



UNITED STATES SKI AND SNOWBOARD ASSOCIATION

BASIC TIMING & CALCULATIONS - ALPINE

2011-2012

STUDY GUIDE

This Study Guide is intended to be used as an educational and review aid for individuals interested in alpine officiating. Downloading, printing and reading the Study Guide must not be substituted for actual attendance at a USSA-approved Clinic or used as a replacement for actual instruction at any USSA-approved Clinic.

PLEASE NOTE: The Chief of Timing and Calculations is responsible for supervising, documenting and enforcing the quality control of actual timing and results. The purpose of this Clinic is training the basics required by the position. With the exception of lower-level non-scored events, (e.g. YSL), where staffing issues may require it, the Chief of Timing and Calculations should not be the individual also operating the electronic timing equipment or the timing/race result software; therefore, although it is very useful, training in the use of timing equipment and/or timing/result software should not be included in the basic curriculum.

Thanks to the efforts of a Task Force led by John Jett (RMD), materials have been made available for a Timing Workshop. The Workshop includes installation and operation of timekeeping equipment and software and should be scheduled separately from the actual Basic Timing & Calculations Clinic.

A video for Gate Judge instruction, "The Most Important Person on the Hill...", is available on the USSA website. The video, however, does not include correct passage of a missed gate in single pole Slalom or single gate Giant Slalom; a separate presentation is planned and, when ready, will be posted on the USSA website to aid in training for these situations.

REFERENCE PUBLICATIONS:

1. USSA Alpine Competition Regulations (ACR)
2. ICR of the FIS, Online Edition
3. ICR Precisions
4. Rules of the FIS Points
5. USSA Alpine Officials' Manual

*NOTE: ACR mirrors, when possible, ICR numbering. USSA exceptions have a "U" preceding the rule number; the "U" is a part of the number.

CERTIFICATION EXAMINATION:

Basic Timing & Calculations Certification Examination (Level 1) will be available at USSA-approved Alpine Officials' Clinics. Allowed time limit is 2.5 hours. The examination is an open book exam and must be administered only at scheduled Clinics. It is NOT A TAKE HOME EXAM and using computers for the calculation and Penalty section is STRONGLY DISCOURAGED! Completed examinations are to be retained by the Clinic examiners; they must not be returned to the individuals taking them. Please refer to Regional/Divisional/State publications for schedules. *The Study Guide is not intended as a replacement for taking notes for use during an open-book examination at any USSA-approved Clinic.*

If you have problems with this Study Guide or have suggestions for improvements, please contact the current Chair of the Alpine Officials' Education Working Group. Thank you.

The current Chair is: Thelma Hoessler
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BASIC TIMING & CALCULATIONS - ALPINE

2011-2012

There is much information available to us - no one can possibly know it all. What we SHOULD know is WHERE to find it. Most of the sections of this Study Guide require research by the user. This will aid in the ability to understand the layout of the applicable rule books and publications and will reinforce their content.

REFERENCE DOCUMENTS:

The following reference items can be found at the end of this Study Guide. Document numbering is not sequential because it agrees with document numbering in the “Master Packet of Forms”. The “Master Packet of Forms” can be found on the USSA website. It is suggested that forms be printed for easy reference while using the Study Guide.

- | | |
|--|---|
| Study Problems (5 pages) | 40-41. Timing & Data Technical Report/Example |
| a. Timing Tape #1: ToD Timer | 23. Start/Finish Referee Recording Form |
| b. Timing Tape #2: ToD Timer | a. Early/Late Start |
| c. Timing Tape #3: ToD Timer w/Intervals | b. Valid Start: 60-second Start Interval |
| 31. Report by the Referee | c. Valid Start: 40-second Start Interval |
| 22. Start/Finish Timekeeper Recording Form | Exercise: Steps Involved in an EET * |
| 26. Replacement Time (EET) Worksheet | a. Blank Form |
| 24. Electronic Time Recording Form | b. Electronic Time Recording Form |
| 25. Electronic Time Recorder/Scoreboard | c. Finish Timekeeper Recording Form |
| 35. USSA Penalty Calculation | d. Start Timekeeper Recording Form |
| 36. FIS Penalty Calculation | e. Replacement Time (EET); HT Calculations |
| 32. Protest Form | f. Replacement Time (EET): Final Calculations |
| 33. Minutes of Jury Decision (Protest) | g. Finished Replacement Time (EET) |
| 34. Minutes of Jury Decision (Without Protest) | FIS List Cover Page (USSA/FIS websites) |
| 39. Timing Checklist | FIS Timing Guide, Ver 2.45 (FIS website) |

* This exercise is included to demonstrate use of all of the forms/data required for the calculation of a Replacement Time (Equivalent Electronic Time – EET).

I. Timing: Equipment, Personnel and Job Descriptions

A. Start Area

1. Start Gate specifications [**2012 USSA Alpine Competition Guide**; 611.2.1; “FIS Timing Guidelines” which can be found in “Miscellaneous Study Guide Forms” or on the FIS website <http://www.fis-ski.com> or through the FIS link on the USSA website.
 - a. USSA Events
 - b. FIS Events
2. Starter [612.1]
3. Assistant Starter [612.2]
4. Start Recorder [612.3]
5. Assistant Timekeeper [612.5]
6. Start Timing [613.5]

B. Finish Area

1. Finish Line specifications [615.2]
2. Finish Photo Cell specifications
 - a. USSA Events
 - b. FIS Events

C. Personnel

1. Chief Timekeeper [612.4]; Assistant Timekeeper [612.5]
2. Timing Equipment [611.2]
3. Electronic Timekeeper Operator Marks tape for manual intervention [611.3.4]
4. Electronic Time Recorder
5. Manual/Hand Timing/Assistant Timekeeper [612.5, 611.2.2, 611.3.1]
6. Manual/Hand Timing Recorder [612.5]
7. Finish Spotter/Finish Controller [612.6, 611.3.1]
8. Runner(s)
9. Presentation of Times: Scoreboard/Poster [611.2.3, 617.1, 617.2.1]
10. Announcer [617.1, 611.2.3]

II. Prior to the Race

A. Terminology you need to know:

The following terms will be referred to many times in this Study Guide and are an important part of ski racing. (**Refer to Study Problems**)

1. **Seed Points** - a numerical indicator of a competitor's individual ranking with all other competitors; used only at scored events.

NOTE: USSA Seed Points may only be corrected by USSA, FIS Points by FIS. Foreign competitors with current FIS inscriptions and without USSA Points entering USSA non-FIS events are be seeded with their FIS Points; if part of penalty, FIS Points are used. They must, however, complete USSA "X" membership requirements.

2. **Race Points** - a numerical indicator showing the relationship between a competitor and the winner of that specific race; race points are calculated only at scored events.
3. **Penalty** - numerical indicator that equalizes races of same event with different methods of calculation for FIS and USSA; a penalty is calculated only at scored events.
4. **Seed and Draw Board** - display boards where cards containing competitors' names, club or team affiliation and seed points, if applicable, are posted.
5. **Double Draw** - simultaneous drawing of the competitor number (the place they hold on the seed board) and the bib number by the Referee(s); a double draw is usually done only at scored events. [621.8]
6. **Snow Seed** - referred to in the rules as a "Start Order in Extraordinary Conditions" is a process whereby 6 competitors are drawn from the last 20% of the field. These competitors are shown with an asterisk (*), start prior to start #1 in the reverse order of their assigned start positions. Snow Seed is only valid for DH, GS and SG. A snow seed may be drawn at both scored and non-scored events. [621.10]
7. **Regular or Fixed Interval** - DH, GS and SG competitors leave the start gate at set intervals pre-determined by the Jury. Intervals apply to all race levels.
8. **Irregular or Non-Fixed Interval** - SL competitors leave the start gate at irregular intervals. The Chief of Timing & Calculations or his assistant tells the Starter when each competitor should start in agreement with the Jury.
9. **Bibbo** - procedure used to determine second run start order for 30 or 15 fastest first-run competitors at USSA-scored events. **NOTE: A standard bibbo is 30; the Jury may choose to reverse 15 but they must announce this 1 hour prior to the start of the first run.**

NOTE: In the case of a Flip 30 second run, the special group (Golden Rule) starts in the 31st position or in the position immediately following the first run leader when the flip is other than 30 unless their first run time allows more favorable seeding. [U621.10.3.1]

10. **Time of Day (ToD) Timing** - Time of day timing is the time a racer leaves the start and arrives at the finish taken on continuously running, synchronized timekeeping equipment.

11. **Replacement Time (Equivalent Electronic Time – EET)** – When both primary and secondary electronic timing systems fail, calculation of a replacement time is required. The calculation involves comparison of manual/hand time times to electronic times for the 10 times closest to the missed electronic time (usually 5 before and 5 after the missed time), dividing the difference by 10 and applying the correction value to the calculated manual/hand time. A replacement time (EET), when required, is an official time and is valid at all levels and types of competition. *Forerunners' times must not be used in the calculation of replacement times.*

- B. Determine the time and place for the first Team Captains' Meetings. Useful information that is available at the meeting is:
 1. Number of Forerunners
 2. Time to start Forerunners
 3. Planned start intervals
 - a. Fixed start interval races [622.1]
 - b. Irregular start (non-fixed) interval races [805.1]
 4. Start List
 - a. Scored events – Double Draw is recommended [217, 621.8]

NOTE: For USSA non-FIS events, the Jury may allow the use of computer-generated draw. For FIS events, consent must be indicated by the Team Captains' signature on the entry form. It is recommended that the Race Administrator be prepared for a "double draw" at all events.

