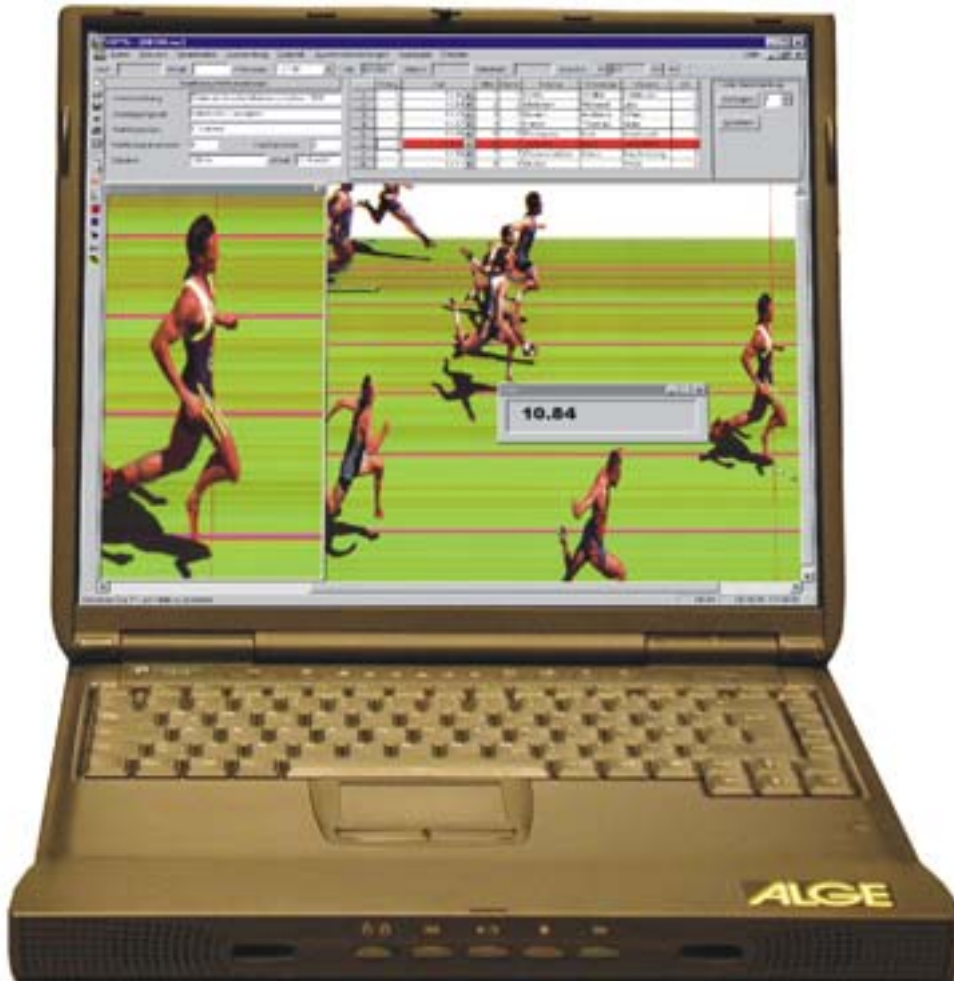


Latest Advances through Color Technology

OPTIc

ALGE OPTIc is a computerized color photofinish system with integrated evaluation software. The Color Line Scan Camera scans every movement at the finish line in true color (24 bit, 16.8 million colors) and stores the data on the hard disk of the computer.

The stored picture can be shown at any time on the monitor or printed.



The Main Features of the ALGE OPTIc are:

