

SUID-AFRIKAANSE BISLEY UNIE SOUTH AFRICAN BISLEY UNION

ELECTRONIC TARGETS

RULES AND GUIDELINES

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SA BISLEY UNION APPENDIX L

ELECTRONIC TARGETS – RULES AND GUIDELINES

PREAMBLE

At the time of compiling this Appendix, the use of electronic targets to replace or supplement manually marked targets was in its early stages within SABU. Therefore the nature of this Appendix varies from strict rules through to guidelines. It is foreseen that these rules and guidelines will evolve further and some, if not all, may be incorporated into the main rules at a later stage. However, the few rules relating to electronic targets (mainly from ICFRA origin) that are already included in the main rules will be repeated in this Appendix for the sake of completeness.

To clearly indicate their identity, the rules numbering below will be preceded by the prefix ET.

The use of electronic targets (hereinafter referred to as ETs) and thus application of this Appendix is currently primarily at Club and Provincial level. A few of these rules/guidelines – as will be identified below - may be applied less strictly during Club practices than in Club and Provincial competitions. This Appendix will be revised if and before electronic targets may be used extensively at the National level.

Information sourced from, among others, ICFRA, the NRA of Australia's Standard Shooting Rules (SSRs), manufacturers' information and the Middelburg Bisley Club is gratefully acknowledged.

TECHNOLOGICAL ASPECTS

- ET1 Choice of ETs. SABU will not prescribe to clubs and provinces buying ETs from their own funds which manufacture (brand name) they must buy, but may provide recommendations. However, SABU's preferred technology is the 'open box' system and where 'communication' is by wireless means. The known brands incorporating these guidelines and in use in South Africa at the time of writing is the SHOTMARKER and SMST SOLO (Silver Mountain).
- ET2 Care and maintenance. As ETs represent a vast technological improvement over manually operated target systems, the proper care and maintenance of such ET systems are essential to ensure accurate scoring and reliable results. While the SABU Rule Book is not a user or technological manual, some advice is provided below and in an Annexure to this appendix.
- ET2.1 The logistical and technical control of a club/provinces' ETs, as well as their proper calibration, is of utmost importance to maintain the accuracy of the ETs. Information in this respect may be placed on the SABU website and/or sourced from suppliers.
- ET3 Displays, also known as target monitors, refer to the electronic devices used to indicate the shot value and position to the competitor (shooter, register keeper, wind coach, plotter) and, when required, range officers and other officials who have a right to view such displays. For competitors and such officials, these displays represent the most crucial aspect of using ETs and thus certain rules and guidelines must be adhered to in order to ensure fair and enjoyable competition.
- ET3.1 Annexure L/A provides 'tips' for first-time users of ETs.
- ET3.2 The 'picture' on displays needs to be large enough to be seen properly by all the persons mentioned in ET3 above. It is thus recommended that suitable Ipads and Tablets be used for this purpose, but cell/'smart' phones or similar devices may also be used by competitors whose eyesight allows their effective usage.
- ET3.3 Using some kind of a sun-shade in order to see the display's screen better in direct sunlight and also protect the device against overheating or other damage is strongly recommended. Ideally, organisers of competitions should provide these shades themselves.
- ET3.4 In competitions, **no potential competitor may be discriminated against or disadvantaged because of an inability to provide a suitable display device and/or shade for it him/herself, and/or to set up/connect the device to the server**. Therefore, for competitions, while competitors may be **requested** to provide their own suitable display devices and/or

shades themselves, the organisers must be able to provide at least 20% of the maximum estimated competitors with suitable displays and/or shades. Ideally, for higher-level competitions, the organisers should supply all the devices and shades to ensure standardisation and prevent claims of unfair treatment of competitors and/or for damage to personal devices. Having reserves of such items available in case of problems with either the supplied or competitors' own items is advisable.

ET3.5 Rules ET3.2 to 3.4 may be applied less strictly in club practices, e.g. by asking those attending to provide their own displays and shades. However, in such cases the organisers are advised to ask those participating to indemnify them against damage to such personal equipment. This is also advised for those using their own such items during competition.

