

Instructions for KIT 1

SET-UP AND OPERATION OF EDM

(Electromagnetic Distance Measurement)

Horizontal Jumps

Preliminaries: Ensure all batteries are put on charge well before the meeting.

1. For Long and Triple Jump

a) **Location:** Must give a clear and complete view of the landing sand pit and take off board.

b) **Assembly and Levelling:**

- i. Ensure tripod is set firmly into the ground at a convenient working height for all users with top plate as level as possible (use spirit level).
- ii. Fit tribrach, making sure securing screw is tight and base cannot move.
- iii. Level Tribrach, use two foot screws to centre bubble between them then adjust remaining screw to centre bubble in bubble-level.
- iv. Fit geodimeter on tribrach (power socket goes in recess), lock tribrach in place.
- v. Adjust for parallax - hand in front of telescope and check hairlines are sharp, adjust lens as necessary.
- vi. Connect external batteries or mains power source (if used).

TO POWER SOCKET ON TRIBRACH, NOT KEYPAD.

c) **Setting up the Instrument:**

- i. Turn power on.
- ii. Either press **YES (enter)** to continue if already set up or **NO (←)** for machine to go to set up.
- iii. Check level on display - if necessary carefully adjust on tribrach foot screws to centre both index marks [*Prolonged adjustment will force return to c) i.*], and press **ENTER (Yes)**.
- iv. Machine will perform self checks and rotate around then rotate back again.

Note:

- v. Enter approx. temperature, press **ENTER (Yes)** (*it may be necessary to press 'ENTER' twice*).
- vi. Enter approx. atmospheric pressure, press **ENTER (Yes)** (*it may be necessary to press 'ENTER' twice*).
- vii. Enter prism constant (Zero for our prisms), press **ENTER (Yes)** (*it may be necessary to press 'ENTER' twice*).
- viii. Enter horizontal component (00.00.00), press **ENTER (Yes)**.

- ix. Press **PRG 24**, then enter
- x. Enter Job No. '1', press **ENTER(Yes)**. Instrument reads: **IMEM**
EXMEM
SERIAL
- xi. Ignore, press **ENTER(Yes)**.
- xiv. Screen shows : **1 Known Line**
 2. Unknown Line
- xv. **Select 2**
- xvi. Screen shows **STN = 1** - **press YES**
- xvii. Screen shows **HT measure?** - **press YES**
- xviii. Screen shows **Ih = 0** - **press YES**
- xix. Screen shows Ref. line point A
 Pno = Press 1 - **press YES**
- xx. Screen shows **SH = 0.000** - **press YES**
- xxi. Screen shows **STD**
 HA
 VA
- xxii. Focus on prism on one end of take off board - **Press A/M**
- xxiii. Instrument shows “measuring”, when finished - **Press Reg**
- xxiv. Screen shows Ref. line point B
 Pno = Press 2 - **press YES**
- xxv. Screen shows **SH = 0.000** - **press YES**
- xxvii. Screen shows **STD**
 HA
 VA
- xxviii. Focus on prism on other end of take off board - **Press A/M**
- xxix. Instrument shows “measuring”, when finished - **Press Reg**
- xxx. Screen shows **1. Measure**
 2. Setout
 3. [...] - **Select 1**
- xxxi. Screen shows **Slope = xx.xxxx** - **Press YES**

xxxii. Screen shows **SH = 0.000** - **Press YES**

xxxiii. Screen shows **STD**
HA
VA

Set-up is finished.

d) Taking Measurements.

i. For a measurement, focus on the prism.

ii. **Press A/M**

iii. Screen shows ?????????? =
 ?????????? =
 RT of s =
 ?????????? =

iv. **Read RT of s** - This is the distance and may show as negative.

iv. For the next jump just focus on the prism and press A/M again and so on.

v. Immediately before and after the competition, confirm the instrument accuracy on two pre-measured check marks at either end of the pit and at the centre of the take-off board (this last one should of course read zero)

vi. Helpful hint:- Refocus on the centre of the pit between jumps to minimise change when measuring.