

2G LongCore Cheat Sheet

On startup of software, you will be asked for a PASSWORD. This is a trick question! There is no password – just click “OK/Continue”

For Discrete Measurements:

- 1) Go to **Utilities (A)**
 - a. Change User Directory
 - i. Select “**Set Data Paths and File Formats**”
 - ii. Navigate to main data path (c:/Long Core Data/Your Folder/)
 - iii. Navigate to backup data path (c:/Long Core Backup/Your Folder/)
 - iv. Do not change data file format.
 - b. Make sure sample handler is configured properly for your setup.
 - i. Select “**Configure Sample Handler**”
 - ii. Select “Next” until you get to “**Sample Handler Discrete Configuration**” (DO NOT change anything else!!!). Set:
 1. number of sample positions in tray
 2. distance to first sample (5 cm for cube holder)
 3. distance between samples (typically 20 cm)
 - iii. Select next until last page. Then “Save Changes”
- 2) Select **IRM database user name** OR Enter sample information in **Sample Data Table (B)**
 - a. If no volume is entered, software assumes a volume of 1. Otherwise, all data is output as volume normalized.
- 3) Set up measurement sequence in **Measurement Queue Editor (C)**:
 - a. Select “Discrete” (near bottom)
 - b. Select types of corrections desired (drift, tray)
 - c. Add / Delete desired measurements / treatments (top)
- 4) Choose **Data file (D – Browse...)**. Either:
 - a. use sample name as file name; or
 - b. enter desired filename
- 5) **Measure tray (E)** – used for tray correction
 - a. clean first if desired –physically and/or AF
- 6) **Measure (F)**
 - a. Place samples in tray.
 - b. Select sample name from list at top of screen.
 - c. Double-click in correct position in lower part of screen.
 - d. Go.

For Continuous (u-channel) Measurements:

- 1) Go to **Utilities (A)**
 - a. Change User Directory
 - i. Select “**Set Data Paths and File Formats**”
 - ii. Navigate to main data path (c:/Long Core Data/Your Folder/)
 - iii. Navigate to backup data path (c:/Long Core Backup/Your Folder/)
 - iv. Do not change data file format.

- 2) Select **IRM database user name** to get sample info from database OR enter sample information in **Sample Data Table (B)**
 - a. Enter length of core (cm)
 - b. Depth (optional) is to of core in meters below sea floor (MBSF), or whatever coordinate system you desire, but assumes depth increases down-core.
 - c. Enter cross-sectional area of core (cm²)
 - d. For un-oriented cores, azimuth and dip are 0° and -90°.

- 3) Set up measurement sequence in **Measurement Queue Editor (C)**:
 - a. Select “Continuous” (near bottom of screen)
 - b. Select measurement interval (cm)
 - c. Select types of corrections desired (drift, tray)
 - d. Select length of leader and trailer (15 cm optimal for deconvolution)

- 4) Choose **Data file (D – Browse...)**. Either:
 - a. use sample name as file name; or
 - b. enter desired filename