ET3.6 The minimum number of displays to be available per target is as follows:

- Individual shooting: 3 if shooting 'bisley' style with three shooters per target; 2 if shooting 'bisley' style with two shooters per target or 'string' shooting (in the latter case, 1 for the shooter and 1 for the register keeper).
- Team shooting: 2 – one for the wind coach and one for the plotter. A 3rd display must be provided if a dedicated register keeper (and not the 'honours system') is used. Additional ones may be provided to non-shooting captains and coordinators in major multi-target team matches.

ET3.7 Information to be shown on the display. For practices, this may be anything that the particular ET system is capable of displaying and as agreed between the organisers and shooters. For competitions, the simple ('KISS') display version must be used until further notice, by which the following is indicated:

- Position of the 'new' shot only
- Value of the 'new' shot
- Position only of a second shot registered by the target during the delay period as defined in rule ET3.8 below. (According to the latest manufacturer's information, this will be done by means of a flashing 'spotter'.)
- On smaller target faces also shown on the display, e.g. at the bottom, the position of the most recent shots on at least two targets to the left and two targets to the right of the competitor's target. (If possible, more will be ideal.)
- The velocity at which the bullet of the most recent shot fired reached the target may be displayed and is not regarded as an infringement of SABU Rule 10.2.3.2's chronograph part (and similar for F Class).

To summarise, most of the information displayed will be similar to when manually operated target are used.

ET3.8 Delay. The following part of the SABU Rules, Appendix G, emphasis added by underlining, must be adhered to: "Where electronic targets are in use, the target display may instantly acknowledge the arrival of a shot. A delay of 10 seconds must elapse before value and position are shown."

ET3.9 Register keeping will, in competitions and until further notice, be done manually by a register keeper as stipulated by the relevant SABU rules (see SABU Rules Appendix F, as applicable) and not by either an individual display nor by a central system linked to individual displays.

ET3.9.1 In particular, SABU Rules Appendix F par 20 reads: "Where Electronic Targets are in use Register Keepers are still to be provided/detailed, and a manual record must still be kept in accordance with all the above provisions. The Register Keeper (or a Range Officer) alone has the right to reset (or supervise the reset of) the scoring monitor [display] after completion of a shoot and will do so ONLY after the score has been agreed and signed for. Where competitors are shooting singly, the Register Keeper will initiate and as far as possible resolve shooting queries such as unexpected shots appearing or unexplained misses. He will work with the Range Officer if, and as, necessary. The scorecard should be carefully endorsed where a competitor's score differs from the nominal electronic record (e.g. by the arrival of a cross-shot or a shot out of turn). In ALL such cases the manual scorecard will have primacy in determining scores and outcomes."

ET3.10 Unauthorised communication ability. The relevant parts of SABU Rule 23.21 (and similar for F Class) applies: "No personal electronic device(s) may be taken to the firing point except timers

and electronic earmuffs (which must NOT be able to receive wireless transmissions). Electronic equipment provided by the organisers, or explicitly permitted by them, for the purposes of electronic targetry or spectator information systems are permitted, as are implanted medical devices. (See Rules 20.1.7 and 35.5) Where wireless personal devices are explicitly permitted for the receipt and display of electronic target information, the screens of such devices are liable to view by the Register Keeper or a Range Officer on demand and at any time.” Thus, the switching, at or on the firing point, of a device used in ET display mode to its communication mode will constitute an infringement of this SABU Rule.

