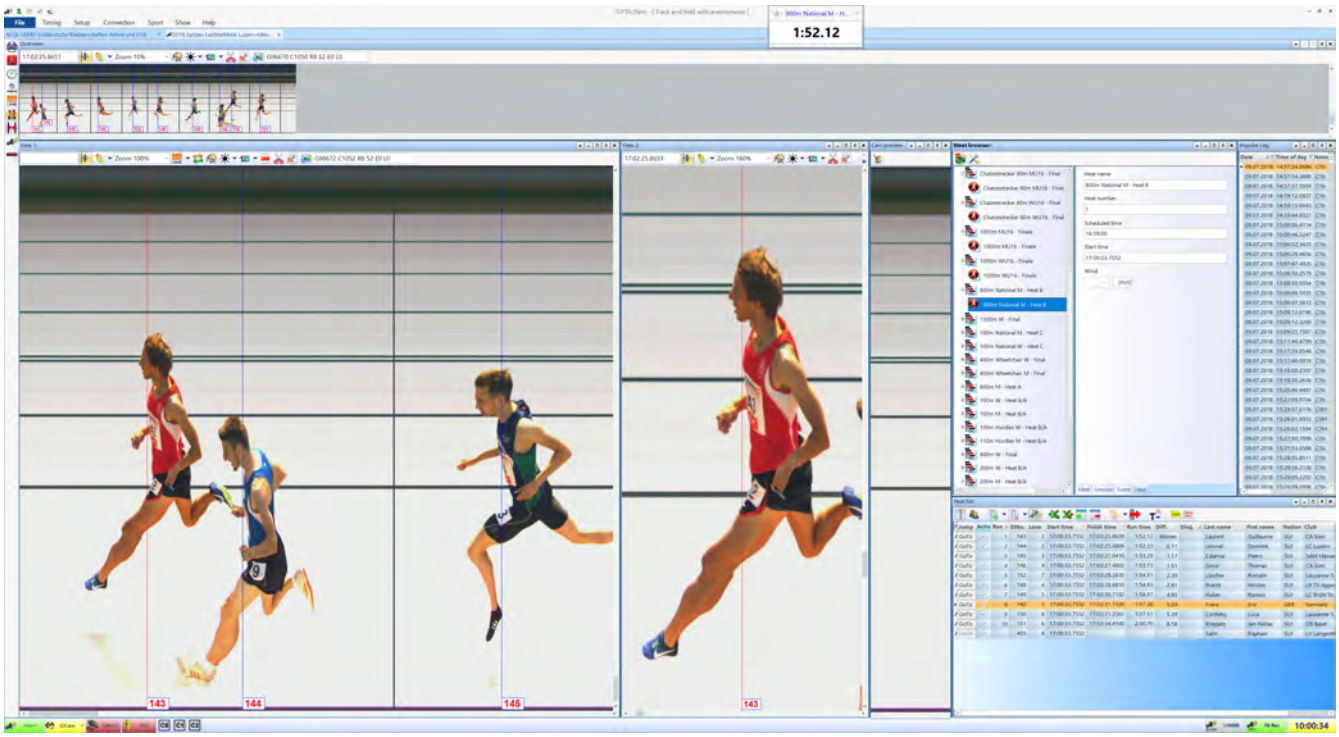
Automatic Iris Adjustment
With the motor zoom of ALGE-TIMING you can access functions such as autofocus and automatic iris adjustment.

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, Windows 11 (x86 and x64)



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

Spitzen Leichtathletik LUZERN

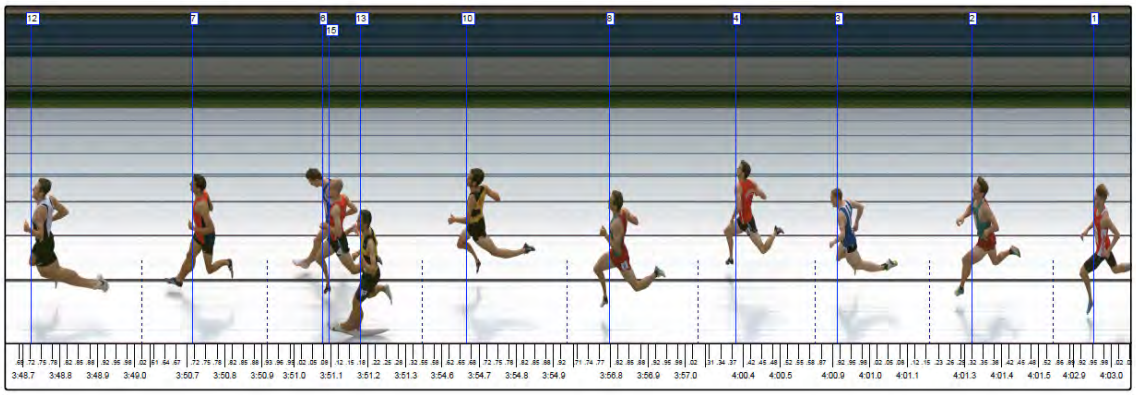
Sportfaszination im Weltformat.

Results List

Spitzen Leichtathletik 2019 Luzern
1500m M - Final

Date: 09.07.2019
Start time: 16:39:00

Location:	Allmend	Distance:	1500 m
Session name:	2019-07-09	Actual start time:	16:38:06
Number:	1.0.1		



Rank	StNo.	Lane	Name	Club	Nation	Run time	Diff.
1	459	12	CURTI Michael	LC Terwil	SUI	3:48.73	Sieger
2	157	7	ENGEL Hendrik	TV Länggasse Bern	GER	3:50.72	1.99
3	159	6	SCHÖNENBERGER Urs	KTV Wil LA	SUI	3:51.08	2.35
4	158	15	RAMSEIER Reto	TV Länggasse Bern	SUI	3:51.10	2.37
5	160	13	JÄGER Joaquim	Stade Genève	SUI	3:51.19	2.45
6	161	10	HERNANDEZ Ilias	Stade Genève	SUI	3:54.67	5.94
7	164	8	SCHÜPBACH Simon	LR Gettnau	SUI	3:56.80	8.07
8	167	4	CROISIER Alain	TV Länggasse Bern	SUI	4:00.39	11.65
9	168	3	LÜSCHER Romain	Lausanne-Sport Athlétisme	SUI	4:00.92	12.18
10	156	2	CORNILLIE Yves	LR Gettnau	SUI	4:01.32	12.59
11	165	1	SUTTER Dennis	KTV Bütschwil	SUI	4:02.96	14.23
12	174	14	DUSS Sämi	TV Sarnen	SUI	4:03.92	15.19
13	163	5	HÜRLIMANN Ramon	LV Langenthal	SUI	4:04.55	15.82
14	166	11	PATZI Gabriel	LAC TV Unterstrass	SUI	4:07.92	19.18
15	162	9	KEUSCH Sven	TV Wohlen	SUI	4:10.11	21.38
			Disqualification				
	169	16	MENZI Diego	KTV Bütschwil	SUI	DNF	