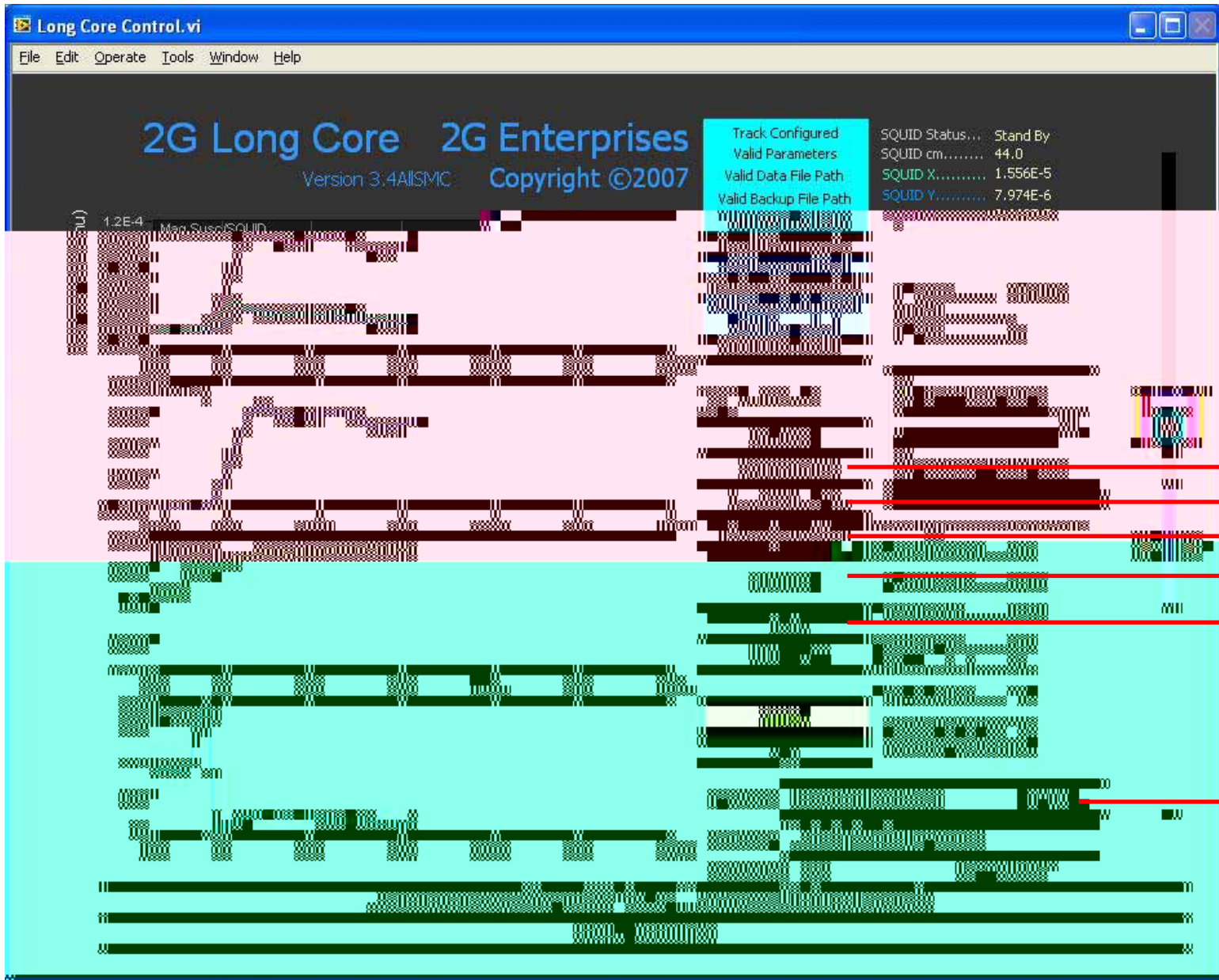
- 5) **Measure tray (E)** – used for tray correction
 - a. clean first if desired –physically and/or AF

- 7) **Measure (F)**
 - a. Place core on tray as shown in figure.
 - b. Select sample name from list.
 - c. Go.

Tuning SQUID boxes:

In some cases, excessive drift may be reduced by tuning the SQUIDs in the following manner (ask IRM staff for demonstration). If you continue to have excessive drift or noise problems, ask an IRM staff member for assistance.

- 1) Close LongCore control program.
- 2) Start up 'PicoScope' software.
- 3) Connect 'AC OUT' from back of SQUID box to 'Input A' on oscilloscope.
Connect 'SYNC' from back of SQUID box to 'Input B' on oscilloscope.
- 4) Run Auto-setup by clicking the lightning bolt icon.
- 5) Set vertical axis scale to 5 V. You should see something that looks like two superimposed sine waves.
- 6) Set Trigger to Ch. B
- 7) Unlock the BIAS knob.
- 8) Turn BIAS all the way counter-clockwise, then increase until you get the cleanest (not necessarily the highest-amplitude) signal.
- 9) Press the LOCK button; lock-loop feedback light should extinguish.
- 10) Use the BIAS knob to maximize the signal amplitude.
- 11) Use the OFFSET knob to further maximize the signal. (This should also result in a single sine wave – as opposed to two sine waves).
- 12) Press the LOCK button; lock-loop light should come back on.
- 13) Lock the BIAS knob in place.
- 14) Use OFFSET knob to set analog signal close to zero.