- ET4 Range officers (ROs). Unless ROs are also trained to handle or assist in handling the ET system in use, their role will obviously reduce to the maintenance of safety in general and supervision of shooting on the mound. See the relevant SABU rules.
- ET5 ‘Range system administrator’. Unless range officers are also trained for this role, there will be one or more such technical officials available at all times during the conduct of competitions using ETs. Such official(s) must have available a device, suitable for the ET system being used, that can monitor the operation of all the ETs under every official’s supervision.
- ET5.1 Whereas ideally in major competitions there should be one such full-time (non-competitor) official available for every range of 9 to 10 targets, at these early stages alternative flexible arrangements may be made, as long as the principle of availability at all times is maintained. For example, competitors may be trained in this role and stand in for each other when not competing on the mound themselves.
- ET5.2 No competitor may be disadvantaged because of the non-availability of such an official, but competitors must allow a reasonable time for the official to resolve an ET system issue already engaged in. Should the shooter’s firing of the next shot be interrupted through no fault of his own for longer than 5 minutes, the competitor will be permitted an optional extra convertible sighter.
- ET5.3 Organisers are responsible for ensuring that these rules ET5 (inclusive) are adhered to.

TARGET DIMENSIONS

- ET6 The ET system in use must be able to accommodate all SABU and ICFRA target dimensions and scoring values as stipulated in the SABU Rules’ Appendix D for TR and Annexure FC/A to Appendix H for F Class. The alternative long range target dimensions designed by the Western Province association may also be used.

SAFETY RULES AND CONTROL OF COMPETITIONS WHEN USING ETs

- ET7 Personnel relocating ET target displays (monitors) must ensure that the rifle of the shooter waiting to commence shooting is unloaded before commencing to relocate the display. At no time shall personnel relocating a display monitor step over a shooter’s body or rifle. Care must also be taken to ensure that shooters on adjacent targets are not disturbed during repositioning of a display.
- ET8 Electronic targets and displays that have been deemed to be unserviceable and withdrawn from use during a match, cannot be returned for use in subsequent matches in the competition before being examined and tested to prove that they are serviceable.
- ET9 When it is intended to use an ET system with no personnel in the butts area, the Range Standing Orders should define how the RO is to ensure that the butts area has been cleared before firing is authorised to commence. Range Standing Orders are specific to individual ranges and normally determined by the relevant government authorities. SABU strongly recommends that there should be at least one official in the butts, in radio contact with the RO(s), to ensure safety and attend to technical issues with the ETs themselves.

CONDUCT OF SHOOTING ON ETs

- ET10 Common sense dictates that several rules that are worded around the use of manually operated target systems do NOT apply when ETs are used. These are not all listed here, but the example below is provided in respect of SABU Rule 18.1 (and similar for F Class) regarding messages.

ET10.1 Messages that **cannot** be used when ETs are in operation:

- Message 2:** No spotting disc visible.
- Message 3:** Spotting disc disagrees unmistakably with signalled value. Check that spotting disc shows LAST hit and signal its correct value (see Rule 19.9).
- Message 4:** A shot has been fired but no signal has been made. Examine the target *and spotting disc* carefully and signal the hit, if found. If there is no hit, signal a miss.
- Message 5:** The firer or his Register Keeper has challenged the value of the current shot. Recheck the shot hole (using a gauge if necessary) and signal correct value.
- Message 6:** It is suspected that there is a second shot on the target. If another shot is found, clear and patch out the existing shot hole, and mark and signal the further shot found. If no additional shot is found, re-signal the position and value of the original shot marked.
- Message 7:** A miss has been signalled but firer has challenged for a hit. Re-examine the target carefully and signal the hit if found. If not, re-signal the miss.
- Message 8:** Shot appears to be in the same position as the previous one. It is suspected that the wrong shot hole has been patched out. Please check and either rectify error or confirm that the two shots were very close to one another.
- Message 9:** Marking appears to be unduly slow. Butt Officer to investigate and, if justified, have marker speed up.
- Message 11:** Stand easy. Lower target, patch out and put target back up.”

The ET alternatives to some of the messages above are provided below.

ET10.2 Other than the above, all the usual shooting rules will apply and are not repeated here.

