

Report to the
National Officials Committee
USA Track and Field



**Training and Certification Recommendations:
Electronic Measurement Device Judge
Electronic Recording Device Judge
Electronic Measurement Judge**

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The USA Track and Field National Officials Committee charged Mark Heckel (Three Rivers Association), Jim Hume (Pacific Association) and Jim McGloin (New England Association) with examining and developing a recommendation for training of officials in the use of electronic measurement and recording devices and the associated software for field event management.

This document was prepared in cooperation with the Training Sub-committee of the USATF Officials Committee. We would be also like to acknowledge the contributions of Rex Harvey, vice chair - training; and George Kleeman, vice chair - rules, for their guidance and contributions to the process.

In this document, we recommend the creation of two new officiating positions: the Electronic Recording Device (ERD) Judge, and the Electronic Measurement Device (EMD) Judge. We have established a recommended skill set for each level of certification for each position, as well as a recommendation for the certification process.

Electronic Recording Device (ERD)

We are recommending three (3) levels of Electronic Recording Device Judge's certification: Association, National and Master, with increasing levels of responsibility and demonstrated proficiency at each level. An Association level official should be able to perform basic skills, under the supervision of a National/Master rank ERD Judge or an Electronic Measurement Judge (EMJ), with little or no direction. A National level official should be able to perform more advanced tasks, and exhibit the ability to handle situations that may occur outside the administration of a normal, preplanned event. A Master level official should be able to perform all of the tasks involved with Electronic Recording Device (ERD) judging without supervision of the EMJ.

Levels of Certification and Minimum Skill Sets

Association Level

Provided with a handheld device or other Electronic Recording Device that has been pre-loaded, and with the event set-up (i.e. scoreboard addresses, database address, height progressions, number of trials, whether or not there will be finals, etc), the Association level official will exhibit the following skills:

- check-in athletes
- set starting height for each competitor (vertical jumps)
- enter marks
- enter wind readings (horizontal jumps, outdoor)
- set up a final (from multiple flights and from 1 flight)

National Level

Provided with a handheld device or other Electronic Recording Device that has been preloaded, the National level official will exhibit the following skills:

- check-in athletes
- set starting height for each competitor (vertical jumps)
- enter marks
- enter wind readings (horizontal jumps, outdoor)
- set up a final (from multiple flights and from 1 flight)
- manage the event set-up
 - height progression (vertical events),
 - number of trials,
 - number of finalists
- add an athlete

- set up a jump off for vertical jumps
- send results to a scoreboard
- send results to the meet database at the end of each round

The National level official should be able to take a handheld device with appropriate software loaded and perform these skills necessary to manage the event, with or without the supervision of the EMJ.

Master Level

Provided with a handheld device or other Electronic Recording Device, the Master level official will exhibit the following skills:

- check-in athletes
- set starting height for each competitor (vertical jumps)
- enter marks
- enter wind readings (horizontal jumps, outdoor)
- set up a final (from multiple flights and from 1 flight)
- manage the event set-up
 - height progression (vertical events),
 - number of trials,
 - number of finalists
- add an athlete
- send results to a scoreboard
- send results to the meet database at the end of each round
- set-up scoreboard address/connect to a scoreboard
- download the event schedule from the meet database
- download an event from the meet database

The Master official should be able to take a handheld device with appropriate software loaded and perform all skills necessary to manage the event without supervision by the EMJ.

Training Regimen

Web-based learning modules have been developed for all of the skill sets listed above for throwing, horizontal jumping and vertical jumping events. We recommend that applicants complete the on-line training, and then be evaluated by designated evaluators in a live setting to assess their understanding of, and efficiency in, using the Electronic Recording Device and the currently used electronic field event administration software.

National and Master level officials should use the same training modules, and then be evaluated by designated evaluators in a live setting to assess their understanding of, and efficiency in, using the Electronic Recording Device and the appropriate software. These evaluations could also be done via computer, either on-line or in a controlled setting.

The training regiment would include two (2) components – a demonstration component where the official would be instructed in the proper use of the device and the software; and a training component where the official can perform specific tasks and receive feedback from the software as to the efficiency and accuracy of their performance.

Certification Process Recommendation

Certification of an Electronic Recording Device Judge should take place in two parts. Part one would be an on-line module, available on the officials web site that would direct a question and answer process that can be scored remotely. Part two would be a practical exam, where the candidate would demonstrate proficiency for a Master level ERD who is able to observe and make recommendation for certification to the candidate's certification chair.

The practical examination would involve demonstration of all the skills involved for each level as well as an oral examination of possible problems that each certification level would be expected to handle. In addition the candidate would demonstrate their skills in each of the three field event categories for that level, namely throws, vertical jumps and horizontal jumps during an actual event.

The Master ERD judge could only observe and make recommendations for certification of ERD candidates. A Master EMJ would be able to observe and make recommendations for certification of ERD candidates.

Initially, since each association does not, and may not for the immediate future, have a Master level ERD judge, observation/recommendation could be done at predetermined national gatherings of officials, i.e. annual meetings and outdoor championships, to start. We would recommend that Mr. Heckel, Mr. Hume and Mr. McGloin be approved to conduct field observations and make recommendations to the respective certification chairs of any official that they observe and recommend for certification. This examination process could then be expanded to any meet where an official who is an approved evaluator for certification, is present and able to conduct the on-site review.