According to USSA and FIS rules, the draw must be conducted (or confirmed) at a Team Captains' Meeting. An actual meeting, attended in person by Team Captains, Jury, and race officials is an inseparable and mandatory part of the competition and is important for communication of Jury instructions, support of the ROC, as well as conveying ROC requests and information. It is also a critical element for risk management and liability-related matters. (Refer to 621.8, 604.3; ICR Precisions.)

With the approval of the Jury and at a time and place announced to all Team Captains, and where a computer-assisted Draw has been approved or is not required (e.g. YSL where TRS by class and gender is used to determine the start order), an informational meeting is still required but may be held either immediately after the completion of a race for the next day's event or on the morning prior to a race.

For all Team Captains' Meetings for all USSA-sanctioned events—both scored and non-scored, and regardless of where and when they occur, an Attendance List must be available and signed by everyone attending the meeting and Meeting Minutes must be generated and must be included in the submitted race result packet.

NOTE: USE OF ELECTRONIC SEED BOARD: Electronic seed boards must have the capability to simultaneously and legibly display the entire competition field. Simultaneous display of all competitors allows all Team Captains and officials to verify the overall accuracy as well as additions and deletions to the starting order in "real time". *Using the race result software to display portions of the competition field is not acceptable.*

- b. Can the first seed draw be limited to fewer than 15 competitors? [621.3]
- c. Were there "special seeds"? e.g. Adaptive competitors with "Golden Rule" seeding? Golden Rule seeding applies to competitors within certain point range. to be seeded after the first seed. Golden Rule seeding is not valid for FIS events. [U621.3.1]
- d. Age Class, Collegiate, Masters, and Adaptive – according to current rules

5. Was a “snow seed” drawn?
 6. An updated race day schedule is a must. It allows the Chief of Timing & Calculations to arrange their schedule, crew and duties.
- C. Become familiar with the timing equipment you will be using [611.2]; know what it displays and what it prints. Times are only to be measured to the 1/100th (0.01) second. Time of day times must be recorded on printed strips to at least the 1/1000th (0.001) precision. Final result is then expressed to 1/100th (0.01) precision by truncating the calculated net time on course. **(Refer to Timing Tape Samples a, b & c).** Art. 611.3.5 Requires that computer software that calculates net times must use precision of ToD as used in the timing device. *Effective season 2012-2013, times will have to be recorded to at least the 1/10000th (0.0001) precision with final result then expressed to 1/100th (0.01).*
- D. Understand the definition of a rerun
1. What is a rerun? [623]
 2. Who can grant a rerun? [623.1.1, 623.3.1]
 3. Can the Chief Timekeeper grant a rerun?
What if a time is missed due to equipment and manual timekeeping malfunction? What if only electronic timekeeping malfunctions?
- NOTE: Allowing a rerun due to the malfunction of the timing systems is the responsibility of the Jury. [623.1.2] A calculated replacement time using manual/hand timekeeping is preferred.**
4. Rerun time must be even if it is a slower time [623.3.3] provided the Jury decides to recognize the provisional run. Check with TD - which time is valid?
 5. What is the start time of a rerun? [623.4]
 - a. Fixed interval races [623.4.1]
 - b. Irregular (non-fixed) interval races [805.3, 623.4.2]
 6. What is the difference between?
 - a. Provisional rerun
 - b. Rerun
 7. What are the possible ramifications if “rerun” is not identified as being “provisional”?
- F. Gather materials required for the event
The Race Secretary should provide forms and supplies; however, it is a good idea to have your own back up plan. Although you will not personally need some of these items, officials and coaches often come to the timing building when they need supplies.
1. Chief of Timing & Calculations Packet of Forms
 - a. Report by Referee - 1 per run per gender **(Refer to #31. Report by the Referee)**
 - b. Additional Start/Finish Timekeeper Recording Form **(Refer to #22. Start/Finish Timekeeper Recording Form)**
 - c. Replacement Time (EET) Worksheets **(Refer to #26. Replacement Time (EET) Worksheet)**
 - d. Electronic Time Recording Form **(Refer to #24. Electronic Time Recording Form)**
 - e. Recording pads [AOM, Chapter VI] **(Refer to #25. Electronic Time Recorder/Scoreboard)** Useful when an announcer is not available and a runner has to take competitors’ times to the posting area. **Suggestion:** Print and cut to size.
 - f. USSA or FIS Penalty Point Calculation forms - 1 per race/per gender **(Refer to #35. USSA Penalty Calculation and #36. FIS Penalty Calculation)**
 - g. Protest forms **(Refer to #32. Protest Form)**
 - h. Minutes Jury Decisions (Protest) or (Without Protest) **(Refer to #33. Minutes Jury Decision (Protest) and #34. Minutes Jury Decision (Without Protest)**

- i. Timing Checklist (**Refer to #39. Timing Checklist**)
- j. Timing & Data Technical Report Forms - 1 per run per *race/per gender*, if required (**Refer to #40-41. FIS Timing & Data Technical Report Form/Example; same form for USSA and FIS; required for all scored events and also for non-scored Championship events, e.g. J4 Championships**)
- k. Additional Start/Finish Referee Record Forms (**Refer to #23. Start/Finish Referee Recording Form**)
 - l. Additional Gate Judge Cards (**Refer to “Master Packet of Forms”**)
- 2. The supply container in the timing building
 - a. Envelope(s) or large plastic bag(s) for sending documents to Race Administration
 - b. Pencils
 - c. Paper clips
 - d. El Marko type pens, permanent ink (scoreboard)
 - e. Tacks/staples for scoreboard
 - f. Scotch tape, Duct tape
 - g. Clipboards with protective cover sheets
 - h. Rubber bands
 - i. Manual timekeeping devices with fresh batteries/extra batteries
 - j. Additional paper or tape for the timing equipment

III. Morning of the Race

- A. Pick up your forms, supplies, manual timekeeping device and Start Lists from the Race Administrator or Data Management person.
- B. Organize timekeeping crew early; distribute materials/equipment needed for entire day
 - 1. Verify schedule
 - 2. Confirm job assignments
 - a. Chief of Manual/Hand Timing [611.2.2, 612.5]
 - (1.) Start area manual/hand timekeeper/recorder [612.5, 613.5]
What determines an actual "start"? [613.5]
 - (2.) Finish area manual/hand timekeeper/recorder [612.5, 611.3.1]
What determines a "finish"? [611.3.1]
 - (3.) Start and Finish Manual/Hand Timekeepers
A perfect situation would be two Manual/Hand Timekeepers with a Manual/Hand Time Recorder at the start and an identical team at the finish. Personnel are not always available for this “perfect” situation so it is suggested that the Primary Manual/Hand Timekeepers at the start and at the finish each operate *ONLY ONE* manual timekeeping device. The Secondary Start and Secondary Finish Manual/Hand Timekeepers can then operate another manual timekeeping device and also fulfill the duties of a Manual/Hand Time Recorder. This will encourage accuracy and teamwork and will result in a better educational atmosphere.
 - (4.) What are benefits of two manual timekeeping devices at the Finish? [611.3.1]
When two racers approach the finish in close proximity and there is not enough time for both Manual/Hand Timekeepers to time the first racer, read off and record elapsed times and reset for second racer, it is strongly suggested that Primary Finish Manual/Hand Timekeeper times first racer to cross the line and Secondary Finish Manual/Hand Timekeeper times second racer to cross the line.* An indication must be made as to whether the recorded times are a “P” (primary) time or an “S” (secondary) time.

**This is not a perfect solution, but the alternative is “no time; it is important that manual/hand timekeeping be available for every competitor.*

- b. Chief of Calculations [612.7]
- c. Electronic Timekeeper Operator(s) [611.2.1]
- d. Electronic Time Recorder(s) [611.2.1]
- e. Scoreboard/Poster [611.2.3, 617.1]
- f. Runner(s)
- g. Announcer - location of; how/when information will be relayed to announcer. [617.1, 611.2.3, 617.2.2]
- h. Confirm start signals with starter
Keep conversation over start communications, radios or land lines to a minimum; a pre-determined system aids in understanding when there is a lot of noise, etc.
 - 1) Fixed start interval racer [613.4]
5, 4, 3, 2, 1 – “GO” – (If racer has not started, count continues 1, 2, 3, 4, 5)
 - 2) Irregular start interval races [3.2.5.3; 805.1 - Confirm with Jury; 805.3]
Racer Ready.....”GO”
- i. Synchronize the manual timekeeping devices
(If required/possible, synchronize manual timekeeping devices with electronic timing system)
- j. For USSA scored races and FIS races, assist TD with synchronization of electronic timing equipment: USSA/FIS-scored events – within 60 minutes [611.2.1]
- k. For USSA scored races and all FIS races, assist TD with completion of **“Timing Technical Report Form”** [611.3.3]

IV. Starting the Race

- A. Verify schedule; Jury may have made adjustments.
- B. Verify the number of gates from the Chief of Course, Course Setter or Chief Gate Judge. Confirm with a Jury member. [601.3.5, 617.3.4]
 - 1. Giant Slalom – actual gate count/direction changes [901.2.4]
 - 2. Super G – actual gate count/direction changes [1001.3.4]
 - 3. Slalom – actual gate count/direction changes [801.2.4.1]
- C. Verify that DH [701.2] or SG [1001.2] or DH courses have been measured with measuring tape, wheel or GPS
- D. Chief Gate Judge verifies when all Gate Judges are in position.
- E. **SUGGESTION:** Verify synchronization of manual timekeeping devices at Start and Finish by radio. This is especially important if you are using inexperienced manual/hand timekeepers.
- F. Forerunners are usually sent prior to published Start time
 - 1. Their times may NOT be published [605.6]
 - 2. Forerunners are not allowed to start in the competition [605.4]
 - 3. Forerunners can be used as a final check of all timing systems
- G. Be ready to start on time. Record weather, snow conditions, start area air temperatures and finish area air temperatures prior to scheduled start time. [617.3.4]
- H. If a snow seed was drawn, verify whether or not it will be used. Snow seed is 6 racers drawn from the last 20% of the field and indicated with asterisks (*) run in reverse order of their assigned start numbers - highest bib number first. [621.10] Jury has the right to change this start order. Snow seed starts at published start time.

