

**THE INTERNATIONAL AMATEUR RADIO UNION  
REGION 1**

**HIGH SPEED TELEGRAPHY WORKING GROUP**

***RULES FOR  
HIGH SPEED TELEGRAPHY  
CHAMPIONSHIPS***

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## **A - INTRODUCTION**

**A1** These rules are to be used for the organization and holding of IARU World and Regional High Speed Telegraphy Championships in IARU Region 1. They should also be used for HST Regional or World Championships organized and held by the other IARU Regions.

**A2** To ensure consistency in the standards applied to HST competitions, it is recommended that these rules, suitably adapted, be used for the organization and holding of national championships and competitions arranged by IARU member societies.

## **B - ORGANISATION**

### **B1 Preliminary Arrangements**

**B1.1** The High Speed Telegraphy Working Group (HST WG) of the Region holding the Championships shall send a letter to all member societies including the secretariat of all three regions. This letter will inquire if they are willing to serve as Organizing Society for the HST Championship. Each letter will request a reply within THREE MONTHS of it being received. If no reply is received within that period, the HST WG will assume a negative response.

**B1.2** On receiving a positive response from one or more societies, the HST WG will nominate one society to organize the Championships (hereafter referred to as the Organizing Society). Such decision will be made by voting during the official WG meeting, by postal voting or voting by e-mail following the procedure as given in the HST terms of Reference. The decision of the HSTWG will then be announced on the IARU web site as well as on the web sites of all three regions.

**B1.3** The IARU HST Championships shall take place in the year following this preliminary preparation period.

### **B2 Participation, Finance and Organization**

**B2.1** A national team participating in IARU HST Championships may consist of any number up to a maximum of 27 (**twenty seven**) COMPETITORS in the following 9 (**nine**) categories. The teams shall comprise of:

"A" Not more than THREE "YOUNGSTER FEMALES" (competitors belong to the category up to the end of the calendar year in which they reach the age of 16);

"B" Not more than THREE "YOUNGSTER MALES" (competitors belong to the category up to the end of the calendar year in which they reach the age of 16);

"C" Not more than THREE "JUNIOR FEMALES" (Competitors belong to the category up to the end of the calendar year in which they reach the age of 21);

"D" Not more than THREE "JUNIOR MALES" (Competitors belong to the category up to the end of the calendar year in which they reach the age of 21);

"E" Not more than THREE "FEMALES", (Competitors may compete in this category regardless of their age).

"F" Not more than THREE "MALES", (Competitors may compete in this category regardless of their age);

„G" Not more than THREE "SENIOR FEMALES", (Competitors aged 40 or older belong to the category from the beginning of the calendar year in which they reach the given age);

„H" Not more than THREE "SENIOR MALES", (Competitors aged 40 or older belong to the category up to the end of the calendar year in which they reach the age of 49);

„I" Not more than THREE "SENIOR MALES", (Competitors aged 50 or older belong to the category from the beginning of the calendar year in which they reach the given age);

Each team shall have a designated TEAM LEADER who must be at least 18 years of age. One competitor may act as team leader, too. A trainer, an interpreter, referees, as well as unlimited number of visitors may also accompany each team.

**B2.1.1** Competitors shall have full passport-holding citizenship of the country of the society they represent. Other nationals living at least for one year in the country in question may also participate for the society of said country; the legitimacy of the residence shall be proven by an official document. Any exception from this requires the approval of the HST WG and the societies involved.

**B2.2** All contestants must be licensed radio amateurs but for **A, B, C and D** categories it is allowed to be only licensed SWL's (or SWL members of their national societies). Personal identification document showing the competitors date of birth, must be submitted to the Championship Secretariat upon arrival at the contest venue.

**B2.3** For training and promotional purposes, the Organizing Society may field one additional team. This team may participate unofficially in the Championships, but neither competitors nor team will be listed in the official results.

**B2.4** The Organizing Society shall send invitations to participate in the Championships to IARU member-societies, to the Secretaries of IARU Regions 1, 2, and 3, for onward transmission the Societies within their Regions and to the IARU International Secretariat for information. These invitations shall be sent not later than EIGHT MONTHS prior to the commencement of the Championships. The invitations should inform the Societies that if they do not intend to send a national team to the Championships, then may invite individuals to take part in the Championships (max 2 persons/category).

