

**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 letters to member societies, which it considers are able to organize and run the Championships. The letters will inquire of each society if it is willing to serve as Organizing Society for the Championships. These letters must be sent not later than 31st March in the year preceding the year in which the Championships are to take place. 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). The HST WG will then request the Secretary of the IARU Region concerned to take the following action:

a) Invite the nominated society to apply to the Regional Secretary to be officially appointed as Organizing Society for the forthcoming HST Championships. The application should be submitted within a period of two months.

b) On receipt of the application, publish a notice in the next issue of the IARU Regional Bulletin notifying the venue and dates of the HST Championships.

c) In the case of IARU HST World Championships, the note mentioned above it is recommended to be publishing in the Bulletins of IARU Regions 1, 2 and 3. The IARU International Secretariat is also requested to notify.

**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 **SIXTEEN** COMPETITORS in the following **eight** categories. The teams shall comprise:

"A" Not more than TWO "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 TWO "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 TWO "JUNIOR FEMALES" (Competitors belong to the category up to the end of the calendar year in which they reach the age of 20);

"D" Not more than TWO "JUNIOR MALES" (Competitors belong to the category up to the end of the calendar year in which they reach the age of 20);

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

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

„G" Not more than TWO „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 TWO „SENIOR MALES", (Competitors aged 45 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, if also a competitor, shall be at least 18 years of age. A TRAINER, an INTERPRETER, an INTERNATIONAL CLASS REFEREE and/or other jury member (to serve as a member of the International Jury), as well as unlimited number of visitors may also accompany each team.

**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 **16** competitors) and others who will be attending the event ( team leader, trainer, visitors etc. ). No other information is required at this time.

**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 a keyer and headphones to be used during the Championships.
  - 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.
- TO INTERNATIONAL CLASS REFEREES selected as defined in Rule B3.2:
- h) Invitations 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 expenses of the Chairman of the International Jury, i.e. 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, shall be met by the IARU Regional Organization. The cost of accommodation and board of the "Senior Jury"

(International Class Referees) shall be met by the Organizing Society and their travel costs shall be met by their own National Societies.

**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 such a 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 and H may compete in category F. Also any competitor from category A may compete in category C and any competitor from category B may compete in category D.

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) and Senior Male (H) categories should compete in the Female (E) and Male (F) categories 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, 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, an IARU representative 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 member of the IARU Regional Executive Committee or a HST International Class Referee appointed by the Executive Committee can take the responsibility of Chairman of the Jury. The Secretary of the Jury, and the Technical Referee shall both be provided by the Organizing Society, and neither needs be International Class Referees. Eight persons from International Class Referees shall be selected by the HST WG six months prior to the commencement of the Championships. The six referees will form two groups of Transmitting Jury and one for Radio Amateur Call signs receiving Test and Pile up trainer Test respectively. The other 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), may 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 and transmission of ( 5 five letter/figure/mixed ) groups for a period of ONE MINUTE ( see appendix A )
- b) The Radioamateur practicing Tests ( See appendix A )

## **D - TECHNICAL**

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

**D1.1** In normal circumstances, competitors may have only one attempt in each Receiving (Letter, Figure, Mixed) and Transmitting (Letter, Figure, Mixed) tests, and two attempts in each Practicing test (Radio Amateur Call sign receiving Test and 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, key/keyer, associated wiring, laptop or any other possible own equipment. In case of such malfunction, the competitor WILL NOT be allowed and additional attempt

- c) Extra attempt for World Record ( See appendix B )

### **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 until the last remaining competitor is unable to receive the transmitted message. 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 control, shall be provided for competitors by the Organizing Society. Competitors may use their own headphones, if they wish, regarding the type given by the Organizing Society (B2.6/d)

**D2.1.4** During receiving tests, all contestants shall start with the lowest speed as defined in Appendix A. When the speed becomes too high for a competitor, he/she shall remain quietly at his/her place in the test room until all other contestants have finished the test also, or until a referee makes some other decision.

**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 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 ver1.1 software provided by Toni Stanojoski. 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:

If the highest speed in a receiving test is 260 marks per minute, 100 points are awarded. If another competitor in the same category receives a message at a speed of 210 marks per minute, his/her score would be  $210/260 \times 100 = 80.8$  points, calculated to the nearest one tenth of a point.

b) One point for each receiving error, as defined in D1.1.13 above, shall be deducted from the score as calculated in D1.1.14/a to give the FINAL SCORE.