Electronic Measuring Device (EMD)

Electronic Measuring Device Judges (EMD) must be well versed in the operation of both the appropriate administrative software and the measuring apparatus. Since in many cases the Electronic Measurement Device Judge will be the sole person operating both the measuring device and the handheld device, they need to be competent in the operation of both devices at the same time. While it is recommended that 2-person teams are more efficient, and should be used whenever possible, the reality is that in many cases, one person can and usually does operate the Electronic Measuring Device.

We recommend that there be two levels of certification for the EMD Judge: National and Master. We believe that in most all cases, the EMD Judge should already be competent at minimum, at the Association level in using the Electronic Recording Device and the accompanying field event administration software.

Levels of Certification and Skill Sets

National Level

Provided with an Electronic Recording Device that has been preloaded, a National level EMD Judge will exhibit the following skills:

- check-in athletes
- enter marks
- enter wind readings (horizontal jumps, outdoor)
- set up a final (from multiple flights and from 1 flight)
- manage the event set-up
 - number of trials,
 - number of finalists
- add an athlete
- send results to a scoreboard
- send results to the meet database at the end of each round
- perform all sighting and measurement skills
 - locate and sight the checkpoint marker to verify calibration
 - quickly and accurately locate and center on the performance staff reflector
 - relay to the handheld operator when the mark is to be read (2 man crew)
 - press/tab the appropriate key/button to record the measurement

Master Level

Provided with an Electronic Recording Device and the Electronic Measurement Device, a Master level EMD Judge will demonstrate the following skills:

- check-in athletes
- enter marks
- enter wind readings (horizontal jumps, outdoor)
- set up a final (from multiple flights and from 1 flight)
- manage the event set-up
 - number of trials
 - number of finalists
- add an athlete
- send results to a scoreboard,
- send results to the meet database at the end of each round
- set-up scoreboard address/connect to a scoreboard
- download the event schedule from the meet database
- download an event from the meet database
- perform all sighting and measurement skills
 - locate and sight the checkpoint marker to verify calibration
 - quickly and accurately locate and center on the performance staff reflector
 - relay to the handheld operator when the mark is to be read (2 man crew)
 - press/tap the appropriate key/button to record the measurement
- perform all of the setup skills for the apparatus
 - center and level the tripod
 - attach the head unit
 - level the head unit
 - attach all cabling needed
 - calibrate the instrument
 - set the controls in the handheld device
 - establish the checkpoint
 - tear down and pack the device after use

Training Regimen

The training regimen for the LaserLynx device (the predominant EMD at this time) is currently problematic. Since the only way to get experience is to use the device, the amount of training that an official can obtain is limited at present. Most associations do not own a LaserLynx device or equivalent Electronic Measuring Device (EMD), so their access to one will be limited. In addition, the best training comes from using the device in a live or controlled situation. Since these situations may only exist at national level meets (Outdoor Championships, Indoor championships, major outdoor meets nationally), the amount of training that may be available will certainly be limited.

We will explore the use of video based training that would be converted to the web to expand its availability.

Certification Process Recommendation

The certification process will need to be structured in such a way that the actual certification would take place at a time and location when the device is available. This most likely would occur at a national championship meet. Other possibilities could be at the annual meeting (in a room of sufficient size so that the measurements can approximate real-world conditions), or at other national level meets where the device is used.

The evaluator(s) will need to be proficient in the use of the Electronic Measuring Device, the Electronic Recording Device, and the field event administration software. We would recommend that any "in the field" evaluations be conducted at announced national meets, and as much as possible, that these meets be located in various regions of the country to accommodate interested officials. This could be expanded to allow any Master level EMD Judge, whose abilities can be assured, to conduct "in the field" evaluations. A committee for possible certification would then evaluate these evaluations.

Electronic Measurement Judge

Throughout this work, we felt that it was important that if we are defining the skill sets and training regimen for both the Electronic Measuring Device (EMD) and Electronic Recording Device (ERD) Judges, that we also define the skill sets and role of the Electronic Measurement Judge (EMJ) as well.

From our discussions, including input from both Mr. Kleeman and Mr. Harvey, we felt that the position of EMJ should only be certified at the Master level. The EMJ must have a complete and thorough understanding of both the ERD and EMD Judges' roles, and be able to essentially perform both positions without supervision.

Master Level

- Perform all the functions of a Master Level Electronic Recording Device Judge and a Master Level Electronic Measurement Device Judge.
- Capable of supervising either or both a Master level Electronic Measurement Device (EMD) Judge and Electronic Recording Device (ERD) Judge.

Training Regimen

The training regimen would be the same as for the Master level ERD and Master level EMD Judges.

Certification Process Recommendation

The candidate for EMJ must demonstrate the ability to meet the qualifying skill sets at a predetermined national gathering of officials (national meets or meetings) to an existing EMJ.

An official who serves as the Electronic Measurement Judge (EMJ) should be certified at the Master level on the recording device, the measurement device, and the appropriate administrative software.

Additional Recommendation

USATF Competition rule 110.4 notes that an Electronic Measurement Judge (EMJ) is recommended for all championship meets both indoors and outdoors. Further, rule 137.1 states that an EMJ "shall" be appointed for when electronic distance measurement is to be used.

We strongly advocate and encourage the official's selection committee to appoint an EMJ for each championship meet where Electronic Measurement Device will be used, to remain in compliance with established competition conduct rules. Since the EMJ should be in position to supervise the EMD and ERD Judges, as well as to certify the results of the electronic equipment to the referee (137.5), it is essential that the EMJ position be filled by a qualified, certified USATF official.