**B2.5** Societies, which intend to send a national team or individuals to participate in the Championships, shall send a letter of intent to the Organizing Society not later than SIX MONTHS prior to the commencement of the Championships. This letter shall indicate the number of participants (up to **27** competitors) and others who will be attending the event ( team leader, trainer, visitors etc. ). No other information is required at this time

**B2.5.1** The IARU member societies attending the HST championship for the FIRST time would be allowed to use their own keyboards and national keyboard standard. The IARU MS is obligated to inform the HSTWG Chairman and the Organizing Society NOT later than 3 ( three ) months prior to the championship if they want to use this option.

**B2.6** The Organizing Society shall send, not later than THREE MONTHS prior to the commencement of the Championships, the following:

TO PARTICIPATING SOCIETIES

- a) The full program of the Championships, including a timetable and the location of all events;
- b) Information about local travel facilities, e.g., how to reach the hotel(s) from the nearest airport, railway station, etc;
- c) General information about hotels (accommodation and board) near the Championships, with at least one specific example, including costs.
- d) Details of the types of headphones and the exact type of available sockets to connect competitor's keyer
- e) Any other important information deemed necessary.
- f) Formal Application Forms for completion by Participating Societies. These forms shall contain all relevant information apart from the names of the participants, and shall be returned to the Organizing Society not later than TWO MONTHS prior to the commencement of the Championships.

Invitations should be sent to INTERNATIONAL CLASS REFEREES selected as defined in Rule B3.2 to serve on the International Jury for the HST Championships.

**B2.7** Participating Societies shall submit the names of all participants, with their call signs or SWL Numbers, to the Secretariat of the Championships in written form (i.e., by letter, fax, or other available means), not later than TWENTY FOUR HOURS before the first meeting of the International Jury at the Championships.

**B2.8** Participating Societies shall meet the expenses of their teams participating in the Championships as follows: the cost of travel to and from the place of the Championships and the cost of accommodation and board during the period of the Championships.

**B2.9** The Organizing Society shall meet the Administrative and Technical expenses arising from the Championships.

**B2.10** The cost of accommodation and full board of the Chairman and all members of the International Jury ( referees for transmission, Morse runner, RUFZ and the technical referee for receiving ) shall be met by the Organizing Society.

**B2.11** It is recommended that both IARU WORLD and REGIONAL HST Championships take place once in two years. WORLD Championships are to be held every ODD year, and REGIONAL Championships are to be held every EVEN year. IARU REGIONAL HST Championships are to be considered OPEN, i.e. participants from Societies from the other two IARU Regions are also welcome to take part and will be officially classified.

**B2.12** In order for IARU Region 1 Member Societies to be allowed to start as official competitors in an international IARU HST championship, they must have fulfilled all their financial obligations to Region 1 by the end of the month prior to the month in which the Championships take place. If requested, facilities will be provided to accept outstanding fees together with payment of the championship fee and expenses. The organising society may allow Member Societies with outstanding fees to Region 1 to take part in Championships outside of competition (i.e. not to be ranked and not to be awarded medals). The IARU Region 1 Executive Committee may allow Radio Amateur Societies in countries within Region 1, which are not members of IARU Region 1, to officially participate as full competitors in International HST championships. Such permission will normally only be give for one year as an introduction to this IARU activity.

**B2.13** Any competitor from category A, C and G may compete in category E and any competitor from category B,D,H and I may compete in category F. Also any competitor from category A may compete in category C, any competitor from category B may compete in category D and any competitor from category I may compete in category H. For a winning competitor to qualify in a category or test as an IARU HST World or Regional Champion there must be at least three competitors participating in the same category. Competitors in the Junior Female (C) and Junior Male (D), and Senior Female (G), Senior Male (H) should compete in the Female (E) and Male (F) categories respectively if there are less than three contestants in their own category. Competitors in the Youngster Female (A) and Youngster Male (B) categories should compete in a higher category, chosen between either the Junior Female (C) and Junior Male (D) or Female (E) and Male (F) categories and competitors in the Senior Male (I) should compete in a higher category chosen between either the Senior Male (H) or Male (F) if there are less than three contestants in their own category. For counting team scores, however, the scores of such contestants will be allocated to their original category, i.e., Youngster, Junior or Senior

**B2.14** If necessary, HSTWG chairman may visit the Organizing Society to co-ordinate preparations.

### **B3** International Jury

**B3.1** The International Jury for IARU HST Championships shall consist of the following members:

- a) Chairman of the Jury;
- b) Secretary of the Jury;
- c) Technical Referee;
- d) HST International Class Referees (Senior Jury) and other Jury Members