- I. Verify how many will be reversed for 2nd run - BIBBO [621.11.3]
- J. Send the information you have gathered to the Race Administrator. It is needed either to complete the Technical Data portion of the Team Captains' Meeting Minutes Form, the Second Run Start List or the Official Results.

V. **During the Race - Procedures and Calculations**

Develop a system of double-checking. It is very easy to make calculation and/or data input errors when there are a lot of distractions - check and double check!

- A. Track the racers at all times (develop your own system) and record all DNS and DNF bib numbers on the Report by the Referee.
 - 1. Racer in the gate
 - 2. Racer(s) on the course
 - 3. Racer(s) having finished

- B. Slalom - The Chief of Timing & Calculations or his assistant tells the Starter when each competitor should start in agreement with the Jury. The competitor on course need not have passed the finish before the next competitor starts. [805.1]

- C. Start rules
 - 1. **Five-second rule** also called "10 second start window" [613.6, 613.7] (**Refer to Early/Late Start a, b and c**) applies to events with fixed (regular) start intervals: DH, SG and GS. *Competitors who fail to start within the 5 seconds before and the 5 seconds after the start command will be disqualified.*
 - 2. **Ten-second rule** [805.3, 805.4] applies to SL which is the only event with a non-fixed (irregular) start interval. *Competitors who fail to start within (about) 10 seconds of the start command will be disqualified.* [805.4]
 - 3. **One minute rule** [805.3.1] applies to fixed and non-fixed interval events. *Competitors who fail to arrive at the start within one minute of being called may be allowed a provisional run if, in the Start Referee's opinion, delay was caused by "force majeure". Breakdown of a competitor's equipment or minor illness does not constitute "force majeure"; in cases of doubt, the Jury may allow a provisional run. Delayed starts are subject to sanction/penalty; disqualification is not mandatory.* [628.5]

- D. Timing Responsibilities
 - 1. Record all times as they are read on the timing display or as they are printed. Conversions, if required, should be done later.
 - 2. Primary electronic times should be recorded in at least two places, preferably by two different people.
 - 3. Secondary electronic (backup) times should be recorded and compared against the primary electronic timing as the race progresses. In case of loss of primary electronic time, an equivalent secondary electronic time can be calculated without delay.
 - 4. Times recorded in seconds (SSS.ss) only are later converted to minutes/seconds (M.SS.ss). If required, this should be done only after the time has been recorded as displayed or printed.
 - 5. In the case of the failure of the primary electronic timing, results of the secondary electronic (backup) system will be valid.... [611.3.2] Manual/Hand times may be used in official result after correction (Replacement/Equivalent Electronic Time) has been calculated. [611.3.2.1] (**Refer to Steps Involved in Calculating a Replacement Time – EET, a - g**)

6. If necessary to use manual/hand time, subtract START time from FINISH time and post calculated time on the scoreboard as "HT". Calculate a Replacement/Equivalent Electronic Time (EET) as soon as possible and send the corrected time to Data Management person.

When subtracting “start manual/hand times” from “finish manual/hand times”, follow this procedure: Start across the top line to the right checking to see IF any 'borrowing' needs to be done. Then, perform the subtraction procedure back across to the left in the normal manner. When a procedure is adopted and followed consistently, fewer errors occur. ***When you borrow time, remember 1 minute = 60 seconds; cross a colon from left to right and borrow 60; cross a decimal from left to right and borrow 10.***

Start here:	Start here:
> > > > > > >	> > > > > > >
3:61	3:61
15:04:04.891	15:04:04.891
- <u>15:02:59.871</u>	- <u>15:02:59.872</u>
1:02.020	1:02.019
< < < < < < <	< < < < < < <

TRUNCATE TO 0.01, TIME = 1:02.02 TRUNCATE TO 0.01, TIME = 1:02.01

REMEMBER THAT TIMES ARE NEVER ROUNDED!

7. If timing system allows manual intervention of a time, timing tape must be marked accordingly. If system does not indicate DNS and DNF bib numbers, or if recorded time is subject to an EET, these should be marked. Official times must be verified against timing tapes, and manual interventions that are not marked can cause confusion. [611.3.4] *FIS homologated timing systems should automatically mark interventions.*
 8. Primary and, if required, secondary timing tapes are the official timing record for the event and must be used to proof computer input.
 9. Label tapes as to date, gender, event and run. The tapes will be given to the Technical Delegate for review; Organizing Committee keeps the tapes in its possession until the race has been officially approved. [611.3.3] ***In cases of force majeure, the Technical Delegate may choose to retain possession of the timing tapes.***
- E. When last racer finishes, check with the Jury and verify that the course is closed. Any provisional starts or provisional reruns must have been inserted prior to the last racer.
- F. After each run AND at the end of the race:
1. Start Timekeeper/Recorder deliver timing forms to timing building.
 2. Chief Gate Judge picks up the forms from each Gate Judge [601.3.5, 665.1] and delivers them to the Referee(s).
 3. Referee/Assistant fills out DSQ information on Report by the Referee. Report is dated and signed with time of posting as well as time of expiration of Protest Period noted. (Chief of Timing's assistance is valuable in providing correct name, nation (or club) of DSQ competitor, their bib number, gate # and type of gate fault (miss or straddle) where fault occurred or applicable rule citation (for DSQ not involving a gate fault, e.g. start, finish, equipment, etc.) and name of official or Gate Judge documenting the fault.)
 4. A copy of the Report by the Referee is posted on the Official Notice Board or Scoreboard. The original must be returned to the Race Administrator for later documentation.

NOTE: In cases of *force majeure*, the *Technical Delegate* may need to complete and post the Report by the Referee. A Report by the Referee that has been signed by the *Technical Delegate* is valid.

5. DSQ's should also be announced over the public address system. When an announcer is present and is announcing competitors' *unofficial* times, announcement of DSQ data can be accepted in place of the actual posting of Report by the Referee. Team Captains must be notified beforehand if announcement of DSQ information is going to replace actual posting. [617.2.2]
 6. Protest time is 15 minutes. [643.4]
- G. Chief of Timing responsibilities after the 1st run AND at the conclusion of the 2nd run.
1. ***VERIFY ALL TIMES AGAINST TAPES FROM THE HOMOLOGATED TIMING EQUIPMENT.***
 2. Verify whether or not provisional starts or provisional reruns – have been approved.
 3. When the Protest period has expired, confirm DSQ's with Jury and Data Management.
 4. Account for all racers - if you started with 150 racers, account for all 150 racers (finishers classified + DNS + DNF + DSQ = 150 racers).
 5. Verify preparation of Second Run Start List
 - a. Standard bibbo of 30
 - b. Reverse 15 [621.11.3]
 - c. Review procedure for a bibbo where a tie occurs for 30th / 15th place [621.10.2]
 - d. Review “Golden Rule” requirements [U621.3.1, U621.10.3.1]
 6. Verify procedure for ranking ties - racer with higher start (bib) number is placed first. [617.3.3]
 7. Verify 2nd Run cutoff, if applicable.
 8. File all 1st run paperwork in an appropriate container so it doesn't get confused with 2nd run paperwork. i.e: Properly labeled large manila envelope or plastic zip-type bag.
 9. Resynchronize timing equipment and complete “Run 2” section of “Timing & Data Technical Report”, one per race/per gender.
 10. Verify accuracy of Second Run Start List. [621.11.2]
 11. If computer problems occur, it may be necessary to manually create a 2nd Run Start. This will allow for a timely second run start. If the computer problem is solved in a timely manner, the manually prepared list will serve as an excellent double check on the computer input. If a manually prepared Second Run Start List is required, the Chief of Timing & Calculations and the Assistant Starter are the two officials who must have a copy. *Always keep the original for required verification.*
- H. Preparation of Second Run Start List: ***Due to space constraints, reverse 15 is illustrated.***
1. Rank all first run competitors in time order.
 2. Remove DSQ competitors from the field unless being given a provisional second run.
 3. Break all ties, regardless of where they occur, by ranking the tied competitor(s) with the higher bib number(s) before the tied competitor(s) with the lower bib number(s).
 4. Verify the number of competitors that are to be reversed (bibbo).
 5. Check for a tie at the reversal position.
 6. If a tie has occurred at the reversal position – 30 or 15, include those ties in the reversal number. This will result in the lower bib number starting first and the racer with the fastest first run time starting 31/16 (with a 3-way tie at the reversal position, the racer with the fastest first run time would start 32/17, etc.)
 7. Reverse correct number of competitors including ties, if applicable.
 8. When ties occur elsewhere in the field other than in reversed group, tied racer(s) with higher bib number(s) will start prior to tied racer(s) with lower bib number(s).