ET11 **Misses on the Target.** When using electronic targets, if a shot is not registered on the display after the shot has been fired, after 30 seconds (including the delay defined in ET3.8), the register keeper shall call the RO and request an assessment of the situation by the RO and/or technical official. Observation will be maintained until any issues are resolved. **The RO or technical official may use discretion.**

ET11.1 The shooter's partner (or next shooter if squadded 3 to a target) will be directed to fire a shot. If this shot is registered by the equipment, that shot will be deemed to be the firer's shot, and the steps in Rules ET11.2 to ET11.5 below may be followed. OR: If this shot is also not registered by the equipment, the procedure for failure of a single target as in Rule ET15 below will be applied.

ET11.2 If the shot is the original shooter's first sighter, a miss shall be recorded and the shooter shall recheck that his/her sight setting is correct.

ET11.3 If the shot is during the shooter's shots to count and with all previous shots registering on the target display, the RO or technical official shall use all available data to make a determination whether in all reasonableness, a miss was probable. This data should include but not be limited to, current weather conditions, scores leading up to the lost shot (continual approximate centre shots vs. edge of target shots etc.), any issues or problems on other targets immediately preceding the event etc. Nearby targets should be checked for any extra shots. Following this determination the RO or technical official may award an extra shot if, after careful consideration and on the balance of probabilities, the ET is deemed at fault.

ET11.4 If an extra shot is awarded and the five minute time limit has been exceeded, and it was through no fault of the shooter, then the extra shot awarded will be classified as an optional convertible sighter. (See ET5.2 above.) If the shooter elects to discard the optional sighter, then the next shot shall be classified as the missed shot that was awarded.

ET11.5 Alternatively, the RO (or technical official via the RO) shall award a Miss if, after careful consideration and on the balance of probabilities, the shooter is deemed to have missed the target with the shot in question.

- ET12 **'Crossfires'** (shot fired on the wrong target). The previous procedure is distinct from a crossfire. A crossfire will be identified by BOTH the absence of a shot on the shooter's monitor AND the appearance of an unsolicited shot on another target (subject to ET design). In this instance the RO must be called to try to find the origin of the unsolicited shot.
- ET12.1 A miss shall be recorded for the crossfiring shooter.
- ET12.2 In the event of two shots being recorded in rapid succession (i.e. an extra shot from another target) and it is not possible to determine which shot should be attributed to the shooter on the target, then the competitor who fired in his proper turn on the correct target will be credited with the higher value. Should he wish to do so, he may fire a non-convertible sighting shot immediately, but he must first inform his Register Keeper of his intention to do so.
- ET12.3 A shooter may not claim the value of a stray shot on his target unless he has simultaneously fired at that target.
- ET12.4 Register keepers are to maintain vigilance on the display for the appearance of unsolicited shots. It is stressed, however, that this is always secondary to the primary task of the register keeper being the overseer of the shooter and that safety practices are being followed.
- ET12.5 Before the shooter whose shot was not indicated on his own target may continue, there must be clear evidence where the shot has gone (e.g. on another target), after which such competitor may then continue.
- ET12.6 However, if after the steps above are followed the location of the shot is still unclear, the RO must inspect the shooter's rifle to ensure that there is no obstruction left in the barrel. The onus is on the shooter to facilitate the RO being able to clearly look through the entire barrel. Alternatively, if a 'hangfire' is suspected, SABU Rule 22.2.3 (and similar for F Class) apply.
- ET13 **Shots out of turn** by competitors on the same target may be another reason for two shots being recorded in rapid succession. In such case, SABU Rules 19.2 and (where relevant) 19.4 (and similar for F Class) apply.
- ET14 In the event of an electronic target display showing an error message or a malfunction that could be attributable to two simultaneous shots on the target, and the possibility is identified by crossfire or concurrent use of the target (shot out of turn), the competitor whose turn it was to fire will be entitled to an extra shot to replace the previous that could not be identified properly.
- ET15 Faulty target or display. If initially or subsequently during the investigation of one of the events above the target and/or display is deemed by the RO or technical official to be unserviceable and cannot be replaced in good time, it must be withdrawn from further use. The shooter at the time, and any previous shooters considered to have been disadvantaged, will be assigned another target to either complete the shoot with the option of firing a non-convertible sighter to commence, or reshoot the full range if the disadvantage was deemed to have adversely affected the current and/or a previous shooter's total score.