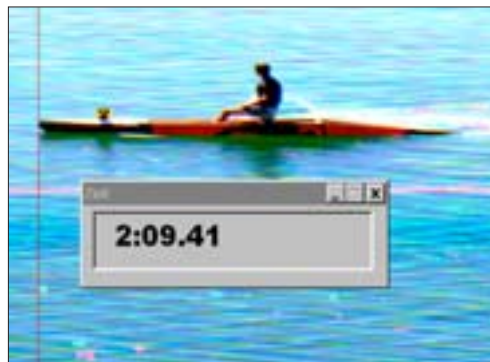
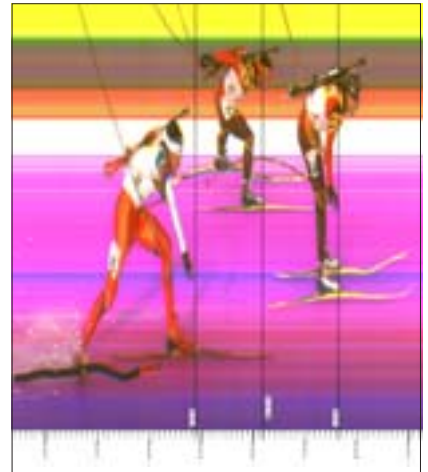
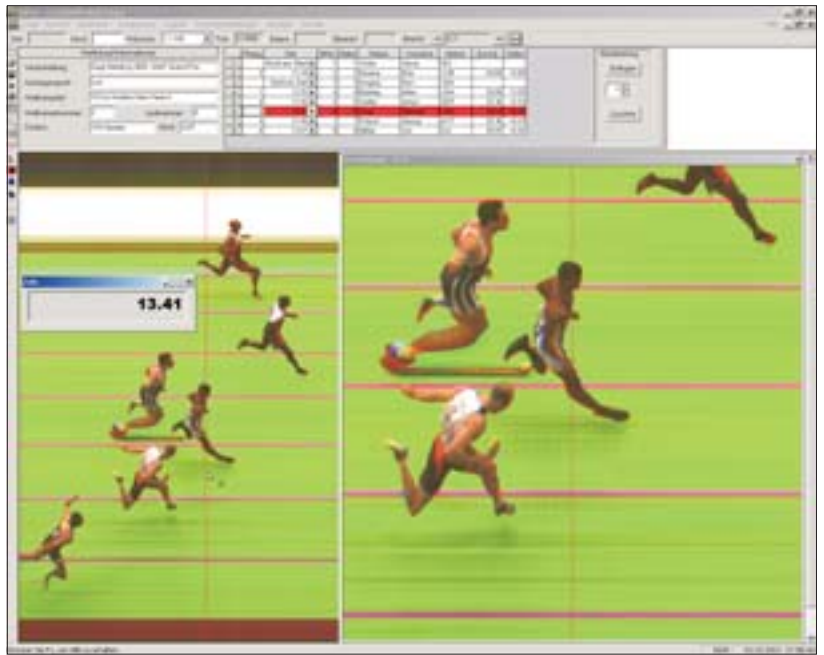
- Best picture quality in all light conditions through modern line scan sensor.
- Highest precision through Temperature Compensated Crystal Oscillator TCXO.
- Easy handling with Windows 2000.
- Unlimited recording time with suitable PC hardware.
- High resolution, 2000 lines per second with up to 1356 pixel.
- Evaluation is possible even before all competitors reach the finish line.
- You can evaluate a finished race while another race is started.
- It is possible to start different races simultaneously.
- The time of each evaluated competitor is recorded automatically into the result list.
- Possibility to use a Desktop PC or Notebook with IEEE 1394A-OHCI compatible interface.

ALGE
T I M I N G

Use the OPTIc whenever an Exact and Accurate Finish is Necessary

Where do you use the OPTIc:

- Track and Field
- Cycling
- Horse Races
- Greyhound Races
- Rowing
- Canoeing
- Motor Sport
- Cross Country



PC requirements:

- Pentium III, Athlon or faster
- 128 MB RAM
- Graphic Card X-VGA (min. 8 MB RAM)
- Monitor with min. 1024 x 768 resolution and true color
- Hard disk with min. 20 GB (greater speed increases recording time)
- full IEEE 1394A-OHCI compatible interface, 400 Mbps
- Windows 2000, or Windows 98

The optimal OPTIc PC:

- Pentium III 800 or Athlon 800
- 256 MB RAM
- Graphic Card X-VGA (32 MB RAM)
- Monitor with 1600 x 1200 resolution and true color
- two hard disks with min. 30 GB and RAID
- full IEEE 1394A-OHCI compatible interface, 400 Mbps
- Windows 2000

Integrated Evaluation

The OPTic software includes a flexible evaluation. This means, it is possible to print the result lists only a few seconds after the race is finished

The OPTic includes three ways of transferring the time from the picture to the result list:

Manual Identification: Mark the competitor in the result list. Move the time line with the mouse to the point where you want to read the time, and press the right mouse button. The time moves automatically to the selected competitor in the result list.

Lane Identification: Mark all lanes before the race. For the results of an individual competitor, move the time line to the correct lane. Press the right mouse button, and the time for that competitor is automatically recorded in the result list.



Start Number Identification: Move the time line to where you want to time an individual competitor. Press the right mouse button. It opens a small window where you have to input the ID number of the competitor. That time moves automatically into the result list.