<u>1st RUN TIMES</u>		<u>1st RUN RESULTS</u>		<u>2ND RUN START LIST</u>			
BIB	TIME	PL	BIB	TIME	ST	BIB	1 st RUN TIME
1	52.11	** 1	7	49.63	1	12	52.56 \
2	51.56	2	4	49.71	2	17	52.56 / TIE AT 15TH POSITION
3	52.52	3	8	50.30	3	3	52.52
4	49.71	4	9	50.51	4	10	52.20
5	51.48	5	11	51.15	5	1	52.11
6	51.46	6	15	51.20	6	2	51.56
7	49.63	7	16	51.45	7	13	51.51
8	50.30	8	6	51.46	8	5	51.48
9	50.51	9	5	51.48	9	6	51.46
10	52.20	10	13	51.51	10	16	51.45
11	51.15	11	2	51.56	11	15	51.20
12	52.56	12	1	52.11	12	11	51.15
13	51.51	13	10	52.20	13	9	50.51
14	51.31DSQ	14	3	52.52	14	8	50.30
15	51.20	15T 17		52.56	15	4	49.71
16	51.45	15T 12		52.56	16	7	49.63 - FASTEST 1ST RUN TIME
17	52.56	17	19	52.57	17	19	52.57
18	53.47	18T 20		53.47	18	20	53.47 \
19	52.57	18T 18		53.47	19	18	53.47 / TIE OUTSIDE OF BIBBO

** **NOTE:** This is the racer's place not his bib number!

- I. Procedures and calculations during and after the 2nd Run
1. Verify that Jury has closed the course prior to closing timing operation.
 2. VERIFY ALL TIMES AGAINST TIMING TAPE.
 3. Verify whether or not provisional starts or provisional reruns have been approved.
 4. Again, just as for 1st run, confirm DSQ's after the expiration of the Protest Period (15 minutes) and verify with Data Management.
 5. Account for all racers as you did after the 1st run.
(NUMBER OF COMPETITORS - TOTAL DNS - TOTAL DNF - TOTAL DSQ = TOTAL RANKED ON RESULT)
 6. Even if the Penalty is computer generated, it is the TD's responsibility to verify the calculation and indicate his verification by signing it. If time permits, the Chief of Calculations can also calculate the Penalty.
- J. Calculation of a Penalty
1. Rank all competitors
 2. Calculate Race Points
 3. Identify the top 10 finishers on the Official Results.
 4. Select the 5 best (lowest) seed point holders from among the top 10 finishers.
 5. If a tie occurs **at 10 in time** or a **for 5 best (lowest) seed points**
 - a. If tie occurs for 10th place in time consider all competitors, including all in tied position, when selecting 5 best (lowest) seed point holders from among top 10 finishers.
 - b. If a tie for occurs for competitor with 5th best (lowest) seed points, use the competitor with the highest Race Points in the calculation.
 6. Additional items required for FIS Penalty calculation (**Refer to FIS List Cover**)
 - a. Category Adder is *competition level, event and gender* specific and may be updated with each Points List

- b. “Z” is *event and gender* specific and is updated with each Points List. If a “Z” is a positive number, it is subtracted; if a “Z” is a negative number, it is added.
- c. Identify competitors with 5 best (lowest) points list who start race regardless of result.

VI. Procedures after the race is over

- A. Check your calculations and verify data in the “Timing & Data Technical Report”. (TDTR)
- B. Put your paperwork in order for the Race Administrator.
- C. The Chief of Calculations is responsible for ... publication of Official Results after expiration of the Protest Period or after any Protests have been dealt with. [612.7]
- D. Collect manual timekeeping devices, check them for excessive "drift" and/or malfunction, and return them with necessary comments on their performance.

VII. Review Calculation Procedures, Techniques and Record Keeping

- A. Manual/Hand Timing - Time of Day Timing (ToD)
 1. What is ToD (time-of-day) timing?
 2. Synchronization of manual timekeeping devices; depends on type of manual device being used.
 3. Operation of the particular manual timekeeping devices
 4. How is a manual timekeeping device held?
(All devices should be kept steady; manual stopwatches require using bony ridge of first joint on index finger to depress the button)
 5. Record the times you see/hear
 6. Start and Finish Manual/Hand Timekeepers
 - a. Should be placed in an area where they will not be disturbed
 - b. Should be consistent
- B. How forms are used during the race
 1. Start/Finish Timekeeper Recording Forms
 2. Forms in the timing building
 - a. Report by the Referee - Record DNS, DNF as race progresses
 - b. Electronic Time Recording Forms
 - c. Replacement Time (EET Worksheet) [611.3.2.1]
 - d. Timing & Data Technical Report
- C. Calculation of manual/hand times
 1. Subtract start time from finish time to 1000th (0.001) and truncate to 100th (0.01)
 2. If possible, record time on scoreboard with “HT” designation

NOTE: Times on the scoreboard are unofficial; the “HT” designation alerts competitor and Team Captain that a correction is possible.
- D. Reading Timing Tapes
- E. Accurate completion of the Timing & Data Technical Report
- F. Preparation of a Second Run Start List
- G. Race Points and Penalty Points
 1. Use Race Points/Penalty forms provided (*Study Problems*)
 2. Where are Factors (F-Values) found and what are they?

3. USSA Penalty
 - a. Maximum penalties apply – where are they found?
 - b. No Category Adders or Correction (Z) Values apply
4. FIS Penalty
 - a. Category Adders and Correction (Z) Values - where are they found; how are they applied?
 - b. Minimum/maximum penalties apply - where are they found?

VIII. Miscellaneous Topics

- A. Vertical Drop, Minimum Time and Minimum Penalty in Scoring a USSA Alpine Race.
1. Races that meet all technical standards:
If all requirements of a competition are met, e.g. vertical drop and minimum time, but the penalty calculates below 15.00, the minimum penalty of 15.00 will be applied. This minimum penalty is valid for all events/genders.
 2. Races that do not meet vertical drop requirements:
If the minimum vertical drop requirement is not met, but the minimum time requirement is, then the greater of the calculated penalty or the minimum penalty of 30.00 shall be applied.
 3. Races that meet neither vertical drop requirements nor minimum time standards
If the minimum vertical drop requirement and the minimum time requirement are not met, then the greater of the calculated penalty plus the additional penalty or the minimum penalty of 30.00 shall be applied.

NOTE: *If the minimum vertical drop requirement is met, the minimum time requirement does not apply.*

4. **MINIMUM VERTICAL DROP PER RUN, ALTERNATE MINIMUM TIME STANDARDS AND ADDITIONAL PENALTY:**

<u>EVENT</u>	<u>MIN VD</u>	<u>ALT MIN TIME</u>	<u>ADDITIONAL PENALTY</u>
DH*	400 m	60 seconds combined/max 2 runs	26.00
SL	100 m	50 seconds combined for 2 runs	12.00
GS	250 m	50 seconds combined for 2 runs	17.00
SG	300 m	40 seconds for 1 run	21.00

NOTE: DH “combined/max 2 runs” does not eliminate 60-second minimum time for a 1-run DH.

- B. Falls in Finish/Timing area [ACR states that a binding release more than 2 gates above the Finish line in SL, GS or SG or more than 1 gate above the Finish line in DH shall be considered as a clear DSQ. [611.3.1, 615.3, U628.1.5, U629.4]
- C. Crossing the Finish Line after committing a gate fault [611.3.1]
- D. Wireless Timing [Refer to Wireless Timing Precisions-2002; Miscellaneous Study Guide Forms]
- E. Intermediate Timing - DH and SG
- F. Private Timing and Speed Measurement by Teams [611.4]
- G. START/STOP and START/STOP, YELLOW FLAG STOP Procedures
- H. Northern Precisions to the ICR

**UNITED STATES SKI AND SNOWBOARD ASSOCIATION
STUDY PROBLEMS FOR TIMEKEEPERS - ALPINE
2011-2012**

1. List the Chief of Timing & Calculations' duties at a race. _____

2. Mark each of the following T (True) or F (False):
 - a. If both electronic timing systems malfunction, a racer has grounds for a rerun. _____
 - b. In a tie, 1/1000ths can be used to break the tie. _____
 - c. Announce all forerunners times as soon as possible. _____
 - d. Penalty calculation is the same for both USSA and FIS. _____

3. What start signal does the Starter use for the following races?
 - a. Fixed Interval Races _____

 - b. Irregular Interval races _____

4. What is the minimum start interval for? DH: _____ GS: _____

5. Convert the following times from seconds to minutes:
 - a. 62.19 _____
 - b. 75.01 _____
 - c. 100.45 _____

6. Convert the following times from minutes to seconds:
 - a. 1:14.79 _____
 - b. 2:10.44 _____
 - c. 1:59.41 _____

7. Add the following, and then convert to minutes and seconds:

a. 59.59	b. 49.58	c. 41.18	d. 64.34	e. 71.19
<u>69.49</u>	<u>48.49</u>	<u>41.21</u>	<u>62.97</u>	<u>69.79</u>

8. Explain Time of Day Timing. _____

9. When are numbers rounded off? _____

10. Round the following numbers to the nearest 100th: (*These are not times!*)
 - a. 49.1146 _____
 - b. 15.162 _____
 - c. 108.325 _____

11. Calculate the elapsed times:

Finish time:	a. 13:00.650	b. 11:59.570	c. 32:01.440
Start time:	<u>12:04.911</u>	<u>10:06.561</u>	<u>30:01.191</u>

12. The winner of a race always gets _____ race points.

13. Define a Replacement Time (Equivalent Electronic Time - EET)? When is one required?
- a. _____
- b. _____
14. Primary electric time fails for a racer.
- a. What timing system should be used? _____
- b. What adjustment may be necessary? _____
- c. What procedure should be followed if both systems fail? _____
- d. What times should be used if the failure of the primary system affects a large percentage of the field?