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

2021-01-25 / 15:43

Timing: ALGE-TIMING - FPS: 2000 - VRes: 2016
http://www.alge-timing.com

ALGE-TIMING

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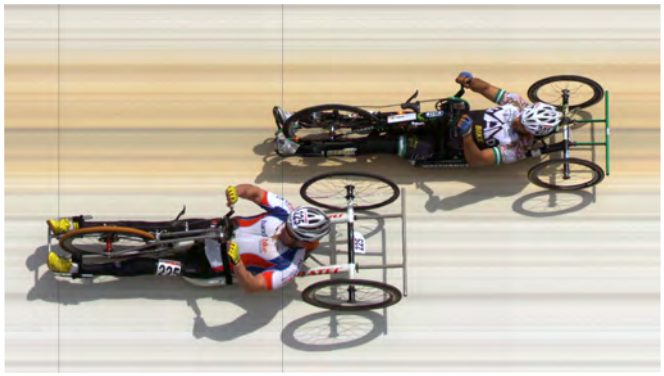
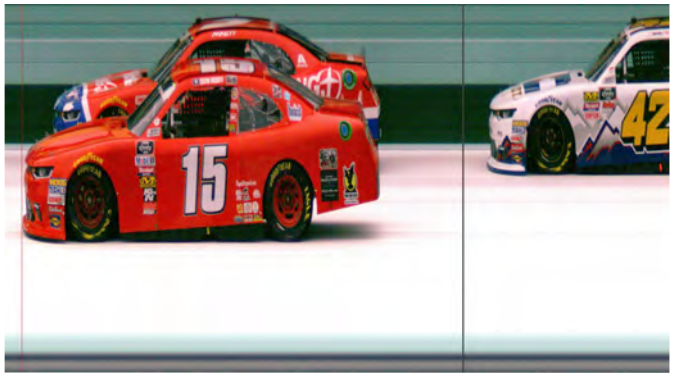
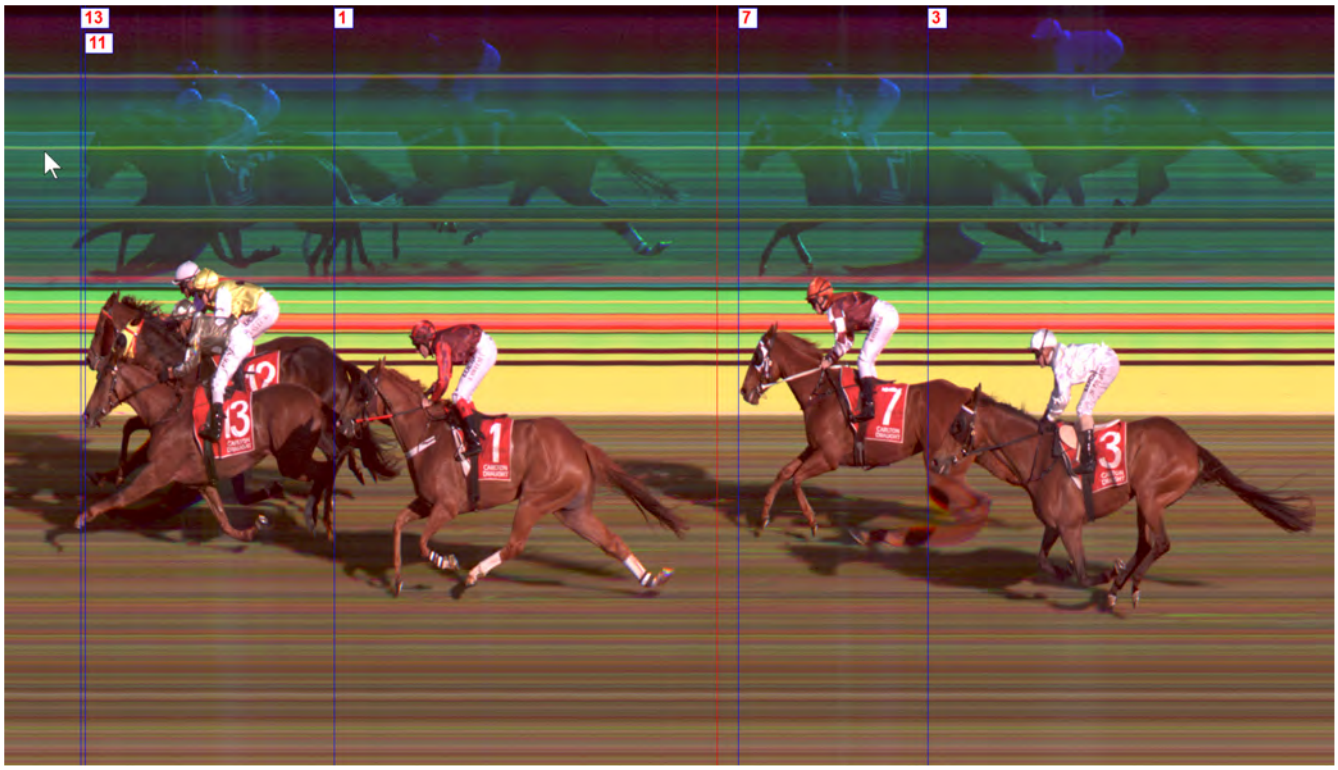
The OPTIc3 is used for sports where several participants reach the finish at the same time. In addition, the OPTIc3 is the ideal de-vice to monitor the finish arrival. When discussing a result, the picture of the OPTIc3 shows the proof. Here the saying is true “a picture is worth a thousand words”.