**B3.2** HSTWG Chairman is the Chairman of the Jury. In his absence, the Vice chairman of the HSTWG or International Class Referee appointed by the Executive Committee can take the responsibility of Chairman of the Jury. All referees ( 6 for transmission, 4 for Morse runner, 4 for RUFZ and the technical referee for receiving ) will be selected by the HST WG six months prior to the commencement of the Championships. The referees will form two groups of Transmitting Jury and four groups of Jury for practicing test ( two for Morse runner and two for RUFZ ) respectively. All members of the Jury shall be selected as described in Appendix J, from the representatives of several countries. They shall be drawn from as many Societies as possible. The names of the members of the International Jury shall be announced before the commencement of the Championships

**B3.3** International Class Referees who are non-competing members of national teams (and had not been appointed earlier by WG) may be invited to serve as full members of the International Jury. Team leaders and trainers who are not members of the International Jury may take part in Jury meetings, but will have no voting rights.

**B3.4** The International Jury shall meet on the day prior to the commencement of the Championships to approve the final time-table and technical details of the Championships.

**B3.5** At the end of each day of the Championships, the International Jury shall meet to discuss and approve the results of that day. The Jury must allow at least ONE hour window after the posting of the latest preliminary results, before commencing the meeting. The Chairman of the Jury, according to the circumstances (the time-table in particular), might at his discretion postpone the meeting, or the approval of the results of a certain test/category for the next morning.

**B3.5.1** The Secretary shall post the preliminary results for each test/category on the officially approved place(s) as soon as they are prepared. Those results must be clearly marked PRELIMINARY or UNOFFICIAL, together with the EXACT TIME they have been posted. Team leaders can deposit protests, if any, to the Chairman of the Jury within ONE hour after the posting.

**B3.5.2** After Jury approval, the Secretary shall replace the preliminary results with another set, clearly marked FINAL or OFFICIAL, or alternatively the same listings may be signed by the Chairman of the Jury and also marked FINAL or OFFICIAL.

**B3.6** In cases of dispute, which cannot be resolved by reference to the Rules, the Jury shall reach a decision by means of a vote. In the event of a tie, the Chairman of the Jury shall have a casting vote.

**B3.7** Decisions of the International Jury are final, and may not be appealed against.

**B3.8** During all events in the Championships, all Jury members shall wear clearly visible badges marked "JURY".

## **C - CHAMPIONSHIPS PROGRAMME**

**C1** IARU HST Championships shall comprise tests as follows:

- a) Reception of 5 (five) letter/figure/mixed groups for a period of ONE minute according to the software provided (Appendix A1).
- b) Transmission of 5 (five) letter/figure/mixed groups for a period of ONE MINUTE
- c) The Radioamateur practicing Tests (See appendix A1)

## **D - TECHNICAL**

### **D1 Rules for Competition Tests**

**D1.1** Competitors may have:

- one attempt only at each speed (Letter, Figure, Mixed) at Receiving test
- one attempt (Letter, Figure, Mixed) and only one additional (See D2.2.8) at transmitting tests,
- two attempts at Radio Amateur Call sign receiving Test
- two attempts at Pile up trainer Test

Exceptionally, an additional attempt may be allowed in the case of:

- a) AC mains failure
- b) Malfunction of the equipment provided by the Host Society.

Note: This rule does not apply to malfunction of any of competitor's own piece of equipment, i.e. own headphones, transmitting key, associated wiring, laptop or any other possible own equipment. In case of such malfunction, the competitor WILL NOT be allowed and additional attempt

### **D2.1 Receiving Tests**

**D2.1.1** Competitors may record texts received by hand or by use of a laptop. The letter texts will be formed from the 26 Latin letters. The figure groups will be formed from the 10 Arabic numerals. Mixed text groups, in addition to the above letters and numerals will include the following punctuation marks: ., ? / = Identical characters next to each other will not be sent more than twice, e.g SSGHH, 78831

**D2.1.2** Texts will be transmitted at increasing speeds. The speed will be increased in increments of TEN marks per minute.

**D2.1.3** The frequency of the audio signal shall be within the range 700-900 Hz. Headphones with adjustable volume controls, shall be provided for competitors by the Organizing Society. It is NOT allowed competitors to use their own headphones.

**D2.1.4** During receiving tests, each competitor shall receive up to 10 speeds in each test ( letters, figures, mixed ) . A competitor shall select those 10 speeds that he/she would like to receive.

