# **Instructions for KIT 7**

### 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 = Enter 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 = Enter 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

  - 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.