TIMING DEVICES

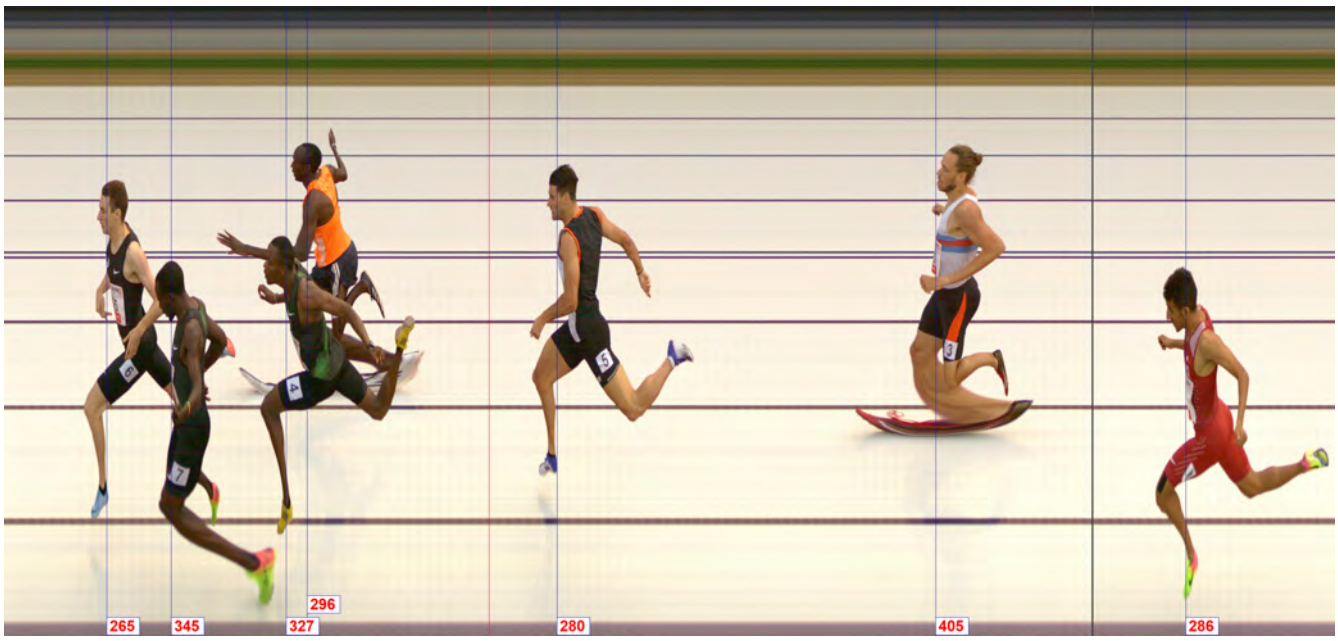
Photo Finish OPTIc3

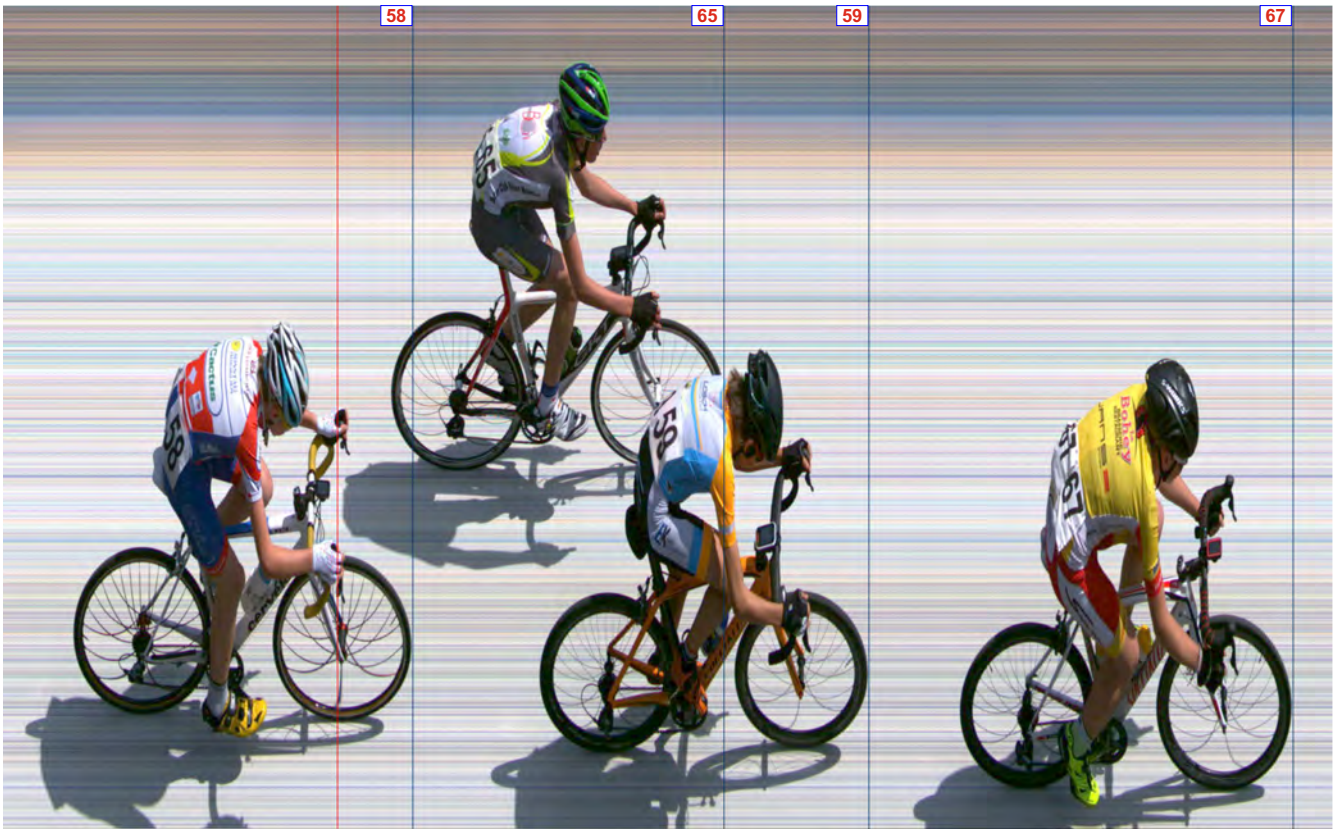
Sports:

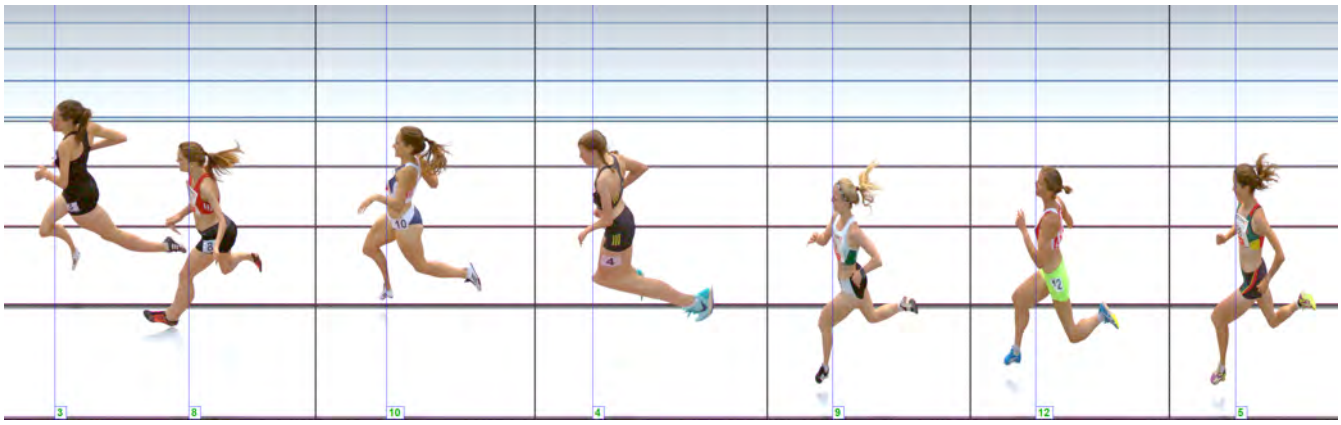
- Athletics
- Cycling
- Horse Racing
- Motorsport
- Rowing
- Canoe
- Dragonboat
- Inline Skating
- Snowboard
- Ski Cross
- Alpine Skiing
- Cross Country Skiing
- Biathlon
- Short Track
- Speed Skating

Special Solutions:

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



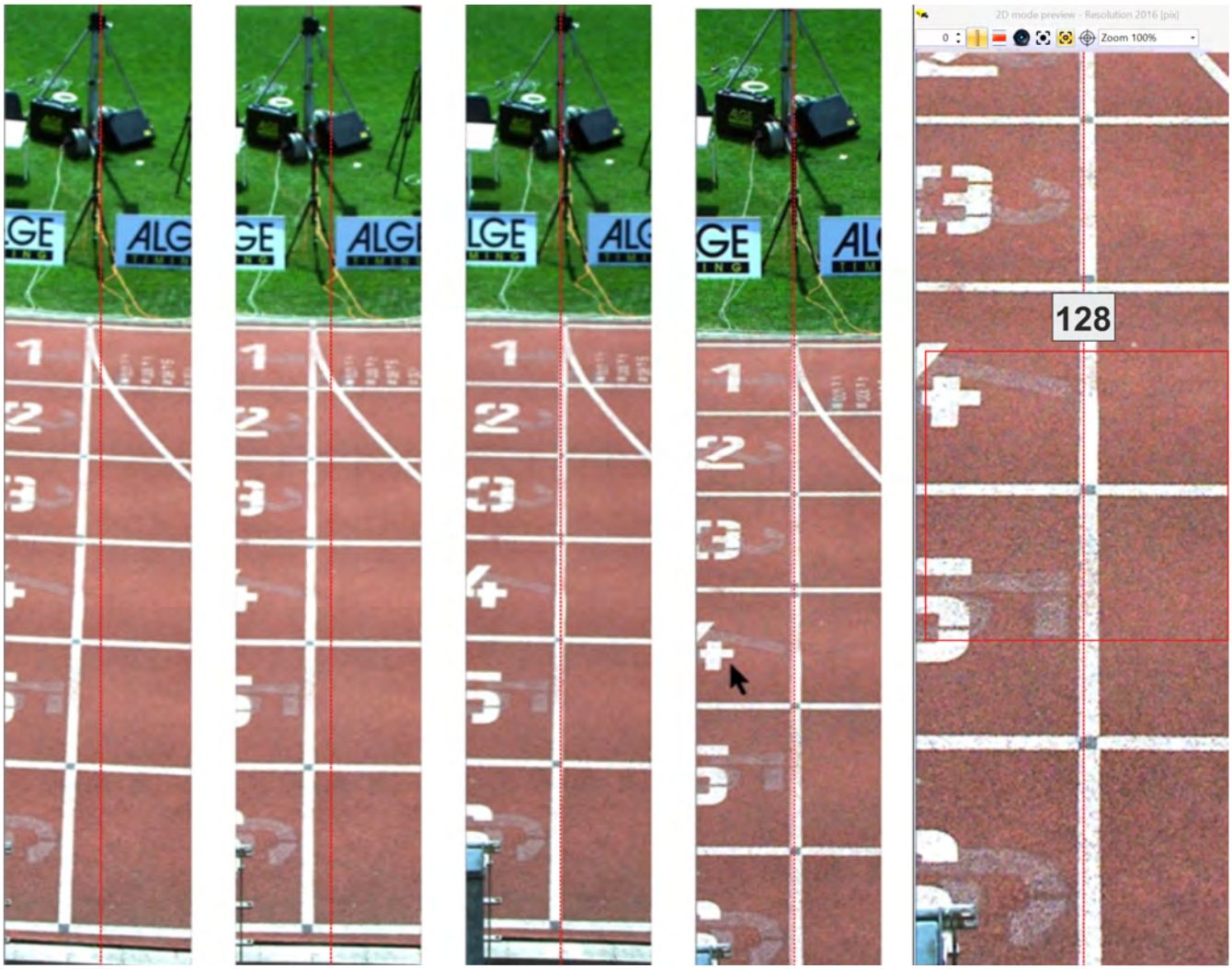




Easy camera setting in 2-D mode

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 photo finish camera to the finish line. With the autofocus function, the focus can also be adjusted in the 2-D image.



TIMING DEVICES

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 ⅔ “, 12.5- 75 mm / F1.2

Motor Zoom MZ75C
control of focus, zoom and brightness from the PC
C-Mount ⅔“, 12.5 – 75 mm / F1.2

Motor Zoom MZ48C
control of focus, zoom and brightness from the PC
C-Mount ½“, 8- 48 mm / F1,2

Wide-Angle Lens L8C
C-Mount ⅔“, 8 mm / F1.4

C-Mount Focal Length Converter Lx1.5
converts the focal length of a lens for 1.5 times

C-Mount Focal Length Converter Lx2
Doubles the focal length of a lens

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
tripod with a maximum height of 2.4 m

Tripod TRI-PRO
tripod 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)

POE-SWITCH8
Gigabite switch with 8 RJ45 sockets and integrated Power over Ethernet (PoE+)

Power Bank PS-KP
Universal device that feeds almost all ALGE-products, the lithium battery has a capacity of 18 Ah, and a 12 VDC and 2 USB outputs

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

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 oscillator 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	
Transponder Integration:	optional	
Power Supply:	Ethernet with PoE+ power supply PS12A (10.6 - 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 finish input (banana socket)
2 x DIN socket (3 input channels)
1 x display board RS232 (banana socket)
1 x display board RS485 (banana socket)
1 x motor zoom
1 x gear head
2 x USB (e. g. for WLAN)
1 x RJ45 (Gigabit Ethernet)
1 x power supply (9 – 13.4 VDC)

TIMING DEVICES

Finish Arrival Camera IDCam

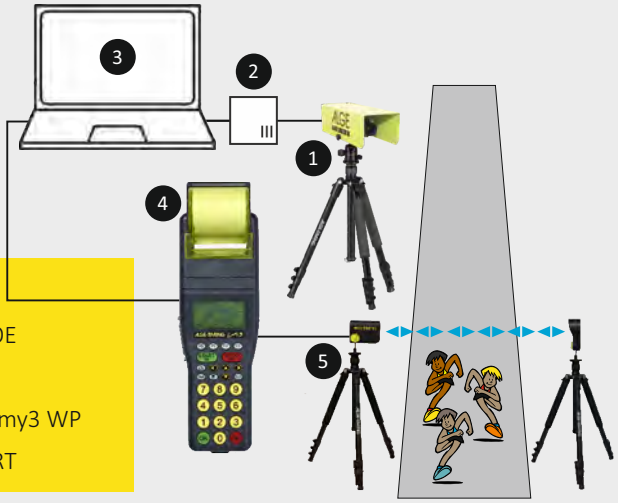
The IDCam is a reliable and simple way to monitor the finish line. When an athlete crosses the finish line a series of high resolution pictures is taken and stored on the PC with the time of the day for each image.

The IDCam can be connected to an ALGE-TIMING timing device. The photocell at the finish line starts the recording of the images by the IDCam. The images are automatically sorted with the correct ID-number if the number is entered in the timing device in advance.

The recorded images help determine the arrival order of the athletes at the finish line, correct the missing finish line arrivals and add the bib numbers, which can be read from the pictures.

Setup Example of the IDCam with a Timy3 WP:

IDCam with 20 m long Ethernet cable (can be up to 100 m long) with power supply POE. Connect the POE to the PC using a 3 m Ethernet cable.
Connect the ALGE-TIMING timing device to the PC via RS232 or USB cable.