The lowest speed is determined in Appendix A3. There is no need the selected speeds to be consecutive.

Example: 150,170,180,200,210,230 .....

**D2.1.5** The sub-division of competitors into several groups according to their known skill levels (or other circumstances) may be allowed for the purpose of placing them in separate rooms. Competitors are allowed to use their own laptops with or without external keyboard for receiving but typewriters are not allowed to use.

**D2.1.6** The Competition shall start with the reception of letter groups, followed by figure groups, then mixed text groups.

**D2.1.7** Competitors may use any symbols (shorthand, etc), written by hand, to record the signals received, and may use their own paper for this purpose. When the test is finished, the messages received must be re-typed on an official PC provided by the referee. The original papers used for reception of the messages must be handed to the referee after re-typing procedure. After the competition the competitors may get back their original papers.

**D2.1.8** When the messages received have been written by hand, a period of THIRTY MINUTES shall be allowed after each test for competitors to re-type THREE SELECTED MESSAGES received in that test. The text shall be re-typed accordingly to the RX check software provided.(see Appendix A2) . ONE MESSAGE only, giving the best score shall be counted for the contest.

**D2.1.9** The competitors who receive with laptop must follow the same re-typing rules, no matter whether they hand-write or print their official messages.

**D2.1.10** Messages sent in a receiving test at a particular speed should have the following procedural signals ( See appendix C )

**D2.1.11** A practice (familiarization) message shall be sent ONCE, before the first competition message is sent.

**D2.1.12** Messages received shall be scored if the number of errors does not exceed FIVE (See appendix D)

**D2.1.13** Scoring shall be as follows:

a) In each of the Receiving Tests (Letters, Figures, and Mixed Text), a score of 100 points shall be awarded to the competitor who receives the (classified) message sent at the highest speed in his-her category. Competitors in the same category who receive the message at a lower speed shall be scored proportionately as explained in the following example.

EXAMPLE:

100 points are awarded to the competitor who received the highest speed in a receiving test. The highest speed is: transmitted speed minus number of errors. If a competitor received the speed of 260 marks per minute with 3 errors the highest speed will be  $260-3= 257$ . If another competitor in the same category receives a message at a speed of 210 marks per minute with 2 errors, his/her score would be  $(210-2) / 257 \times 100 = 80.9$  points, calculated to the nearest one tenth of a point.

## **D2.2** Transmitting Tests

**D2.2.1** The Organizing society should provide transmitting work places with quality headphones so the competitor can monitor his/her transmission.

**D2.2.2** Competitors may use either straight or electronic keys (single or double paddle) for the transmitting tests. They may use a straight key for one or more of the three tests, and an electronic key for the remainder if they wish. Electronic keys must have a dot to dash ratio of 1:3.

**D2.2.3** The messages for transmission shall be comprised of 60 groups of 5 characters for each test (i.e., letter groups, figure groups and mixed text groups).

**D2.2.4** The text of a message provided to competitors for transmission shall be printed in Latin capital letters and/or Arabic numerals. There shall be five groups to a line. Every transmitting text must be well readable and the "zero" characters shall be signed with slash ( $\emptyset$ ) at mixed text ( See appendix E )

**D2.2.5** Three TRAINING messages (one comprising letter groups, one figure groups, and one mixed text) shall be given to all competitors at arriving day of the competition. Three COMPETITION messages shall be generated from computer at presence of Jury Members from at least 3 different countries. The same messages shall be given to all competitors within the same group. The visual look of the competition messages MUST be the same with the training messages (size of the signs, spacing, bold etc). The competitor shall see the competition messages once he/she enters the competition room.

**D2.2.6** Competitors are allowed to stay of TWELVE MINUTES in the transmitting room in which to send the three messages provided. This period commences at the time the competitor enters the test room. The transmission period for each test shall be ONE MINUTE commencing with a signal from the referee. If a competitor called by the referee fails to appear in the test room due to reasonable reasons ( health problem, etc ), he/she shall be called again in ONE MINUTE, and after a further period of ONE MINUTE the referee shall call the next competitor in the list. The competitor, who failed to appear within his turn, will be automatically moved LAST in the sequence list, and the time available for his attempt will be reduced to 8 minutes. In case the same competitor fails again to appear within his new turn, he/she will be disqualified and NO POINTS will be awarded for the Transmitting test. The jury members have the right to determine if there is a justifiable reason for the absence of the competitor.