- e. What times should be used, if the failure of both timing systems affects a large percentage of the field?

15. Do a Bibbo from this 1st-Run Result:

Bib #	1st Run Result	2nd Run Start Order	Bib #
1	52.11	1	_____
2	51.56	2	_____
3	52.52	3	_____
4	49.71	4	_____
5	51.48	5	_____
6	51.46	6	_____
7	49.63	7	_____
8	50.30	8	_____
9	50.51	9	_____
10	52.20	10	_____
11	51.15	11	_____
12	52.56	12	_____
13	51.51	13	_____
14	51.31 DSQ	14	_____
15	51.20	15	_____
16	51.45	16	_____
17	52.56	17	_____

16. a. What are the current Factors for?
DH: _____ SG: _____ GS: _____ SL: _____
- b. Where can they be found? _____
- c. What is a “factor”? _____

17. Calculate the Race Points on the attached Race & Penalty Points.
18. Calculate the Race Penalty for the race on the attached form.
19. Figure the Replacement Times (EET's) as indicated on the attached page.

UNITED STATES SKI AND SNOWBOARD ASSOCIATION

**WORKSHEET for CALCULATION of
RACE POINTS & USSA / FIS PENALTY - ALPINE
2011-2012**

SEED POINTS: Rank an individual racer with other racers.

RACE POINTS: Rank racers within one race.

CALCULATION OF THE RACE POINTS - use the following formula:

$$\text{Points} = \left[\frac{\text{Racer's Time in seconds}}{\text{Winner's Time in seconds}} - 1 \right] \times \text{Factor}$$

/DH - 1330
/ SL - 610
\ GS - 870
\SG - 1060
/ SC - 1130

OR USE: $\frac{\text{FACTOR X RACERS TIME (Tx)}}{\text{WINNING TIME (To)}} - \text{FACTOR} = \text{POINTS}$

NOTE: Some calculators require the use of an '=' after the multiplication process as well as the division process. Do not round off during the calculation - wait until the end.

* * * * *

PENALTY POINTS: Rank the race relative to other races.

CALCULATION OF THE PENALTY POINTS - follow these steps:

1. List the **top 10 finishers** and their respective **seed points and race points**.
2. Select and add the **best 5 list points from the top 10**. [SUM "A"]
3. Add the list points of the best 5 point holders who started the race, irrespective of where or if they finished (DSQ OR DNF). [SUM "B"]
4. Subtract the race points of the racers with the best 5 list points from the top 10 finishers. [SUM "C"]
5. Divide by 10 and round as necessary.

NOTE: Work across on the **SAME** line for each racer.

* * * * *

Use the following information and calculate race points for this **GIANT SLALOM** race:

F = _____

RNK	USSA	FIS	COMPETITOR	LIST POINTS	TOTAL TIME	RACE POINTS
1	E4851887	532431	MILLER, Bode	1.11	2:05.19	_____
2	E4610788	531557	KNIGHT, Chip	10.97	2:05.80	_____
3	I5136775	534562	LIGETY, Ted	5.74	2:06.46	_____
4	I4956801	534959	JITLOFF, Tim	18.79	2:06.55	_____
5	R2987535	530667	PUCKETT, Paul Casey	22.09	2:06.57	_____
6	E4969192	533336	BROWN, Roger P	16.41	2:06.59	_____
7	R5246609	530137	FIALA, Jakub	29.39	2:06.93	_____
8	P4828174	532497	ROTHROCK, Tom	5.86	2:06.96	_____
9	E5191135	534748	MCDONALD, Paul	13.10	2:07.00	_____
10	E4866083	533142	MARSHALL, Jesse	14.15	2:07.07	_____

BEST 5 AT START:

RNK	USSA	FIS	COMPETITOR	LIST POINTS	RACE RESULT
1	E4851887	532431	MILLER, Bode	1.11	1
2	E4610788	534562	LIGETY, Ted	5.74	3
3	P4828174	532497	ROTHROCK, Tom	5.86	8
4	R3389301	530703	SCHLOPY, Eric	10.18	DNF1
5	E5107339	534040	COCHRAN, James	10.88	DSQ1

TIES: 10th place - Consider all tied racers to select best 5 seed points - SUM A.
5th place - Use racer with higher race points - SUM C. (Lower Penalty)



PENALTY CALCULATION

Name of Competition		
Date	Event	Name of the TD

The best 10 at finish

Result	Number	Name	Nat	USSA-Points	Best 5	Race points
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

The best 5 at start

TOTALS

(B) USSA Points of best 5 at start

(A) USSA Points of best 5 to finish in top 10

(C) Race Points of corresponding competitors

Calculated penalty

A + B - C = : 10 =

Penalty applied

Signature TD	Nr
--------------	----

TIMING TAPE SAMPLE 1: ToD TIMER

^^^

S 11:06:58.591
F 11:07:14.247
S 11:08:01.332
F 11:08:13.679
S 11:08:54.841
F 11:09:15.823
S 11:10:02.459
F 11:10:11.960
S 11:10:59.481
F 11:11:15.563
S 11:11:57.319
F 11:12:12.804
S 11:13:05.421
F 11:13:11.338
S 11:14:01.018
F 11:14:15.493

^^^

This tape shows only the Start time and the Finish time. The bib number will have to be written on the tape as the start and finish occur; times must be manually calculated.

TIMING TAPE SAMPLE 2: ToD TIMER

ToD TAPE/ELAPSED

S001 10:50:00.579
S002 10:51:01.089
S003 10:52:00.129
F001 10:52:04.549
S004 10:52:58.589
F002 10:53:31.019
F003 10:54:20.139
S005 10:59:02.229
S006 10:59:59.599
F005 11:02:02.439
S007 11:08:58.199
F007 11:12:04.919
S009 11:15:03.019
S010 11:17:01.279
F009 11:17:08.099
S011 11:17:54.759
S012 11:19:05.199

This tape show **Start (S)**, **Finish (F)** and **Bib (###)**

S001 would be the start for bib 1

F001 would be the finish for bib 1

TIMING TAPE SAMPLE 3: ToD TIMER

^^^

1 10:21:09.427
2 10:21:33.708
8 10:21:58.469 #4
4 10:22:03.926
1 10:22:09.880
2 10:22:34.254
8 10:22:55.588 #5
4 10:23:05.331
1 10:23:09.847
2 10:23:34.312
8 10:23:57.439 #6
4 10:24:05.261
1 10:24:08.783
2 10:24:33.379
8 10:25:04.840 #7
4 10:25:08.601
1 10:25:10.888
2 10:25:34.968 #9
8 10:25:59.963 #8
4 10:26:05.125 #9
1 10:26:14.103 #10
2 10:26:39.540 #10

^^^

This tape shows **Start** (1), the **1st interval** (2), the **2nd interval** (4) and the **Finish** (8)

- 1 = start time
- 2 = 1st interval
- 4 = 2nd interval time
- 8 = finish time

If bib numbers are not printed, they will have to be written on the tape as the start and finish occur.



PENALTY CALCULATION

Name of Competition		
Date	Event	Name of the TD

The best 10 at finish

Result	Number	Name	Nat	USSA-Points	Best 5	Race points
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

The best 5 at start

TOTALS

(B) USSA Points of best 5 at start

--

(A) USSA Points of best 5 to finish in top 10

--

(C) Race Points of corresponding competitors

--

Calculated penalty

A + B - C = : 10 =

Penalty applied

--

Signature TD	Nr
--------------	----



PENALTY CALCULATION

CALCUL DE LA PENALITE

PUNKTEZUSCHLAGSBERECHNUNG



Name of event <i>Nom de l'événement</i> Name der Veranstaltung		
Date <i>Date</i> Datum	Discipline <i>Discipline</i> Disziplin	Name of the TD <i>Nom du DT</i> Name des TDs

The best 10 at finish / 10 meilleurs à l'arrivée / Die besten 10 im Ziel

Result <i>Résultat</i> Resultat	Number <i>Dossard</i> Nummer	Name <i>Nom</i> Name	Nat <i>Nat</i> Nat	FIS-Points <i>Points FIS</i> FIS-Punkte	Best 5 <i>5 meilleurs</i> 5 besten	Race points <i>Pts de course</i> Rennpunkte
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

The best 5 at start / 5 meilleurs points FIS au départ / Die 5 besten FIS-Punkte am Start

TOTALS / TOTALS / SUMMEN

- (B) **FIS Points of best 5 at start**
Points FIS des 5 meilleurs au départ
Die 5 besten FIS-Punkte am Start
- (A) **FIS Points of best 5 to finish in top 10**
Points FIS des 5 meilleurs dans les premiers 10
Die 5 besten FIS-Punkte aus den ersten 10
- (C) **Race Points of corresponding competitors**
Points compétition de ces concurrents
Rennpunkte der entsprechenden Wettkämpfer

Calculated penalty / Pénalité calculée / Berechneter Zuschlag

A + B - C = : 10 =

Correction value / Valeur de correction / Korrekturwert (-z → +z Art. 4.4.6)

Category Adder / Additif de catégorie / Kategorie-Adder

Penalty applied / Pénalité appliquée / Angewandter Punktezuschlag

Signature TD / Signature du DT / Unterschrift des TDs	Nr/No/Nr
--	-----------------