The Following Result Lists are Provided:

- Start List
- Result List sorted by Rank
- Result List sorted by Lane
- Result List sorted by Start Number

Flexible Result Lists:

- it is possible to select, name and sort headers, and to select the length of the text field for the header.
- the software can calculate the following headers: average speed, delta time, horse distance
- if a competitor has no time it is possible to select the reason for this in a pull down menu
- if you input the time into the result list with the keyboard and not from the picture, it is indicated

Results list file: Juniorsmeeting
 Athlete without ALGE anemometer - Competition box: 1500 m Male
 Meeting Fieldwork
 Date: 08.06.00 Start time: 21:18:18
 Competition number: 15 Race number: 1
 Distance: 1500 m Wind speed: *

| Rank | Lane | IDNo | Name | Surname | Nation | Age | Time | Diff | Delta |
|------|------|------|------------|---------|--------|------|----------------|-------|---------|
| 1 | 1 | | Indusa | Erwin | ITA | 1990 | 1:58.75 | +0.00 | 1:58.75 |
| 2 | 2 | | 130426 | Jim | USA | 1990 | 2:00.94 | 44.00 | +1.00 |
| 3 | 3 | 27 | Denker | Ulrich | GER | 1991 | 2:01.20 | 44.45 | +1.01 |
| 4 | 4 | | Wheeler | Jeff | USA | 1990 | 2:01.20 | 44.45 | +1.01 |
| 5 | 5 | | Richard | Jim | CAN | 1992 | 2:01.59 | 44.84 | +1.01 |
| 6 | 6 | 11 | Wolton | Heinz | USA | 1990 | 2:01.70 | 44.95 | +2.00 |
| 7 | 7 | | Clouting | Henrik | DEN | 1991 | 2:01.92 | 45.17 | +2.18 |
| 8 | 8 | 12 | Launma | Patrick | FRA | 1990 | 2:02.47 | 45.72 | +2.67 |
| 9 | 9 | 1 | Knudsen | Franz | AUT | 1992 | 2:03.22 | 46.47 | +3.47 |
| 10 | 10 | | McGee | John | ESP | 1991 | 2:03.20 | 46.45 | +3.53 |
| 11 | | | Olsson | Mats | SWE | 1990 | did not finish | | |
| 12 | | | Wojcieszka | Manuel | CUB | 1991 | did not finish | | |

Tips and Tricks

• Did you know, that the ALGE OPTic also has an **automatic zoom** function? Wherever you put the cursor in the picture, this area will be enlarged in the zoom window. This speeds up the evaluation and provides simultaneously exact results.



• Did you know, that different sports use different **rounding** for the time calculation? For example, in track and field, if your time is 9.851 seconds, you will have an official time of 9.86 seconds. The same time for horse races is officially 9.85 seconds. The OPTic you can select the sport.



• Did you know, that it is possible to enhance the pictures after the race? If the recorded race is too dark or too bright on the screen, you can correct it. It is also possible to correct only parts of the picture, e.g. if half of the finish line is in the sun and half in the shade.



• Did you know, that the OPTic stores the **picture directly on the hard disk**? This means greater safety in case of a system breakdown. All pictures are automatically stored and you can reload them at any time.

• Did you know, that the OPTic has an interface to **communicate with several international evaluation software**? The data transfer is e.g. possible with the official software of DLV and ÖLV.

The System Components of the ALGE OPTic

Camera OCC1:

High resolution camera with up to 1356 pixel per lane. The scan rate is adjustable between 100 and 2000 lanes per second. Data transmission and power are provided in one cable. The standard cable has a length of 10 m (33 ft.). Cables are available up to 100 m (333 ft.). The camera has a telescopic sight (pre-adjustment) and a zoom lens (C-Mount 12,5 – 75 mm, F1,2)



PC:

Install the OPTic software on the Desktop-PC or Notebook with Windows 2000. On the PC hard disk it stores all data of a race (pictures and times). This means you can see and print any photofinish picture of a race at any time. From the PC you operate the complete system and make the evaluation. The PC needs a fully compatible IEEE 1394A-OHCI interface (400 Mbps). The IEEE 1394 interface can be either on a PCI card or onboard. Your ALGE dealer will be happy to help you to choose an optimale PC.

Distribution Box OCD1:

The heart of the OPTic. It includes an interface for the camera and PC and has a temperature compensated quartz oscillator (TCXO), that guarantees exact timing precision. The OCD1 triggers the camera and the data for the PC are prepared in the OCD1. The high speed interface IEEE 1394 guarantees a fast data transfer to the PC. The Distribution Box is the interface to all peripheral devices (e.g. startmicrophone, photocell, display board, anemometer) and has also a built in the power supply.