**D2.2.7** After a competitor has connected his/her key to the test apparatus, no further assistance is allowed and the trainer has to leave the transmitting room (if he/she was there).

**D2.2.8** After a competitor sent THREE messages he has the right to re-transmit one of the messages if still there is enough time for him to complete additional attempt. In that case after additional attempt is over a competitor tells the referees which attempt to consider official and sign appropriate document. The transmitted text shall be check accordingly to the software provided (see Appendix A2).

**D2.2.9** Prior to the transmission of a message in the transmitting test, a competitor shall transmit VVV and =.  
EXAMPLE: VVV = TEXT OF MESSAGE

The timing of the message shall begin after transmission of the break signal (=). After ONE MINUTE, the technical referee shall stop the transmission. Jury controls transmission messages of a competitor from the series VVV and break signal.

**D2.2.10** Transmitted messages shall be scored up to the one minute **or** up to the time the number of uncorrected errors exceeds THREE . (see Appendix F).

**D2.2.11** During the transmitting tests, it is recommended that referees and competitors are placed in separate rooms or at least separated by a curtain. The technical referee, who supervises and/or assists competitors to connect their keys to the transmitting apparatus, and controls the timing of each test, shall remain in the room with the competitors. All tests transmitted shall be recorded for checking purposes. Competitors who belong to the same category shall transmit at the same jury. It is RECOMMENDED that during transmitting the work of competitors to be monitored outside so that the audience could follow the event. The audience must not see or hear the competition text on the screen or loudspeakers.

**D2.2.12** A Jury of three INTERNATIONAL CLASS REFEREES shall determine separately the number of transmitted marks, number of errors and the multiplier for quality. The awarded multiplier shall be the arithmetical mean of the multipliers given by each of the referees. The referee who registers the score shall be nominated as the leader of the referees.

### **D2.2.13** Scoring shall be as follows:

In each of the Transmitting Tests (Letters, Figures, and Mixed Text), a score of 100 points shall be awarded to the competitor who transmits the message at the highest speed in his /her category. Competitors in the same category who transmit the message at a lower speed shall be scored proportionately as explained in the following example.

#### **EXAMPLE:**

If the highest speed in a transmitting test is 230 marks per minute, 100 points are awarded. If another competitor in the category transmits a message at a speed of 180 marks per minute, his/her score would be  $180/230 \times 100 = 78.3$  points, calculated to the nearest one tenth of a point. The calculated score shall then be modified by a multiplier based on the number of uncorrected errors and uneven keying as defined in the Appendix G.

#### **EXAMPLE:**

One uncorrected error (penalty of 0.05) and deduction for uneven keying 0.02 make the final score  $78.3 \times (1 - (0.05 + 0.02)) = 78.3 \times 0.93 = 72.81$  (=72.8) points. The second decimals of 1,2,3,4, should be rounded down and the 5,6,7,8,9 up. e.g. 8.74 will be 8.7 and 8.75 will be 8.8.

## **D2.3** Radioamateur practicing Tests

### **D2.3.1** Amateur Radio Call sign receiving Test (RUFZ XP)

This test is taken on IBM compatible computers in the presence of two Jury Members who are from different countries. One of them must be International Class referee. Each competitor has 13 minutes to stay in the test room. After the end of this period the attempt will be aborted, and contestant will get the score he achieved up to his moment. The keyboard must be fit to the US standard (QWERTY). It is NOT allowed to use own headphones and keyboard. The computer should be set by referees (See appendix H). Competitors make two attempts to receive 50 call signs generated by the program and the better attempt shall be taken as the competitor entry. Competitors will compete under their own names or call signs. Contestants have the right to prepare for the first attempt, i.e. to make all possible settings and a test run. Time for these preparations is limited up to two minutes starting with entering the door. Before he/she starts with first attempt he/she should sign the document that everything is working properly. Between first and second attempt a maximum break of one minute is allowed. If the referee states that preparation-/break-time is over, contestant must start attempt immediately. The competitor has the right to choose the starting speed before he/she begins the test. The competitor with the best results in the Call sign receiving Test is awarded a score of 100 points. Other competitors are scored proportionately as in the following example. It is RECOMMENDED that during Amateur Radio Call sign receiving Test the work of competitors to be monitored outside so that the audience could follow the event.