PROTESTS / RECLAMATIONS / PROTESTE

Place / Lieu / Ort		Country / Pays / land		Codex	
Name of event Nom de l'événement Name der Veranstaltung				Date Date Datum	
Category		Gender		Event	
Reasons for protest / Motifs de la réclamation / Gründe des Protestes				ICR References / Références RIS Bezugsquellen IWO	
Name of protester / Auteur de la réclamation / Verfasser des Protests					
Function Fonction Funktion		Surname, First Name Nom de famille, Prénom Familiennome, Vorname		Team Equipe Mannschaft	Date and time of submission Date et heure du dépôt Datum und Zeit der Zustellung
Payment of deposit Versement de la caution Einzahlung des Betrages					

Protest and deposit received by / Réclamation et caution reçues par / Protest und Betrag hinterlegt bei		
Function Fonction Funktion	Surname, First Name Nom de famille, Prénom Familiennome, Vorname	Signature Signature Unterschrift (please print and sign)

Date / Date / Datum	Signature of protester Signature de l'auteur de la réclamation Unterschrift des Protestverfassers (please print and sign)



**MINUTES OF JURY DECISIONS (PROTESTS) / PROCES-VERBAL DES DECISIONS DU JURY
(RECLAMATIONS) / PROTOKOLL DER JURYENTSCHEIDE (PROTESTE)**

Place / Lieu / Ort		Country / Pays / Land		Codex
Name of event Nom de l'événement Name der Veranstaltung				Date Date Datum
Category	Gender	Event		
Jury members present / Membres du jury presents / Anwesende Mitglieder der Jury				
Function Fonction Funktion	Surname, First Name Nom de famille, Prénom Familiennamen, Vorname	NAT	With voting right Avec droit de vote Mit Stimmrecht	Signatures Signatures Unterschriften
Technical Delegate Délégué Technique Technischer Delegierter			yes <input type="checkbox"/> no <input type="checkbox"/>	
Referee Arbitre / Schiedsrichter			yes <input type="checkbox"/> no <input type="checkbox"/>	
Assistant Referee Arbitre-assistant / SR-Assistant*			yes <input type="checkbox"/> no <input type="checkbox"/>	
Chief of Race Directeur d'épreuve / Rennleiter			yes <input type="checkbox"/> no <input type="checkbox"/>	
Start Referee Juge au départ / Startrichter**			yes <input type="checkbox"/> no <input type="checkbox"/>	
Finish Referee Juge à l'arrivée / Zielrichter**			yes <input type="checkbox"/> no <input type="checkbox"/>	
Others present at the meeting / Autres personnes convoquées / Andere eingeladene Personen				
Summary of reasons for protest / Rappel succinct du motif de la réclamation / Kurze Beschreibung des Protestgrundes				ICR References / Références RIS / Bezugsquellen IWO
Decision / Décision / Entscheid				
Time published / Heure d'affichage / Anschlagzeit	Date / Date / Datum	Signature of TD Signature de DT Unterschrift des TD (please print and sign)		

* DH/SG

**OWG/WSC

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**MINUTES OF JURY DECISIONS (WITHOUT PROTESTS) / PROCES-VERBAL DES DECISIONS DU JURY
(SANS RECLAMATIONS) / PROTOKOLL DER JURYENTSCHEIDE (OHNE PROTESTE)**

Place / Lieu / Ort		Country / Pays / Land		Codex	
Name of event Nom de l'événement Name der Veranstaltung				Date Date Datum	
Category		Gender		Event	
Jury members present / Membres du jury presents / Anwesende Mitglieder der Jury					
Function Fonction Funktion	Surname, First Name Nom de famille, Prénom Familiennamen, Vorname	NAT	With voting right Avec droit de vote Mit Stimmrecht	Signatures Signatures Unterschriften	
Technical Delegate Délégué Technique Technischer Delegierter			yes <input type="checkbox"/> no <input type="checkbox"/>		
Referee Arbitre / Schiedsrichter			yes <input type="checkbox"/> no <input type="checkbox"/>		
Assistant Referee Arbitre-assistant / SR-Assistant*			yes <input type="checkbox"/> no <input type="checkbox"/>		
Chief of Race Directeur d'épreuve / Rennleiter			yes <input type="checkbox"/> no <input type="checkbox"/>		
Start Referee Juge au départ / Startrichter**			yes <input type="checkbox"/> no <input type="checkbox"/>		
Finish Referee Juge à l'arrivée / Zielrichter**			yes <input type="checkbox"/> no <input type="checkbox"/>		
Others present at the meeting / Autres personnes convoquées / Andere eingeladene Personen					
Summary of decisions taken / Rappel succinct du motif / Kurze Beschreibung der getroffenen Entscheidung					
Time published / Heure d'affichage / Anschlagzeit	Date / Date / Datum	Signature of TD Signature de DT Unterschrift des TD (please print and sign)			

* DH/SG

**OWG/WSC

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TIMING CHECKLIST

- Interconnects** 1. Is there wire? Does it work? Are you sure?
- Equipment** 2. Is the equipment on the current list of timing equipment homologated by the FIS Timing Working Group? (www.fis-ski.com)
- Setup** 3. Do the timer tapes each report time to 1/1000th (.001) precision?
- Software** 4. If timing software is used to calculate times, is it calculating net times using the precision of ToD as used in the timing device?
- Hand Timing** 5. Is manual/hand timing that records to 1/100th (.01) precision available?
- Quality** 6. Is the timing crew aware that manual/hand times, even if not used, should be within acceptable limits?
- Start Gate** 7. Does the Start Gate meet the following requirements?
a. Separate contacts?
b. One wand?
c. Installed at proper height?
d. Is an identical Start Gate mechanism available for replacement?
e. Is the placement marked on the Start Posts?
f. Are the Start Posts solidly installed?
- Finish Eyes** 8. Do the Finish Photocells meet the following requirements?
a. Are 2 sets available?
b. Are 4 posts available for mounting photocells?
(2 are acceptable; replacements must be available)
c. Is the vertical separation between the beams no greater than 20cm?
- Power On** 9. Is the Power-On TIME (this is the “warm-up” time, which is not the same as the Synchronization Time) done at least 30 minutes prior to synchronization in order to allow the quartz time bases to stabilize?
- Synchronization** 10. Have system A and System B been synchronized no more than one hour (60 minutes) prior to first racer start time for each run?
11. Has the synchronization been performed from start wand installed at the Start or from one single contact switch for all timing devices?
- Systems** 12. If System B times are used, is the timing crew aware of the requirement for an EET as per manual/hand timing techniques?



Timing & Data Technical Report

Alpine

CODEX example 0247
1837

Version 7.1

To accompany TD Report immediate transmittal. - One form required for each Codex

Location:	WINTER PARK, COLORADO	DH: <input type="checkbox"/> SL: <input checked="" type="checkbox"/> GS: <input type="checkbox"/> SC: <input type="checkbox"/> SD: <input type="checkbox"/>
Nation:	USA	MEN: <input checked="" type="checkbox"/> LADIES: <input type="checkbox"/>
Event Name:	U.S. ALPINE NATIONAL CHAMPIONSHIPS	
Date (dd/mm/yy):	03/04/11	

	Brand	Model	Serial Number	Homologation #
Sys A Timer:	TAG HEUER	CP540	2004	TAG.070T.08
Sys B Timer:	TAG HEUER	Minitimer HL440	1015	TAG.076T.09
Start Gate:	TAG HEUER	HL 7-1	996	TAG.S54.03
Finish Cells A:	TAG HEUER	HL 2-32	121	TAG.L49T.10
Finish Cells B:	TAG HEUER	HL 2-32	122	TAG.L49T.10

Software	Brand	Version	Date	Results = Tapes
Scoring and Results Preparation:	National/FIS Scoring Software	Version 6.23, rev 2	11-Aug-11	Confirmed

Connections to Start:	System A	System B	Voice Comm.
Cable, Radio or other- (Specify)	CABLE	CABLE	CABLE/RADIO

POWER ON Time (warm-up): At least 30 minutes before Synchronization.

Time of day expressed in thousandths.	1st Run			2nd Run		
	System A (TOD) #	System B (TOD) #	Hand Sync.	System A (TOD) #	System B (TOD) #	Hand Sync.
Synchronization Time	8:39		8:01	12:23		8:01
Synch confirm at +1 minute	08:39:59.9716	08:39:59.9724		12:24:00.365	12:24:00.366	
Start TOD First Competitor *	09:02:05.8033	09:02:05.8041	Net Time	12:48:53.9964	12:48:53.9961	Net Time
Finish TOD First (1) (40) *	09:02:56.8502	09:02:56.8538	51.04	12:49:46.5626	12:49:46.5628	52.56
Hand Time First Competitor *			51.05			52.56
Start TOD Last Competitor *	10:32:18.5549	10:32:18.5549		13:47:12.2427	13:47:12.2421	
Finish TOD Last (96) (28) *	10:33:18.2002	10:33:18.1999	59.64	13:48:22.9526	13:48:22.9519	1:10.70
Hand Time Last Competitor *			1:13.73			1:10.76
* First and Last to Finish with complete data.						
Best run-time System A		Bib : (2)	50.70		Bib : (7)	51.42

Were all Results from system A? Indicate: Yes No

List any or all bib numbers used in the results timed on any system other than system A in all runs (indicate run):

WHY? Batteries Snow obscuration wire break Photocell alignment Other? (describe)

Data Source for replacement system A time. (resp. ICR 611.2.1) ? System B System C Manual

Comments:

We certify that the timing and calculations of this event adhered to the FIS rules.