1. IDCam
2. Power Supply POE
3. PC for IDCam
4. Timing Device Timy3 WP
5. Photocell PR1a-RT

Setup:
Connect the IDCam by Ethernet cable (included 20 m cable, possible up to 100 m) with power supply POE. From here connect a timing device from ALGE-TIMING by RS 232 or USB.

The IDCam is the ideal addition to any ALGE-TIMING timing devices.

Technical Data:

Number of images:	up to 30 frames per second
Picture resolution:	2,592 x 1,944 pixel (5 MP)
Connections:	camera IDCam to PC: Ethernet CAT5 cable up to 100 m length timing device with PC: RS232 or USB
Recording time:	endless, depending on the capacity of the PC's hard disk
PC operating system:	Windows 7, 8, 10, 11
Power supply:	POE: 90- 280 VAC

Supported Timers:

- TdC8001 and TdC8000
- Timy3, Timy2 and Timy
- Timer S4
- Photo Finish OPTIc2 and OPTIc3
- High-Speed Camera OPTIc3 (2D mode)
- manual recording via PC keyboard

Scope of Delivery:

- 5 Megapixel Network Camera
- zoom lens 4- 8 mm for camera
- 3 m CAT5 cable K-RJ45G03
- 20 m CAT5 cable K-RJ45G20
- POE Power supply
- PC Software

Optional Accessories:

- weather Protection WP-IDCam
- tripod TRI128 or TRIMAN
- ball joint 482
- cable reel KT-RJ45G90

Example of cooperation between IDCam and Photo Finish

The IDCam is the ideal complementary device to the photo finish OPTIc3, because it controls the finish line recording, and helps determine the bib numbers, from the finish line arrivals, in case these were not readable in the photo finish picture.

Athletics - Cooperation between IDCam and Photo Finish OPTIc3

Thee example of a finish arrival in Athletics shows that together with IDCam and ALGE-TIMING photo finish OPTIc3, you have the ideal tool for evaluating the finish quickly and independently of the finish arrival judge.

The IDCam can be controlled via the OPTIc3.NET software running on the same PC as the photo finish software OPTIc3.NET, but it can also be installed on another PC on the same network.

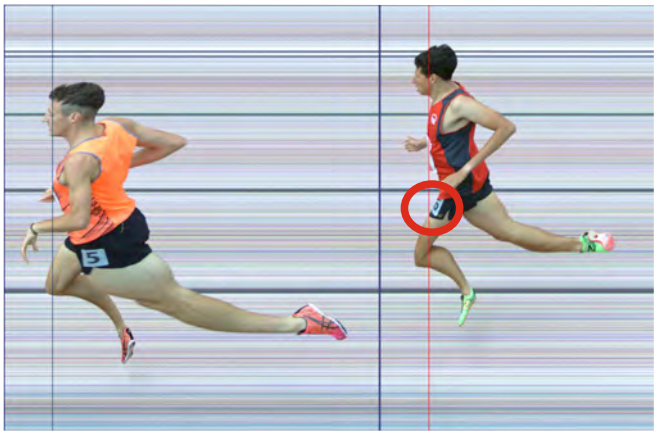


Photo Finish OPTIc3 image

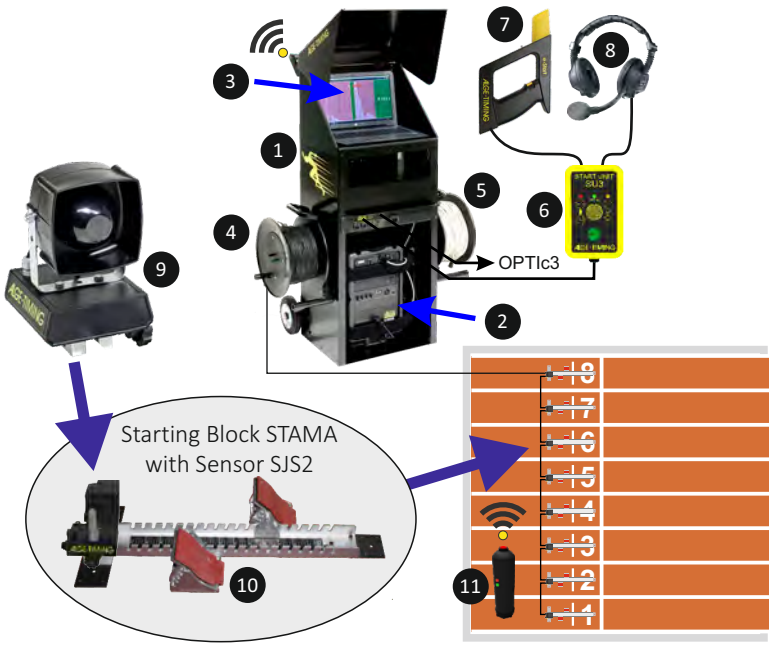
The runner with ID-number 180 and track number 6 can not be identified in the photo finish picture. In the picture taken by the IDCam, the ID-number 180 and lane number 6 is, however, clearly recognizable (see image below).

IDCam image

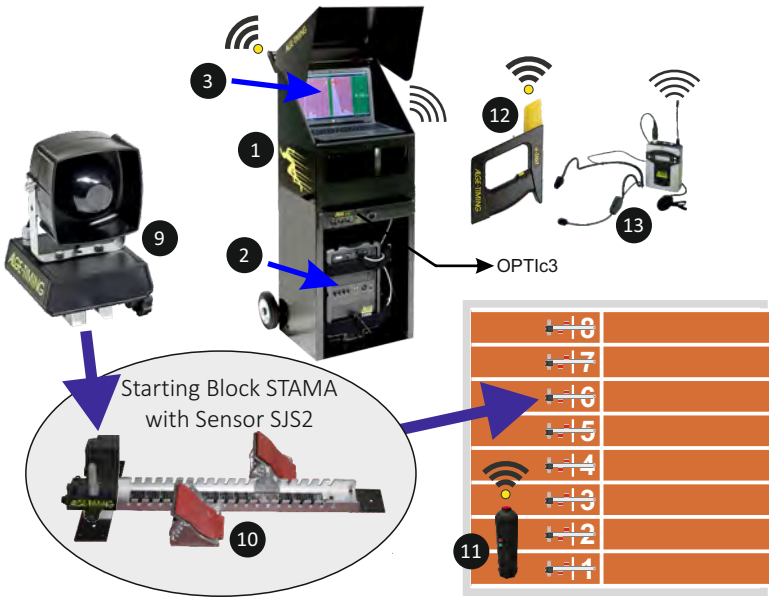
The Start Judge SJ2 is a false start system for track & field to monitor the start of running competitions up to 400 m. It consists of the Start Judge transport cart SJT2 with integrated controller and battery. The transport cart can store the complete system.

The sensors SJS2 are mounted on each starting block. The integrated loud speaker system enables the starter to give commands to the athletes. The start tone (simulated start shot) is released through the speaker integrated in the start sensor and the BANG2. By this, all runners can hear the start tone at the same time. With a radio push button WTN-PB one can move around and still trigger a false start at any time.

Cable Version SJ2-C



Radio Version SJ2-W



Cable Version SJ2-C:

This system requires a cable (KT313-30) from the Start Judge transport cart to the first sensor SJS2 (first starting block). The sensors of the further lanes are one after another connected with cables 139-12. With the Start Unit SU3 and the connected e-Start and HS4-2, the starter can communicate with the timing room or give starting commands.