Monitor:

The monitor shows the picture of the photofinish. In order to use the high resolution of the camera you need a monitor the has good resolution. The minimal resolution is 1024 x 768 pixel. We recommend a monitor with a resolution of 1600 x 1200 pixel..

Printer:

You can print the start list, result list, and photofinish pictures on the printer. In order to print the pictures we recommend a color printer (ink jet or laser) with a minimum resolution of 600 dpi.

Accessories for the OPTic

Photocell:

The photocell controls the recording of the camera and is responsible for the unofficial winners time. All ALGE photocells are usable with the OPTic. For track and field we recommend the type RLS3c (especially if you use a display board).



Anemometer Windspeed WS1:

Anemometer for track and field with automatic remote control from the OPTic. When you input the race distance in the OPTic it measures the wind speed automatically and transfers the result into the result list.



Startmicrophone SM8:

The startmicrophone is attached to the start gun. If you trigger the start gun it triggers the startmicrophone by the noise and starts the timer of the OPTic.



Speech Amplifier SV4-SM:

You connect the start microphone and the headset to the speech amplifier. Between the OPTic and the speech amplifier you need a 2 wire cable.



False Start System - Start Judge SJ:

False start system for track and field with integrated speaker system. Each lane has a starting block with false start detector and speaker. If an athlete has a false start the false start signal will sound. The start time of each athlete is automatically printed for immediate reference.



Headset Q34:

The headset includes an earpiece and microphone for speech communication between starter and timing operator.

Display Board GAZ4:

Numerical 7-segment display board with a digit height of 15, 25, or 45 cm. It shows the running time and the winners time.



Weather Protection Case for Camera WSC:

Protects the camera from rain when used outside.



Tripod with Gear Head:

Tripod (max. height of about 2,3 m (7,5 ft.) with Gear Head (3 dimensional adjustment through three rotation knobs)

Further Accessories:

- IEEE 1394A-OHCI compatible PCI card
- PC and Monitor or Notebook for OPTic
- Printer for OPTic
- Case for OPTic-System
- Camera Objective (Nikon and C-Mount)
- Through the Lens Viewer
- Adapter for Nikon Objective
- Tripod for Photocells
- Startgun (9 mm or 6 mm)
- Radio TED to controll the display boards
- Display Board for Anemometer
- Cable Reel with 150 m cable
- Cable Connection Box for permanently installed cables

Technical Data

Camera OCC1:

- Sensor:** • 3 x 1500 pixel (RGB)
- Pixel Resolution:** • adjustable pixel rates are 625, 768, 1024 or 1356 pixel per lane
- Number of Colors:** • 16.7 million colors, also convertible to black/white
- Scan Rate:** • 100 to 2000 lines per second
- Recording Time:** • unlimited; depends on PC configuration
- Triggering:** • from Distribution Box OCD1
- Connections:** • Connection to Distribution Box (including power supply)
• external supply (24 VDC)
• connection for remote objective
- Standard-Zoom Objective:** • C-Mount 12,5 – 75 mm, F = 1,2
- Objective:** • all C-Mount 2/3" objective
• Nikon objective (option)
• remote control objective (option)
• Through the Lens Viewer (option)
- Telescopic Sight:** • built in for pre-adjustment
- Temperature Range:** • 0 to 50 ° C

Necessities for IEEE 1394 interface:

- Compatibility:** • IEEE 1394A-OHCI
- Transfer Rate:** • up to 400 MBit per second

Distribution Box OCD1:

- Crystal Frequency:** • TCXO 10.000 MHz (temperature compensated quartz oscillator)
- Measuring Range:** • 23 hours, 59 min., 59.999 sec.
- Frequency Deviation:** • Temperature:
+/- 2.5 ppm at -30 to + 75°C
(+/- 0.009 seconds per hour)
- Aging: +/- 1 ppm per year
- Frequency Adjustment :
+/- 0.1 ppm at 25°C
- Power Supply:** • Built in power supply for OCD1 and OCC1, 105 - 230 V/50 - 60 Hz
- Meter:** • Meter for photocell and power supply
- Connections:** • Start input (banana socket)
• Photocell (DIN-socket, 3 x)
• Headset (DIN-socket)
• Display Board (RS 232 out, 2 x)
• Anemometer (RS 232)
• RS 485 (DIN socket)
• IEEE 1394 (connection to PC, 3 x)
• Camera (option for 2 cameras)
• Mains
- Temperature Range:** • 0 to 50°C