### **D2.3.2** The pile up test ( Morse runner )

This test is taken on IBM compatible computers in the presence of two Jury Members who are from different countries. One of them must be International Class referee. The competitor is allowed to complete two attempts. Each attempt is limited to 10 minutes. The competitor has 25 minutes to stay in the test room. After the end of this period the attempt will be stopped, and the better score shall be taken as the competitor's entry. Two competitors will compete at the same time. If a competitor is making deliberate noise to the other competitor he will be disqualified and no points will be awarded for that test. The keyboard must be fit to the US standard (QWERTY). It is NOT allowed to use own headphones and keyboard. Competitors will compete under their own names or call signs. Contestants have the right to prepare for his/her attempt, i.e. to make all possible settings and a test run. Time for these preparations is limited up to three minutes starting with entering the room. Before he/she starts the attempt he/she should sign the document that everything is working properly. If the referee states that preparation-/break-time is over, contestant must start attempt immediately. The menu of the program shall be set as follows ( See appendix I ). The competitor with the highest number of MR points is awarded of 100 points and the other entrants are scored proportionately lower. It is RECOMMENDED that during pile up test the work of competitors to be monitored outside so that the audience could follow the event.



**D2.3.3** If a competitor called by the referee fails to appear in the test room due to reasonable reasons, ( health problem, etc ), he/she shall be called again in ONE MINUTE, and after a further period of ONE MINUTE the referee shall call the next competitor in the list. The competitor who failed to appear within his turn, will be automatically moved LAST in the sequence list. In case the same competitor fails again to appear within his new turn, he/she will be disqualified and NO POINTS will be awarded respectively for the Call sign receiving or the Pile-up training tests. The jury members have the right to determine if there is a justifiable reason for the absence of the competitor.

## **E - CLASSIFICATION OF AWARDS**

### **E1 Individual Awards**

In individual tests from one team only one competitor per category, who having the best score in the given test, will be listed officially, but regarding the total results ( sum of four different tests ) the best two competitors from one team shall be listed officially.

The title of "Individual Champion" in any of the nine categories will be awarded separately for FOUR tests ( a,b,c,d ) and for total score (total 5 medals) to the competitor with the top score, calculated as follows:

- a) Receiving Tests - the sum of the scores gained in the three receiving tests.
- b) Transmitting Tests - the sum of the scores gained in the three transmitting tests.
- c) The Radioamateur Call Sign Receiving practicing Test (RPT1) – best score gained in two attempts.
- d) The Radioamateur Pile Up Receiving practicing Test (RPT2) – best score gained in two attempts.
- e) Total score - the sum of the FOUR scores a), b), c) and d) above.

In case of two or more competitors having equal total scores in any of the tests (RX,TX,RPT1 or RPT2), or in the final result (RX+TX+RPT1 +RPT2) the classification must be made according the priority of the particular exercises comprising the test.

Receiving test: 1-mixed, 2-figure, 3-letter;

Transmitting test: 1-mixed, 2-figure, 3-letter;

Call Sign Receiving practicing Test ( RPT1 ): sum of both attempts;

Pile Up Receiving practicing Test ( RPT2 ): sum of both attempts;

Final score (RX+TX+RPT1 +RPT2): 1- overall standings, 2-TX, 3-RX, 4-RPT1, 5-RPT2;

In case priority check cannot determine the classification, the competitors are placed in the same relative places, and next relative place(s) shall be missed.

The title of "OVERALL INDIVIDUAL CHAMPION IN MALES CATEGORIES" will be awarded to the winner of all male categories (one certificate only) and "OVERALL INDIVIDUAL CHAMPION IN FEMALES CATEGORIES" will be awarded to the winner of all female categories (one certificate only).

The scores will be recalculated for all male (female) competitors as if they competed in the same category relatively to the best overall scores in 8 tests

### **E2 Team Awards**

The score for a particular team, to determine its place in the championships, is calculated as the sum of the points earned by a maximum of NINE TEAM MEMBERS (one per category). Where a team has three competitors in one category, the total points of the competitor with the higher score shall be counted for the team total. The team with the highest number of points shall take first place in the championships. Regardless of the number of categories represented in a particular it will be classified with a score calculated as above.

If, when the total team scores are calculated as above, the scores for two or more teams are found to be equal, the higher place will take the team with better result in LOWEST SUM OF PLACES gained by its individual members.