YES : NO

Chief of Timing - Name (Print)	Email, Telephone	Signature	
LNAME, Fname	email address xxx-xxx-xxxx		
Technical Delegate - Name, NAT (Print)	Email, Telephone	Signature	FIS TD #
LNAME, Fname NAT	email address (+ 1) xxx-xxx-xxxx		NNN

Download this form from www.fis-ski.com



Timing & Data Technical Report

Alpine

CODEX example 0247

To accompany TD Report immediate transmittal.- One form required for each Codex

Version 7.1

Location:		DH <input type="checkbox"/> SL <input type="checkbox"/> GS <input type="checkbox"/> SG <input type="checkbox"/> SL <input type="checkbox"/>
Nation:		MEN: <input type="checkbox"/> LADIES: <input type="checkbox"/>
Event Name:		
Date (dd/mm/yy):		

	Brand	Model	Serial Number	Homologation #
Sys A Timer:				
Sys B Timer:				
Start Gate:				
Finish Cells A:				
Finish Cells B:				

	Software	Brand	Version	Date	Results = Tapes
Scoring and Results Preparation:					

Connections to Start:	System A	System B	Voice Comm.
Cable, Radio or other- (Specify)			

POWER ON Time (warm-up): At least 30 minutes before Synchronization.

Time of day expressed in thousandths.	1st Run			2nd Run		
	System A (TOD) #	System B (TOD) #	Hand Sync.	System A (TOD) #	System B (TOD) #	Hand Sync.
Synchronization Time						
Synch confirm at +1 minute						
Start TOD First Competitor *			Net Time			Net Time
Finish TOD First () () *						
Hand Time First Competitor *						
Start TOD Last Competitor *						
Finish TOD Last () () *						
Hand Time Last Competitor *						
* First and Last to Finish with complete data.						
Best run-time System A		Bib : ()			Bib : ()	

Were all Results from system A? Indicate: Yes No

List any or all bib numbers used in the results timed on any system other than system A in all runs (indicate run):

WHY? Batteries Snow obscuration wire break Photocell alignment Other? (describe)

Data Source for replacement system A time. (resp. ICR 611.2.1) ? System B System C Manual

Comments:

We certify that the timing and calculations of this event adhered to the FIS rules.

YES NO

Chief of Timing - Name (Print)	Email, Telephone	Signature

Technical Delegate - Name, NAT (Print)	Email, Telephone	Signature	FIS TD #

Download this form from www.fis-ski.com

EARLY AND LATE STARTS DISQUALIFICATION

[613.7]

FOR FIXED INTERVALS STARTING ON THE MINUTE:

CLOCK READS: | EARLY STARTS?

10:10:54.990 _____ |

*

10:10:56.000

*

*

10:10:57.000

*

*

10:10:58.000

*

*

10:10:59.000

*

*

10:11:00.000

*

START

*

10:11:01.000

*

*

10:11:02.000

*

*

10:11:03.000

*

*

10:11:04.000

*

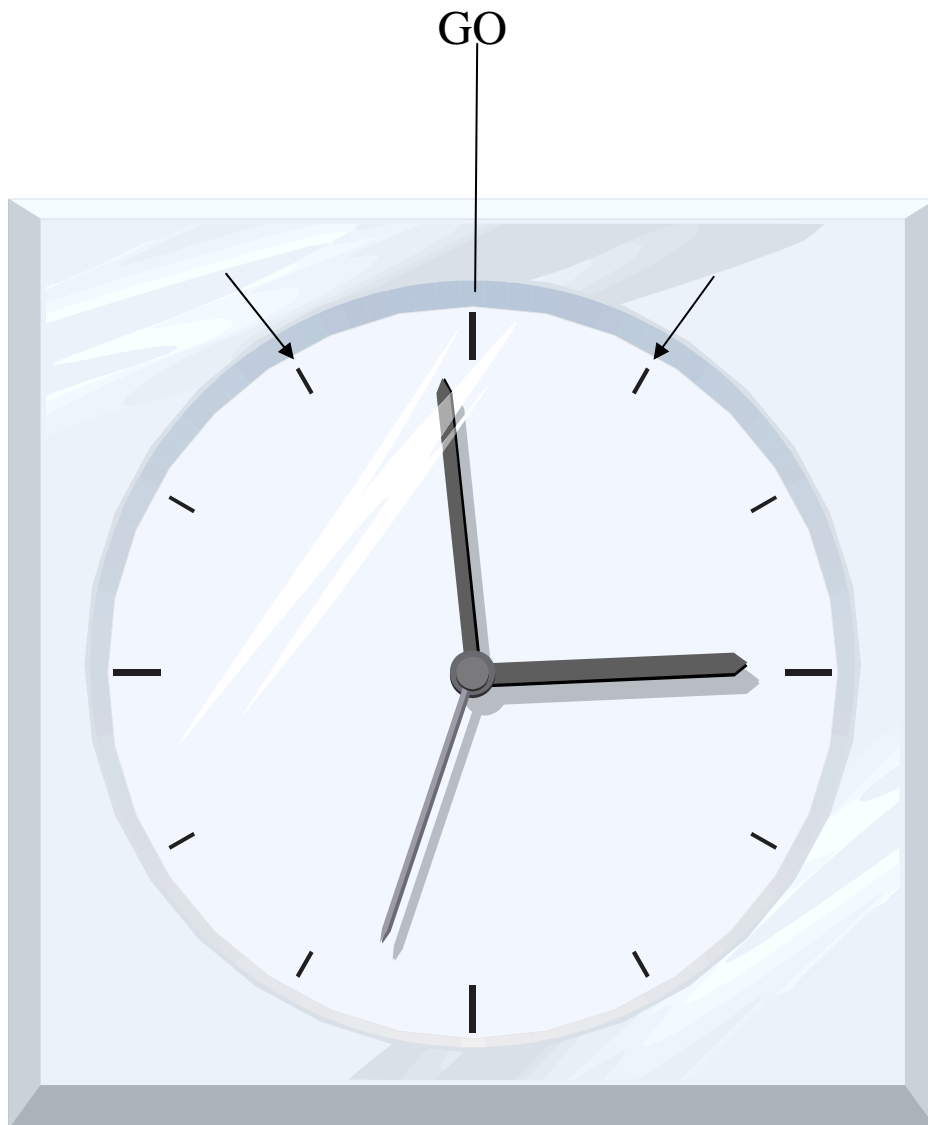
*

10:11:05.010 _____ |

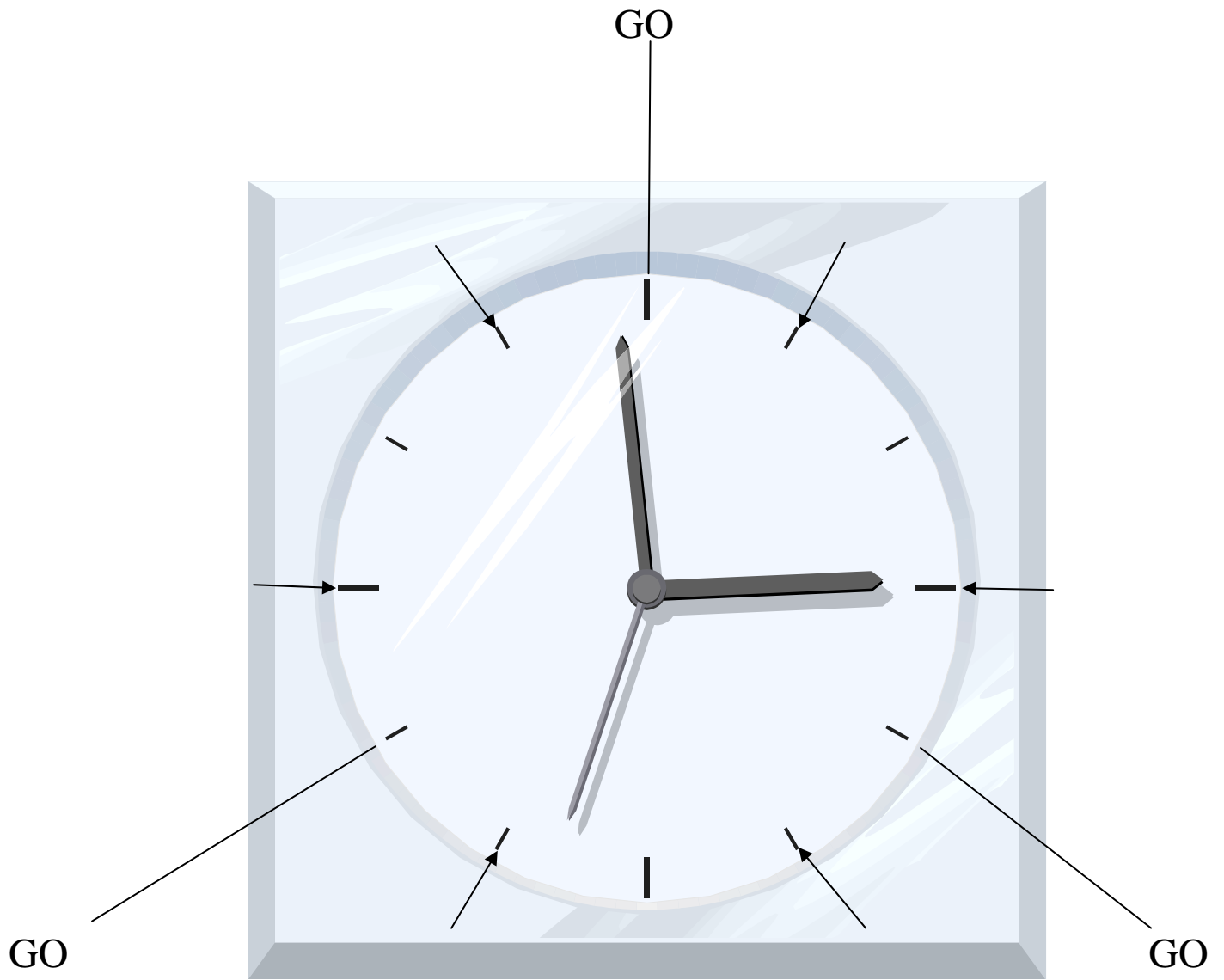
LATE STARTS?