**D2.2** Transmitting Tests

**D2.2.1** The Organizing society should provide transmitting work places with headphones.

**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 (Ø) at mixed text ( See appendix E )

**D2.2.5** THREE MESSAGES (one comprising letter groups, one figure groups, and one mixed text) shall be given to competitors at arriving day of the competition. The texts 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.

**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 a competitor tells the referees which attempt to consider official and sign appropriate document.

**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 or the number of corrected errors exceeds TEN (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 and heard outside so that the audience could follow the event.

**D2.2.12** A Jury of three INTERNATIONAL CLASS REFEREES shall determine separately the number of transmitted marks the number of errors/corrections and the multiplier of messages. The awarded multiplier shall be the arithmetical mean of the three scores. 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 speed scores shall then be modified by a multiplier based on the number of uncorrected errors and the number of corrected errors (and considering the uneven keying) as defined in the Appendix G.

#### **EXAMPLE:**

One uncorrected error and three corrected errors = a multiplier of 0.92 (supposing there is no deduction for uneven keying). If the competitor above has one uncorrected error and three corrected errors, his/her final score will be  $78.3 \times 0.92 = 72.03$  (=72) 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 )

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). The competitor is allowed to use own headphones with suitable sockets. 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 RECOMENDED that during Amateur Radio Call sign receiving Test the work of competitors to be monitored outside so that the audience could follow the event.

#### **EXAMPLE:**

The best score in the test is 31,225, for which the competitor is awarded 100 points. Another competitor, scoring 30,110 is awarded 96.4 points calculated as:  $30,110/31,225 \times 100 = 96.4$ , calculated to the nearest one tenth of a point. If two or more competitors obtain the same score, their relative places shall be determined by the best result(s) of their lesser scoring attempt(s).

### **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. Each competitor has 13 minutes to stay in the test room. After the end of this period the attempt will be stopped, and contestant will get the score he achieved up to his moment. The keyboard must be fit to the US standard (QWERTY). Competitors are allowed one attempt which shall be taken as the competitor's entry. 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. Competitors make as many contacts as possible in a period of 10 minutes. 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 RECCOMENDED that during pile up test the work of competitors to be monitored outside so that the audience could follow the event.

Example: The best competitor makes 2400 MR points and will get 100 points. Another one makes 2170 MR points, he/she will get  $2170/2400 \times 100 = 90.4$ , calculated to the nearest one tenth of a point. If two or more competitors obtain the same score, they will be equally ranked.

**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 better score in the given test, will be listed officially, but regarding the total results ( sum of three different tests ) both competitors shall be listed officially.

The title of "Individual Champion" in any of the eight 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 – best score gained in the two attempts.
- d) The Radioamateur Pile Up Receiving practicing Test - best score gained in one attempt.
- 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 or RPT 1 ), 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 second attempts;

Pile Up Receiving practicing Test: no priority check

Final score (RX+TX+RPT1 +RPT2): 1-TX, 2-RX, 3-RPT1, 4-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 EIGHT TEAM MEMBERS (one per category see paragraph B2.1). Where a team has two 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 **17** 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**.

### **A. 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**).

The competitor should transmit with the highest possible speed, and best possible accuracy

A competition using the RUFZ 'radio amateur call sign receiving program' version XP compiled by DL4MM and the "Morse runner" pile up trainer program version 1.62 compiled by VE3NEA.

### **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. The three top-scorers of each test and class have the right to take one extra attempt to set up a new world record in the appropriate test. (Receiving tests, transmitting tests and practicing tests: one speed only) Additional they must have had 90% of the current world record speed or 90% of the current world record points at the official tests. World record attempt should be made in presence of two International Referees from different countries.

### **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**

**ADRGOMAKUV 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 or ten corrected errors, their transmitted messages shall be scored only up to the point where the fourth uncorrected error or eleventh correction 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, having at the same time seven corrected errors. Up to the 47th second he had transmitted 170 marks, so his speed is determined as 170 marks per minute with 3 uncorrected errors and seven corrected errors. The numbers of errors (uncorrected and corrected) result in a multiplier of 0.78 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. If a competitor transmits the same group or line twice by mistake, this 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 for each correction (maximum  $10 \times 0.01 = 0.1$ )
  - 0.01 to 0.1 in 0.01 steps for uneven keying and spacing
- This produces a maximum penalty of 0.35 ( $0.15 + 0.1 + 0.1$ ).  
i.e. a multiplier ranging from 0.65 to 1.00.

## **H. SETTING THE PROGRAM FOR "Radio Amateur Call signs receiving Test"**

The "Radio Amateur Call sign receiving Test" program should be set as following:  
**RUFZ –HST mode-**

## **I. SETTING THE PROGRAM FOR "Morse runner 1.62"**

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.

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.