1. Start Judge Transport Cart SJT2
2. Speaker System BANG2
3. Notebook for Start Judge SJ2
4. Cable Reel KT150H
5. Cable Reel KT313-30
6. Start Unit SU3
7. Electronic Start Gun e-Start
8. Headset HS4-2
9. Start Judge Sensor SJS2
10. Starting Block STAMA
11. Radio Push Button WTN-PB
12. Electr. Radio Start Gun e-START W
13. Radio Microphone BANG-HS

Radio Version SJ2-W:

This system is wireless, i. e. all components communicate via radio. For this radio communication, the ALGE-TIMING WTN radio system is used. Oral commands for the athletes are made through the headset BANG-HS and released via the BANG2. Also the start signal is send by radio to the timing system.

TIMING DEVICES

Start Judge SJ2

The Start Judge SJ2 is certificated by the „World Athletics“ (Former IAAF)

WORLD ATHLETICS

ALGE-TIMING
Att. Mr Roman Merhar / Project Manager
Rotkreuzstrasse 39
A-6890 Lustenau
Austria

Monaco, 1 March 2023

Dear Roman,

Technological devices other than the reaction time measuring module of the Start Information System (SIS) (e.g., Timing Systems, Wind Gauges, Distance Measuring Equipment etc.) used in athletics are not issued a certificate by World Athletics and therefore no certified lists for such devices are available.

The "Start Judge SJ2" accelerometer-based reaction time measuring module of the SIS by ALGE-TIMING GmbH (firmware V10.61) meets the requirements for a World Athletics Product Certificate.

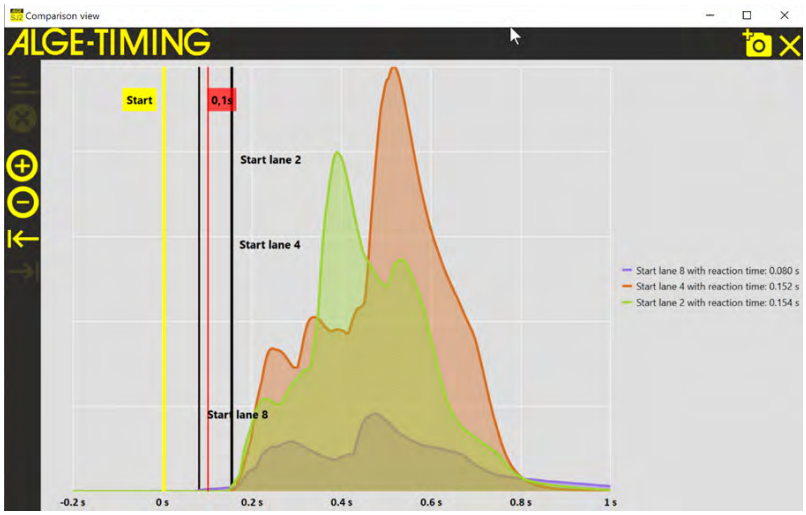
All measuring equipment used in IAAF competitions shall be manufactured and calibrated according to international standards. The accuracy must be guaranteed by the manufacturer according to the relevant international standards and shall have been verified by an appropriate organisation accredited by the national measurement authority.

To our knowledge and experience, the equipment of ALGE-TIMING GmbH meets this condition and is also successfully used in international athletics competitions organised under World Athletics Rules and Regulations.

Sincerely,

Imre MATRAHAZI
Technical Services Senior Manager
Competition & Events Department

The SJ2 false start system does not require any operation during the start process. The measurements are made automatically. Each start sensor collects the start data and transmits them to the Notebook in the Start Judge Cart, which is connected via a USB cable.



The starting curves of all participants (lanes) are visible on the screen of the Notebook. The picture on the left shows a typical take-off process in which track 5 caused a false start. All other tracks had a valid start.

It is possible to display the star-graphs of selected runners (lanes) enlarged and on top of each other.

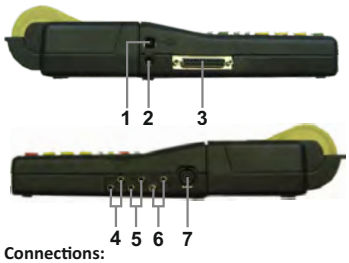
TIMING DEVICES

Timy3 W & Timy WP

The 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. The printer is integrated into the Timy3 WP and logs times of the entire competition. It has an internal wireless modem of the WTN Wireless Timing Network series and an be connected via radio to all devices of the WTN series. For example, it 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 interfaces for communication with external devices, a USB interface, an interface for a display board, an RS232 and an RS485 interface.



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)
Time resolution:	1/10,000 s
Timing:	9 timing channels
Program memory:	flash memory with 16 Mbit
Data memory:	RAM with 4 Mbit (about 30,000 times)
Display:	monochrome LCD graphic display with backlight, 128 x 64 pixels
Keypad:	silicone keypad, 26 keys
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
Power supply:	internal: NiMH power pack 7.2 V/2 Ah or 6 x AA alkaline (Timy3 W) external: power supply PS12A, 12 V battery or 8- 22 VDC
Power consumption:	without printer about 100 hours with printer about 47 hours
Printer:	graphic thermal printer, max. 5 lines per second
Temperature range:	-20°C to +60°C
Measurements:	Timy3 W: 204 x 91 x 50 mm Timy3 WP: 307 x 91 x 65 mm

Display
The Timy3 has a monochrome LCD graphic display with 128 x 64 pixels and back light. With this, displaying up to 8 lines of text is possible. Different character sizes, and also graphic symbols for easier operation, can be displayed.

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.

Memory
Approximately 30,000 times can be stored with the corresponding bib and timing channels. Updates of the software are available free of charge, via the Internet.

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 photocell, 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.

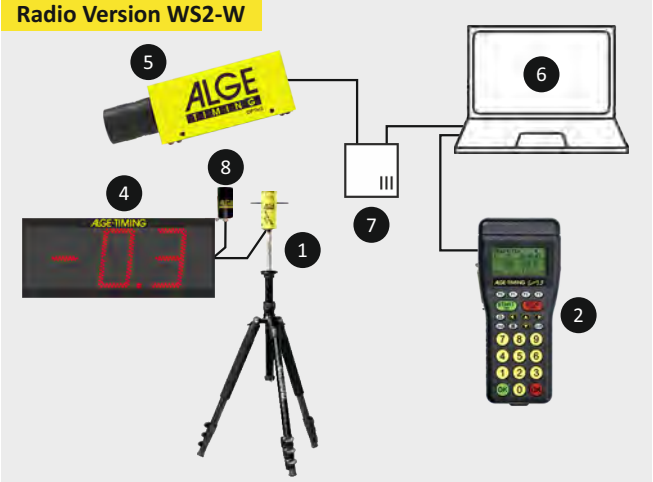
Windspeed WS2

The ALGE-TIMING Windspeed WS2 works with a calorimetric mass flow sensor, which allows fast and accurate wind measurement. It is used to measure the windspeed during running and long jump events.