|

VALID START: 60-SECOND START INTERVAL



VALID START: 40-SECOND START INTERVAL



HAND TIME/TIME of DAY (ToD) REPLACEMENT TIME (E.E.T.) WORKSHEET

DATE: _____ EVENT: _____ MEN _____ WOMEN _____ RUN _____ CHIEF CALCULATIONS: _____

HAND TIME/TIME of DAY - ToD			RACER BIB #	ELAPSED HAND TIME	ELECTRONIC TIME	COLUMN A HAND TIME SHORTER (+)	COLUMN B HAND TIME LONGER (-)
BIB #			_____	____:____.____	____:____.____	____.____	____.____
FIN			_____	____:____.____	____:____.____	____.____	____.____
-ST			_____	____:____.____	____:____.____	____.____	____.____
=			_____	____:____.____	____:____.____	____.____	____.____
HT			_____	____:____.____	____:____.____	____.____	____.____
BIB #			_____	____:____.____	____:____.____	____.____	____.____
FIN			_____	____:____.____	____:____.____	____.____	____.____
-ST			_____	____:____.____	____:____.____	____.____	____.____
=			_____	____:____.____	____:____.____	____.____	____.____
HT			_____	____:____.____	____:____.____	____.____	____.____
BIB #			_____	____:____.____	____:____.____	____.____	____.____
FIN			_____	____:____.____	____:____.____	____.____	____.____
-ST			_____	____:____.____	____:____.____	____.____	____.____
=			_____	____:____.____	____:____.____	____.____	____.____
HT			_____	____:____.____	____:____.____	____.____	____.____
BIB #			_____	____:____.____	____:____.____	____.____	____.____
FIN			_____	____:____.____	____:____.____	____.____	____.____
-ST			_____	____:____.____	____:____.____	____.____	____.____
=			_____	____:____.____	____:____.____	____.____	____.____
HT			_____	____:____.____	____:____.____	____.____	____.____
BIB #			_____	____:____.____	____:____.____	____.____	____.____
FIN			_____	____:____.____	____:____.____	____.____	____.____
-ST			_____	____:____.____	____:____.____	____.____	____.____
=			_____	____:____.____	____:____.____	____.____	____.____
HT			_____	____:____.____	____:____.____	____.____	____.____
BIB #			_____	____:____.____	____:____.____	____.____	____.____
FIN			_____	____:____.____	____:____.____	____.____	____.____
-ST			_____	____:____.____	____:____.____	____.____	____.____
=			_____	____:____.____	____:____.____	____.____	____.____
HT			_____	____:____.____	____:____.____	____.____	____.____
			MISSING TIME (S)				
BIB #			_____	____:____.____	____:____.____	____.____	____.____
FIN			_____	____:____.____	____:____.____	____.____	____.____
-ST			_____	____:____.____	____:____.____	____.____	____.____
=			_____	____:____.____	____:____.____	____.____	____.____
HT			_____	____:____.____	____:____.____	____.____	____.____

COLUMN A TOTAL + _____

COLUMN B TOTAL - _____

DIFFERENCE = (+) or (-) _____

DIVIDED BY 10 = (+) or (-) _____ = CORRECTION

BIB #	ELAPSED HAND TIME	CORRECTION (+) or (-)	RACER'S REPLACEMENT TIME (E.E.T.)
_____	____:____.____	____.____	____:____.____
_____	____:____.____	____.____	____:____.____



START/FINISH TIMEKEEPER RECORDING FORM

DATE: *TODAY'S DATE* _____ PAGE: 1 ___ of 2 ___ 1st RUN X 2nd RUN

MARK ONE: START FINISH X WOMEN X MEN

TIMEKEEPER NAME: *J. TIMER* _____ DH GS SL X

RECORDER NAME: *J. RECORDER* _____ SG SC/K

BIB #	TIME OF DAY		
	MM	SS	ss
1	51	45	01
2	52	18	04
3	52	51	34
4	53	24	51
5	54	01	58
6	DNF		
7	55	13	59
8	55	48	04
9	56	22	62
10	57	24	83
11	57	55	79
12	59	12	15
13	00	19	61
14	01	08	20
15	DNF		
16	01	52	53
17	02	31	07
18	03	10	47
19			
20			

BIB #	TIME OF DAY		
	MM	SS	ss



START/FINISH TIMEKEEPER RECORDING FORM

DATE: *TODAY'S DATE* _____ PAGE: 1 ___ of 2 ___ 1st RUN X 2nd RUN

MARK ONE: START FINISH X WOMEN X MEN

TIMEKEEPER NAME: *J. TIMER* _____ DH GS SL X

RECORDER NAME: *J. RECORDER* _____ SG SC/K

BIB #	TIME OF DAY		
	MM	SS	ss
1	50	57	01
2	51	29	00
3	52	01	08
4	52	34	38
5	53	09	28
6	53	44	28
7	54	20	58
8	54	56	21
9	55	29	98
10	56	04	80
11	57	02	84
12	58	23	56
13	59	29	94
14	00	21	54
15	00	50	52
16	01	04	10
17	01	43	59
18	02	17	26
19			
20			

BIB #	TIME OF DAY		
	MM	SS	ss

HAND TIME/TIME of DAY (ToD) REPLACEMENT TIME (E.E.T.) WORKSHEET

DATE: TODAY'S DATE EVENT: SL MEN X WOMEN RUN 1 CHIEF CALCULATIONS: C. TIMER

HAND TIME/TIME of DAY - ToD			RACER BIB #	ELAPSED HAND TIME	ELECTRONIC TIME	COLUMN A HAND TIME SHORTER (+)	COLUMN B HAND TIME LONGER (-)	
BIB #	4	12	4	: .	: 50.03	.	.	
FIN	53:24.51	59:12.15	5	: .	: 52.35	.	.	
-ST	52:34.38	58:23.56	7	: .	: 52.98	.	.	
=	50.13	48.59	8	: .	: 51.82	.	.	
HT			9	: .	: 52.62	.	.	
BIB #	5	13	12	: .	: 48.62	.	.	
FIN	54:01.58	00:19.61	13	: .	: 49.65	.	.	
-ST	53:09.28	59:29.94	14	: .	: 46.61	.	.	
=	52.30	49.67	16	: .	: 48.45	.	.	
HT			17	: .	: 47.49	.	.	
BIB #	7	14						
FIN	55:13.59	01:08.20						
-ST	54:20.58	00:21.54						
=	53.01	46.66						
HT								
BIB #	8	16						
FIN	55:48.04	01:52.53						
-ST	54:56.21	01:04.10						
=	51.83	48.43						
HT								
			MISSING TIME(S)					
BIB #	9	17	10					
FIN	56:22.62	02:31.07	57:24.83					
-ST	55:29.98	01:43.59	56:04.80					
=	52.64	47.48	1:20.03					
HT								
			DIFFERENCE = (+) or (-) _____					
			DIVIDED BY 10 = (+) or (-) _____ = CORRECTION					
BIB #			11					
			57:55.79					
			57:02.84					
			52.95					
BIB #			10					
			: .					
BIB #			11					
			: .					

COLUMN A TOTAL + _____

COLUMN B TORAL - _____

BIB # ELAPSED HAND TIME CORRECTION (+) or (-) RACER'S REPLACEMENT TIME (E.E.T.)

10 : .

11 : .



ALPINE SKIING

2011/2012

1ère LISTE DES POINTS FIS - 1st FIS POINTS LIST - 1. FIS PUNKTELISTE

Valid from 7/1/2011 to 8/31/2011

Category/Catégorie/Kategorie	Race level	Minimum penalty	Maximum penalty
OWG WSC WC		0	0
COM		0	4
WJC ANC EC FEC NAC SAC UVS ECOM	1	6	999
NC	2	8	999
FIS JUN NJC NJR CIT UNI CORP CISM	3	9	999
ENL	4	40	999

MEN					GENERAL			LADIES					
ADDER				Z-Value	Men/Ladies		ADDER				Z-Value		
Dis.	Level 1	Level 2	Level 3	Level 4		F Value	Max points	Dis.	Level 1	Level 2	Level 3	Level 4	
DH	0	2	3	13	0.00	1330	310	DH	0	2	3	13	0.00
SL	0	2	3	13	0.00	610	145	SL	0	2	3	13	0.00
GS	0	2	3	13	0.00	870	200	GS	0	2	3	13	0.00
SG	0	2	3	13	0.00	1060	250	SG	0	2	3	13	0.00
SC	0	2	3	13	0.00	1130	250	SC	0	2	3	13	0.00

FÉDÉRATION INTERNATIONALE DE SKI
INTERNATIONAL SKI FEDERATION
INTERNATIONALER SKI VERBAND