TEAM MATCHES USING ETs

- ET16 In general, the rules above apply *mutatis mutandis* to team matches as well. Some rules specific to team matches are listed below.
- ET17 When teams are using wireless communication systems, the following part of SABU Rule 27.15.1 applies: "The Meeting organisers have the right to specify which channel a Team may use and to prevent the use of a system which interferes with the functioning of Electronic Targets".
- ET18 SABU Rule 27.15.3: "Electronic devices use for the display of Electronic Target information are liable for inspection by a Register Keeper or Range Officer at any time, including viewing of the display screen."

INTERPRETATION ISSUES & ADDITIONAL REQUIREMENTS

- ET19 Until further notice, the SABU Council authorizes the Executive Committee to make interim

decisions on the interpretation of any of the rules and guidelines in this Appendix, or add thereto as may be required, until such time as rule amendments can be approved by the Council.

SHOT POSITION/VALUE DISPLAYS FOR ELECTRONIC TARGETS: TIPS FOR FIRST-TIME USERS OF ETs

As far as e-targets are concerned, the measuring systems and servers have generally proven to be very reliable and the most commonly expected problems would rather relate to the user's viewing device (or the user's own proficiency with the said device).

1. I pads and Tablets work best. Cell phones are capable but the screen may be too small for the user to appreciate all of the detail, incoming calls cause distractions.
2. For I pads, Safari is a good browser and for tablets, Firefox works best. Some users have had some random problems. Firefox is a free app to download and it is advised that Android users do this prior to the shoot.
3. **Glare** is a problem for viewing devices. To be able to see, users would probably select the highest brightness setting (backlight). This may create two problems:
 - a. Reduced battery life
 - b. Increased operating temperature
4. Many users employ some kind of a **sun-shade** in order to see better in the direct sunlight. This may be a product like standard viewing screens as sold by drone outlets or even as rudimentary as inserting the viewing device in a carton box.
5. A **stand** with an angle of about 60 degrees is most helpful to position the viewing device. A word of caution: make sure that the stand does not make full area contact with the rear side of the viewing device. The rear panel of the device must stay largely exposed to free air flow so as to allow proper cooling.
6. On very hot days, the viewing device may overheat and shut down temporarily if not protected from direct sunlight. Simple precaution is required here: Shield from sunlight and make sure the back panel can radiate heat. Again, the simple use of inserting it in a carton box works well for both heat shielding and sun-shading.
7. With increased backlight setting, battery life may become a problem. Make sure to switch off the unit (or battery saving mode) when not in use. It is no problem to re-connect at any stage. IT IS ADVISED to have a charging cable and a power bank handy as backup.
8. Users should disable the power saving mode while using the device for shooting. Having to constantly touch the screen or to log in again periodically is disturbing. In addition: when logging in again you have to refresh your browser. It is better to switch off that function but then DO NOT FORGET to turn the device off manually after shooting in order to save the battery power.
9. Starting up will require that you do two things:
 - a. Connect to the wi-fi or other means of communication provided by the server.
 - b. In your browser (Safari / Firefox / Google) - punch in the 'address' or other link as provided by the manufacturer, supplier or organisers.
10. Once logged in to the server, simply select the target you are shooting on (displayed at the bottom of the screen).
11. Make sure that the 'target' you are shooting on is the correct SABU or ICFRA target for your discipline. (This is set up by the range system administrator.)
12. If at any time you accidentally do something wrong (like selecting the back function in your browser, simply go to the 'address' line and refresh to re-connect.
13. Do not feel intimidated at all. If it sounds like Greek to a novice, rest assured that the functionality is user friendly, and even first time users find the system intuitive. All will be explained on the range and help is available to get you set up and running.
14. **Just bring Shade and enough battery power and enjoy your ET shooting!**