### **E3 Titles and Prizes**

**E3.1** Competitors gaining first places in their categories, as defined by paragraph E1 of these Rules, shall win the title of WORLD CHAMPION or REGIONAL CHAMPION as appropriate (see paragraph B2.11), and shall be awarded Gold Medals and Certificates.

**E3.2** Competitors gaining second and third places in their categories, as calculated in paragraph E1 of these Rules, shall be awarded Silver and Bronze Medals respectively, together with Certificates. Competitors gaining 4th, 5th and 6th places shall be awarded Certificates.

**E3.3** All prizes (Medals, Cups and Certificates) described in these Rules shall be provided by the Organizing Society.

**E3.4** The National Team gaining first place, as defined in paragraph E2 of these Rules, shall win the title of WORLD TEAM CHAMPION or REGIONAL TEAM CHAMPION, as appropriate (see paragraph B2.11). The team shall be awarded a Cup and a Certificate, and all members of the team (max 28 persons that includes team coach) shall be awarded Gold Medals and Certificates

**E3.5** National Teams (all members of the teams as described in E3.4) gaining second and third places, as defined in paragraph E2, shall be awarded Silver and Bronze Medals respectively, together with Certificates. National Teams gaining 4th, 5th, and 6th places shall be awarded Certificates.

## **F - MATTERS NOT COVERED BY THESE RULES**

**F1** All matters relating to IARU High Speed Telegraphy Competitions and Championships not covered or specified in these Rules shall be referred to and considered by the appropriate Regional HST Working Group. Whilst HST Championships are taking place, such matters shall also be referred to and considered by the International Jury of the Championships.

**F2** Changes in these Rules can be made only by an IARU Regional Conference or, in the period between conferences, by the IARU Regional Executive Committee

## APPENDIX

Changes in the APPENDIX can be made by an IARU Regional Conference, IARU Regional Executive Committee or HST WG if the majority of the members vote **FOR**.  
APPENDIX

**A1.** The competition software that will be used during the championship are:

**a) Receiving test:**

- software "HST2006Le" compiled by Andrei Bindasov EU7KI or
- software "ALEXANDRIA" version 2.0 compiled by Toni Stanojoski

**b) Practicing tests:**

- software "RUFZ XP" version 1.1.1 compiled by Mathias Kolpe DL4MM and Alessandro Vitiello IV3XYM
- software "Morse runner" version 1.67 compiled by Alex Shovkoplyas VE3NEA, modified by Toni Stanojoski

**A2.** The software that will be used during the championship for checking the texts are:

**Receiving test:**

- software "ALEXANDRIA" version 2.0 compiled by Toni Stanojoski

**Transmitting test:**

- software "IST" compiled by Alexander Nikolaev EU1ST
- software "HST2006" v1.23 compiled by Andrei Bindasov EU7KI

### **A3. STARTING SPEED FOR RECEIVING TEST**

The speed for reception and transmission will be measured in **REAL** marks.

The initial speed for reception is **80** marks (letters, figures, mixed) per minute (**50 marks for A and B categories**).

## **B. WORLD RECORD**

World record can be made only during official championships held by a national society, which is member of IARU or at IARU HST Championships. To approve the world record achievement during the national open championships the International Jury must satisfy the following requirements:

- Chairman of the Jury to be an International referee approve during the IARU championships
- at least two international referees approved during the IARU championship, who are not members of the host society and both of them are from different countries. In case one of those is Chairman of the International Jury, there is no need for 3rd International referee.

## **C. RECEIVING PROCEDURAL SIGNALS**

**a) 5-Letter Groups**

OOOOO (Oscar), the transmission speed, VVV =

**b) 5-Figure Groups**

00000 (Zero), the transmission speed, VVV =

(Note: figure 0 (Zero) shall be sent as FIVE DASHES)

**c) 5-character mixed Groups**

00000 (Zero), the transmission speed, VVV =

All messages sent in a receiving test shall conclude with AR.

**EXAMPLE:**

00000 100 VVV = TEXT OF MESSAGE AR

60 SECONDS BREAK

00000 110 VVV = TEXT OF MESSAGE AR

60 SECONDS BREAK

00000 120 VVV = TEXT OF MESSAGE AR

#### D. TYPES OF ERRORS DURING RECEIVING TEST

The following are classified as receiving errors:

- a) Incorrect recording of a mark (character) sent. (Wrong mark.)
- b) Failure to record a mark sent. (Missed mark.) There is no need to indicate the position of the omitted mark.
- c) Recording a mark not sent. (Additional mark.)
- d) Recording in wrong order two characters sent. (Inversion of adjacent marks.)
- e) Recording of a non-conventional sign, symbol or illegible mark.