The WS2 does not need any re-calibration since no mechanical parts are used. The components retain their characteristics over the entire service life, and there are no disturbances caused by humidity or temperature fluctuations.

Cable Version WS2-TY

Radio Version WS2-W



1 Anemometer WS2
2 Terminal Timy3 W
3 Cable Reel KT245Z10
4 Display Board D-LINE250-O-3-E0
5 Photo Finish OPTIc3
6 PC for Photo Finish
7 Power Supply PoE
8 Radio Receiver WTN-PB

Anemometer Windspeed WS2-TY (cable):

- Anemometer WS2
- Terminal Timy3 W
- Tripod TRI128
- Tripod-Adapter Z-040701-0
- Cable Reel KT245Z10 (100 m cable length)
- Cable 246-02

Anemometer Windspeed WS2-W (radio)

- Anemometer WS2
- Terminal Timy3 W
- Tripod TRI128
- Tripod-Adapter Z-040701-0
- Radio Receiver WTN-WS

Distance Measuring Device DMD-Arc5

Precise and user-friendly total station for measuring width and height in athletics with a large graphic display, alphanumeric keyboard and exchangeable battery. The width measuring device with „two axis compensation“ is set to a prism to calculate the distance. On the PC, software supplied by ALGE-TIMING e.g. the actual throw range is calculated. Alternatively, the ALGE distance measuring device is read in by various “Meet Management Systems”. The total station has an interface to transmit the measured distances or heights to a PC.

Software is available for the following disciplines:

- discus
- shot put
- hammer through
- javelin
- long jump
- triple jump
- high jump
- pole vault

START DEVICES

Speaker System BANG2

The electronic start system BANG2 allows a simple, unproblematic start. It consists of a transportable amplifier speaker box (active speaker with 80 W_{max}). The timing system gets the start impulse from the BANG2. When the BANG2 is triggered 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 start gun e-Start has an integrated flash.

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

1 .....cable connection for BANG2 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~)

Advantages of the Start System BANG2

- Start system is always ready, no reloading of a gun necessary.
- No starting problems due to unloaded start guns 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 start gun).
- 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)

Technical Data:

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

Radio Module WTN for Timing:

Transmitting Frequency:	2.4 GHz band
	16 adjustable teams
Transmitting Power:	10 mW
Range:	approx. 300 m (line of sight)

Receiver for headset BANG-HS:

Receiver Module:	PLL multifrequency receiver
Carrier Frequency:	863- 865 MHz
	divided in 16 frequencies
Operating Range:	about 30 m (line of sight)

START DEVICES

Electronic Start Gun e-Start & e-Start W

The electronic starting device combines absolute precision and synchronization of start signal, flashlight and start tone, and replaces traditional start guns.
With this device, problems by transporting weapons have become history.

The electronic start gun is connected directly to ALGE-TIMING devices, such as the BANG loudspeaker system or the Start Judge SJ2 system. It has a push button that triggers the flash and start impulse that are passed on to the other components of the system.

The e-Start is connected by cable; the e-Start W is the radio system.

Start gun e-Start

Start gun e-Start W

Facts about the electronic Start Gun e-Start/e-Start W

- fair starting conditions for all starters
- best visibility through a flash for start and/or false start
- no additional costs for cartridges
- no problems with the start due to defective ammunition or unloaded gun
- no weapon certificate required
- no problems with transport or with customs authorities

Technical Specifications

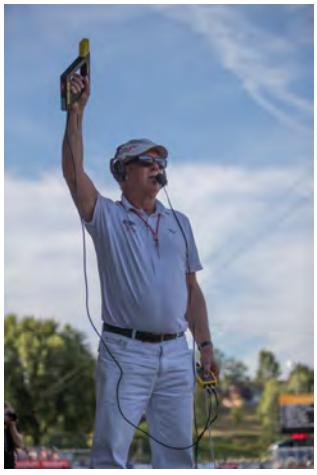
Flash:	4 x LED (Ultra Bright Power LED)
Operating temperature:	-20 °C to +45 °C
Dimensions:	265 x 150 x 35 mm

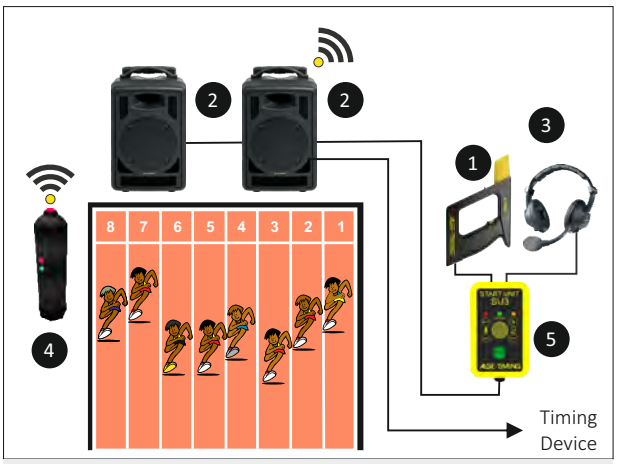
e-Start Specifications

Weight:	approx. 0.3 kg
Connector:	2 m long connection cable with DIN plug

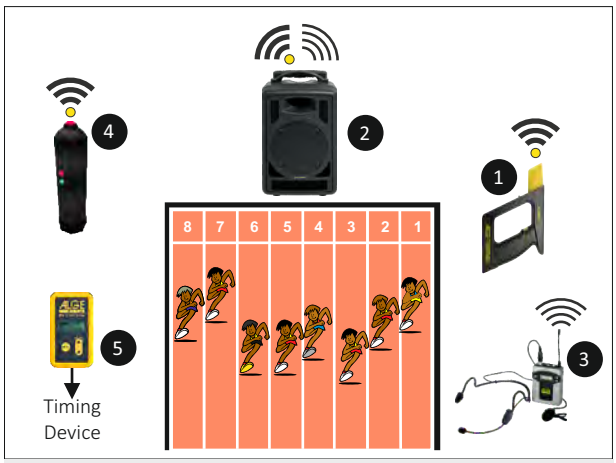
e-Start W Specifications

Weight:	approx. 0.5 kg
Connection:	via integrated WTN radio module
Transmission frequency:	2.4 GHz band, 15 adjustable teams
Battery:	Li-Ion battery 3.6 V/10.4 Wh (fixed installed)
Charging time:	approx. 4 hours (charging temperature 0 °C to 45 °C)
Operating time:	approx. 45 hours at 22 °C and one impulse per minute





1 e-Start
2 BANG2
3 HS4-2
4 WTN-PB
5 Start Unit SU3



1 e-Start W
2 BANG2
3 BANG-HS
4 WTN-PB
5 WTN

Photocell PR1a and PR1aW

The photocell PR1a is a masterpiece of precision and can be used universally as a reflection photocell, as a transmitter photocell or a receiver photocell.

The photocell emits a modulated light beam in the infrared range, which is monitored by the receiver for interruptions. If the receiver detects an interrupt, it triggers an impulse. If both, the transmitter and receiver are in the same housing, it is called a reflection photocell. The infrared beam is directed from the transmitter to a reflector. The reflector functions like a mirror and reflects the light beam back to the receiver. Should longer distances be necessary, one can use a photocell as transmitter-, and another as a receiver photocell.