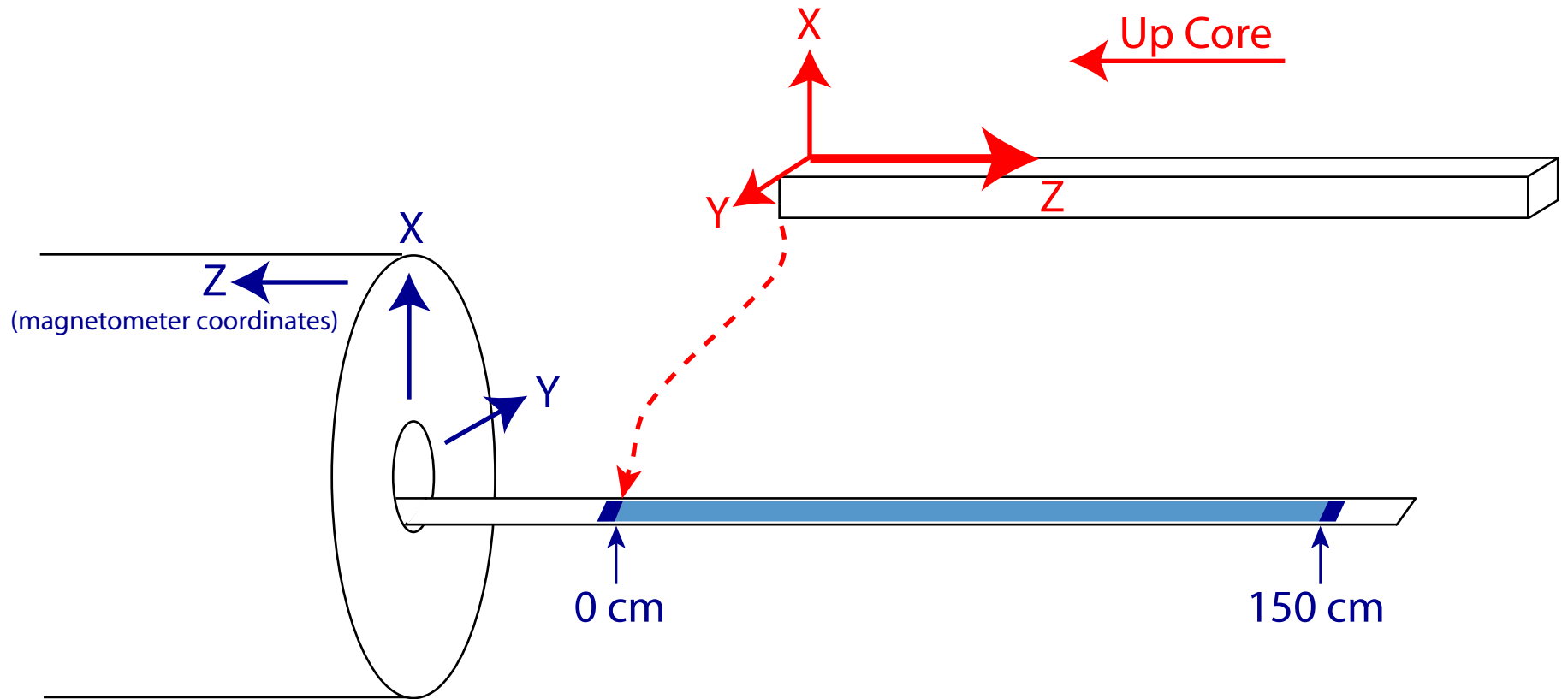


- A (Utilities)
- B (Sample Data Table)
- C (Meas Queue Editor)
- F (Measure)
- E (Tray)
- D (Data File)

CONTINUOUS MEASUREMENT MODE

Continuous cores are placed on the tray such that section top is flush with the 0 cm mark.

TEMPORARY: azimuth and plunge of an unoriented core should be entered as $0^\circ, -90^\circ$.



DISCRETE MEASUREMENT MODE

Samples are placed on tray with the sample arrow (+Z) pointing into the magnetometer. Azimuth and plunge of the sample arrow are defined such that positive plunge is down. (If results are desired in magnetometer coordinates, azimuth and plunge should be entered as 0° , $+90^\circ$.)