EXAMPLE:

Message Sent: 12345 67890 34789 25371 ...

Message Recorded: 12245 678390 37489 531 ...

Errors: Group 1 - one error, see a) above.

Group 2 - one error, see c) above.

Group 3 - two errors, see d) above.

Group 4 - two errors, see b) above.

#### E. EXAMPLE MESSAGE FOR TRANSMITTING TEST

ABVGD FYVAK NGQZH IMSTL JNUCE

ADRG0 MAKUV TLQNY JOAIZ UZGIT

or

12345 67890 61360 76329 73652

23489 83641 78032 23725 89345

or

DX?/1 HG4B/ X.6B= ?=MBG 43A/=

,7L.8 Z?43Q OøL/. A,=X3 DF48/

#### F. TIME RATE SCORE APPRAISAL FOR TRANSMITTING TESTS

When competitors exceed the permitted number of three uncorrected errors their transmitted messages shall be scored only up to the point where the fourth uncorrected error occurs.

EXAMPLE:

A competitor transmits the message at a speed of 210 marks per minute, but makes his fourth uncorrected error in the 47th second. Up to the 47th second he had transmitted 170 marks, so his speed is determined as 170 marks per minute with 3 uncorrected errors. The numbers of errors result in a multiplier of 0.85 as defined in the table below (supposing no deduction for uneven keying).

The following are classified as transmitting errors:

- a) Wrong transmission of mark
- b) Transmission of a mark (character) not in the text provided for transmission.
- c) Omission of a mark which is in the text.
- d) Transmitting two characters in wrong order. ( Inversion of adjacent marks.)
- e) Transmission of an error sign incorrectly.

EXAMPLE:

Message to transmit: 12345 67890 34789 25371 ...

Message transmitted: 12245 678390 37489 531 ...

Errors: Group 1 - one error, see a) above.

Group 2 - one error, see b) above.

Group 3 - two errors, see d) above.

Group 4 - two errors, see c) above.

To correct an error, a competitor shall transmit the ERROR SIGNAL, i.e., a series of not less than six dots, and then retransmit the entire group in which the error has occurred. After the ERROR SIGNAL competitor may go back only one group in case the error was in the previous group. If a competitor transmits the same group or line twice by mistake, that counts as error and the 'time appraisal counting' shall come into force.

## G. MULTIPLIERS OF TRANSMITTING

The highest possible multiplier is 1.00.

Errors in transmission shall result in the following deduction increments:

- 0.05 for each error (maximum  $3 \times 0.05 = 0.15$ )
  - 0.01 to 0.05 in 0.01 steps for uneven keying and spacing
- This produces a maximum penalty of 0.2 ( $0.15 + 0.05$ ).  
i.e. a multiplier ranging from 0.8 to 1.00.  
There should be NO penalty for corrections

## H. SETTINGS for "Radio Amateur Call signs receiving Test" RUFZ XP v1.1.1

The **RUFZ XP** program should be set as following:

**RUFZ –HST mode-**

## I. SETTINGS for "Morse runner v1.67"

The program shall be used with HST competition file

The main menu shall be set as follows:

[System]

Buf Size=3

[Station]

Call=**optional**

Name=**optional**

Pitch=**optional**

Band Width=10

Wpm=**optional**

QSK=0

Self Mon Volume= 0

Save Wav=0

[Band]

Activity=4

QRN=0

QRM=0

QSB=0

Flutter=0

Lids=0

[Contest]

Duration=10

Hi Score=0

Competition Duration=10

All features must be set and checked in configuration file by the jury before the competition.

## J. THE INTERNATIONAL REFEREES

Each Society is authorized to appoint a candidate or candidates to be International Class Referee. The conditions for this are the follows:

For transmission Jury:

The candidate should be able to receive the numbers over the speed of 150 REAL marks and knows thoroughly the Rules.

For practicing tests:

The candidate should know thoroughly the Rules and be very familiar with the PC programs for practicing tests: Amateur Radio Call sign receiving test and Pile up trainer test.

An International Class Referee shall be appointed by the HST WG Chairman and approved by the HST WG.

Each society has the possibility to delegate other members to the International Jury, where the only requirement is to know the Rules.

These members will be selected the day prior to the competition with the contribution of the Chairman of the Jury the HST WG and the Organizing Society.