Photocell Sets

Reflection Photocell PR1a-RT
Reflection photocell with tripod TRI128 and 30 m cable
Scope of delivery: 1 x PR1aW, 1 x PR1a-REF, 2 x TRI128, 1 x 001-30

Through-Beam Photocell PR1a-dT
Same as the PR1a-d through-beam photocell, but without the BBG mounting bracket and with tripods and 30 m long stop cable.
Scope of delivery: 2 x PR1a, 2 x TRI128, 1 x 001-30 (30 m)

Radio Reflection Photocell PR1aW-RT
Like PR1a-RT, but with radio.
Scope of delivery: 1 x PR1aW, 1 x PR1a, 2 x TRI128

Radio Through-Beam Photocell PR1aW-dT
Like PR1a-dT, but with radio.
Scope of delivery: 1 x PR1aW, 1 x PR1a, 2 x TRI128

Photocell PR1A

- impulse accuracy 1/10,000 s
- variety of types:
  - reflection photocell
  - through-beam photocell for long distances
- wide photocell range: over 150 m possible
- variable power supply of the photocell:
  - battery operation
  - power supply from the ALGE-TIMING timing device
  - external power supply from 4 to 18 VDC
- battery status indication with LED (green, yellow, red)
- indicates photocell status with LED (green, yellow, red)
- synchronization of two photocells (main and backup),
- in order to avoid interference
- setting of the delay time
  (approx. 20 ms to 2 s, factory setting = 20 ms)
- very long operating time

Photocell PR1aW

The PR1aW photocell has an integrated radio module (2.4 GHz), in addition to all characteristics of the PR1a. The impulse transmission can be carried out by radio and is compatible with the WTN series. 15 different radio-teams and 5 different impulse channels can be set. If required, the PR1aW can also be connected to a timing device via cable.

Additional Functions:

- integrated radio module for wireless impulse-transmission
- impulse transmission also possible by cable
- up to 38 hours of operating time with battery

Technical Data

Range:	0.5 to over 25 meters (with reflector) 0 to over 150 meters (transmitter and receiver)
Impulse length:	20 to 2,000 ms can be set
Output:	NPN transistor, open collector, active low
Dimensions:	approx. 118 x 87 x 44 mm
Weight:	approx. 0.3 kg
Operating time:	approx. 77 hours (PR1a) approx. 38 hours (PR1aW)

The RLS3c Triple Photocell

The triple photocell has a range of 2 to 15 m and consists of three photocells, which are built into one housing. It is equipped with a complete transceiver unit, a reflector, 2 tri-pods and a 30 m cable.

Switchable between the following functions:

Photocell area:
Application for athletics; only if all three photocells are triggered an impulse will be generated. This prevents the triggering by arms or legs and the unofficial time of the photocell time corresponds with the “official winner’s time”. This photocell should be used when the time is shown on a display board.

Single photocells:
All three photocells operate independently, i.e. if one of the three photocells is triggered, an impulse is generated (e.g. for canine sports agility).

Technical Data

Range:	5 to 15 m (distances under 5 m on request)
Output:	NPN transistor, open collector, active low
Impulse length:	20 to 1400 ms can be set
Dimensions:	200 x 370 x 120 mm
Weight:	2 kg (RLS3c with reflector)

ACCESSORIES

Start Mikrophone SM9

The traditional way to start. Mount the start microphone with a velcro tape on the start gun. When the start gun is triggered the SM9 produces an start impulse and tigers the timing device. The Sm9 is usually connected to the SU4-S or SU5-BT in order to have a speech connection to the timing operator.

Start Unit SU2

Amplifier for e.g. BANG2 with start button, volume adjustment and socket for the a headset and start gun (e.g. e-Start)

Speech Amplifier

Speech Amplifier SV5-BT

Bluetooth speech amplifier to pair Bluetooth headsets or earphones with volume and microphone control.

Speech Amplifier SV4-S

With two connections for two-core connection wire (banana plugs), connection for headset, volume control and switch and/or push button for microphone

Headset HS4-2 and HS4-1

Headset HS-BT1

Bluetooth headset with double-sided earphones and built in microphone. It works in combination with the speech amplifier SV5-BT.

Headset HS4-2

Headset with double-sided earphones and one microphone; recommended for out-door and/or for high surrounding sound level

Headset HS4-1

Headset with single-sided earphones and one microphone; recommended for out-door and/or for high surrounding sound level

Radio Push Button WTN-PB

This radio push button can be used as start- or as false start trigger.

FLASH XL

The starting flash light FLASH XL is an optical start device that can be used with acoustic starting devices such as a start gun. It is triggered by an external impulse. If another impulse occurs within five seconds, it will show 5 flashes as false start signal.

Radio System Teledata TED2

Modern radio with built in high precision timing device. The radio transmits in the 433 MHz band. The radio frequency can be set by the operator. This TED2 allows distances of up to 4.5 km to be bridged by radio.

Transmitter TED2-TX

Radio transmitter that transmits data or impulses to the receiver. The radio power can be set by the operator.

Receiver TED2-RX

Radio receiver that receives data or impulses from the transmitter TED2-TX.

DISPLAY BOARDS

ALGE-TIMING offers a large range of display boards. They differ not only in size but also in their technology. For a track & field event, display boards of the most different applications are required.

Display Board Time (e. g. D-LINE250-O-6-E0)

The running time and run time of the winner is shown. Mostly, it is a numerical display board with 6 red LED figures. Their heights of 15, 25 or 45 cm are well established (on request other figure heights are available).

Display Board Wind (e. g. D-LINE150-O-3-E0)

The wind velocity is shown. Mostly, it is a numerical display board with 3 red LED figures. Their heights of 15 or 25 cm are well established (on request other figure heights are available).

Lap Counter

The number of laps is shown. Generally, it is a numerical display board with 2 red LED figures per side. There are one-sided, two-sided and three-sided displays. The figure heights of 15 or 25 cm are well established.

Concentration Clock (e. g. D-LINE150-O-3-E0 with Timy3 W)

The elapsing time is shown that an athlete has for the try with technical disciplines. The countdown can easily be adjusted with the terminal Timy3 during each competition. It is a numerical display board with 3 red LED figures. The figure heights of 15 or 25 cm are well established.

Infield Display Board

For the selection of the correct infield display board, mainly the field of view of the spectators is of importance. The display board must not block the view. ALGE-TIMING has a large variety of different infield display versions with red LED matrix displays or complete full colour video walls.

The best flexibility is reached with single display boards that are placed double or three-sided. In this case, the display boards can for example also be used for advertising purposes with graphics and animations.

As an option for infield display boards, a turntable cart for one- or two-sided display boards is available.

For controlling the infield display board, a PC with the MeetManager software is connected to the network. The software can also read data from other devices, e. g. distance measuring device or wind gauge.

Video Wall

ALGE-TIMING can offer video walls of all sizes with different resolutions for stadiums. Together with evaluation software, start lists, result lists or live TV broadcasts can be shown.

ALGE-TIMING
Rotkreuzstrasse 39
6890 Lustenau, Austria

www.alge-timing.com