



British Alpine Ski Competitions  
British Artificial Competition Rules  
BACR Book IX  
Timing and Communications  
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# Contents

1.	Application .....	1
2.	Background.....	1
3.	Implications .....	1
4.	Advice .....	1
5.	Start-Timing Communication.....	2
6.	Timing Systems .....	2
7.	Document History .....	2

## 1. Application

This document is part of the British Artificial Competition Rules (BACR), and specifies the requirements for timing systems and communication between the starter and timekeeper at 'recognised' British artificial slope races. Refer to BACR Book I for overall details about BACR and its application.

These requirements are currently issued as guidance for race organisers, with a strong recommendation that these guidelines are followed.

## 2. Background

With conventional timing systems, the starter has to wait for a 'reset' signal before starting the next racer. The 'reset' is given by a light on the start gate, a 'reset' radio or telephone message, or a flag wave. It is fail-safe. If the communications fail, the next racer does not start. During the reset period, which can be as much as 10-15 seconds per racer, the elapsed time of the previous racer is announced and recorded manually in the computer and on a paper record.

Time-of-Day timing equipment is becoming increasingly available as Clubs renew equipment. With Time-of-day timing, the start and finish pulses are sent electronically to the computer, eliminating the need for a reset or for manual input of the elapsed time. The starter can allow the next racer to start when the previous racer is passing the finish - perhaps on longer slopes allowing two racers to be on course at once - normal practice on snow and at Hillend.

Eliminating the reset period could reduce the length of races by a significant margin. Moreover, non-manual input to the computer can reduce the possibility of input error.

## 3. Implications

The revised start procedure transfers the responsibility for continuity in the race from the timekeeper to the starter/start referee. The race continues unless the starter receives an instruction to "STOP".

The timing team/computer operator need to know each racer's bib number just before s/he starts so that the timing pulses can be allocated to the correct bib number in the computer.

In addition, they need to be able to stop the race immediately if there is a problem with the timing or the data input. Consequently, there is a need for efficient and robust communication between the timing team/computer operator and the starter.

Equally, the timer and starter may wish to adopt a positive feedback system whereby the timer clears the starter to start the next racer. Experience and the local situation may dictate the most effective methodology.

## 4. Advice

ALGE and TAG Heuer supply communication systems which will work over the same pair of wires that are used to connect the start gate to the timer.

However, it is not the aim to mandate particular equipment. Systems provided by other manufacturers may be suitable as long as they do not interfere with the reliable transmission of start impulses to the timer.

## 5. Start-Timing Communication

Where a time of day timing system is in use, full duplex communication is compulsory between the starter and timekeeper.

This will normally be provided via a cable connection, preferably using the same pair of wires that connect the start gate to the timer. The requirement exists because non-full duplex communications do not allow adequate control – it may take too long to establish contact and then pass a vital message.

The communication must be full-duplex with headphones and an open microphone at each end. If a microphone switch is provided, it must be possible to leave it unattended in the 'on' position. Voice-operated microphones are not acceptable.

Any type of communication with headphones and hands-free microphone, including home-made, is acceptable as long as it works e.g. mobile phones (expensive for all day use), full duplex radios (transmitting all day expensive on batteries), field telephones or any full duplex intercom probably using a separate cable.

Should full-duplex communications fail or not be available when using a Time-of-Day timing system, the Organisation must revert to the 'Course Clear' method for starting, and receive clearance from the timer. This methodology ensures that pulses will be attributed to the racer on course.

## 6. Timing Systems

British races held on artificial surfaces should, whenever possible, be run using a Time of Day timing system with direct interlinking with the computer.

However, it will remain acceptable to use other types of system so long as the integrity of timing capture is maintained.

## 7. Document History

Edition	Date	Description of changes
2007	15-Nov-2006	Approved by British TD Forum for use in 2007 season onwards.
Dec 09	05-Dec-2009	No changes.