

A Step-by-step Cinefilm Digitizing Reference

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Initialization

Place a Program diskette into the disk drive (version 4.08 or later). Turn the power bar ON. After a few seconds the MAIN HP menu is displayed. (The French version of the digitization program has not been updated. We suggest you stay with the English version.)

Press **D** to select the "Dig film" program (formerly called, DIGPLOT) from the main menu.

After the program has loaded, the digitizer should be ON (you should see some lights on). If not, its power switch is on the lower right side of the digitizer. Press **Y** to the first question. When the digitizer initialization is done "Initialized" will appear in the digitizer's display.

Enter the trial code (maximum 8 characters): **XY##ZZ** Where:

X: W=Walking R=Running S=Sprinting/Swimming J=Jumping

Y: N=Normal A=Amputee P=Pathological

##: Trial number (can be 3 numbers)

XX: Subject's initials (can be 3 initials)

E.g., **RN01HR** =Running, normal, trial 01, subject HR

WA12AR =Walking, amputee, trial 12, subject AR

Enter a descriptive title and your initials. E.g.,

Normal Gait - Right Leg - Male - DGER

You will want the coordinates reversed if the subject faces right or moves from right to left.

Usually, you are **Not** using a moving frame of reference.

Enter the number of body markers. When digitizing one leg enter **7**. In this lab situation, you will be using 21 markers.

Enter the markers names or **AUTO** (use AUTO for lab).

The default event codes are: 1=IFS, 2=ITO, 3=CFS, 4=CTO (During digitization at the occurrence of the event you will press the event number on the digitizer's keypad, then press ENTER on the digitizer's keypad.) Press the enter key to accept the default event codes.

Display format: Choose **S** for stick figures, **P** for point plot or **T** for trajectories.

Scaling system: You should usually select a grid. Press **G**. The following questions deal with describing the grid characteristics. Remember that the grid is digitized left-to-right and top-to-bottom as you would read a North American newspaper. In this lab you will be using a grid with spacing 25,25 and 5 rows and 9 columns.

Frame information: You should start at frame number **-5**. To determine the total number of frames count how many you need to digitize and add at least ten more. Your frame increment is usually **1**. You will need to digitize a whole step from 10 frames before CTO to 10 frames after CFS.

Take your Program Disk out and replace with your Data Disk. Then, wait. . . . Don't use an MS/DOS floppy disk. The HP87 uses an incompatible disk format.

You will probably want the maximum plotting area; press **Y**.

Digitizing

The first operation is to digitize the scaling system. If you selected a **Linear** system you will want to make the digitizer's axis system parallel to the movement's horizontal axis. Follow the instructions provided by the program. This feature is not necessary if you chose a **Grid** scaling system.

Project the film frame that shows the scaling system that corresponds with your trial. The scaling system should normally be filmed in the same plane as the markers, before or after the trial.

Next, if you are using a force platform project the image where the subject's foot is in contact with the platform and digitize the origin as shown in Figure 1. Otherwise select an appropriate origin for your axes system.

Finally, advance the projector to the first frame to be digitized and proceed with digitizing the trial. You may redigitize the origin if you decide that it is in the wrong place (use function key e , f_e). It is NOT possible to redigitize the grid unless you want to start over completely. If you overestimated the number of frames you can exit by pressing the second function button and the f_e button.

Transferring your HP file to the PC

After you have finished digitizing your trial, you must transfer it to a PC format. Before doing this, please turn the projector off. Then return to the main menu on the HP. Turn on the PC next to it. On the HP press H for HP to PC and wait for instructions. On the PC a menu will appear. Press C for communications. A second menu will appear. Press H for HPtoPC. Both screens will ask whether or not you wish to view the data as it is being transferred, choose **No**.

When the HP is finished transferring, “quit” the program or press N for transferring another file. If you need more help refer to “File Transfer Procedures for the Biomechanics Laboratory”. Remember to shut off all equipment when you are done.

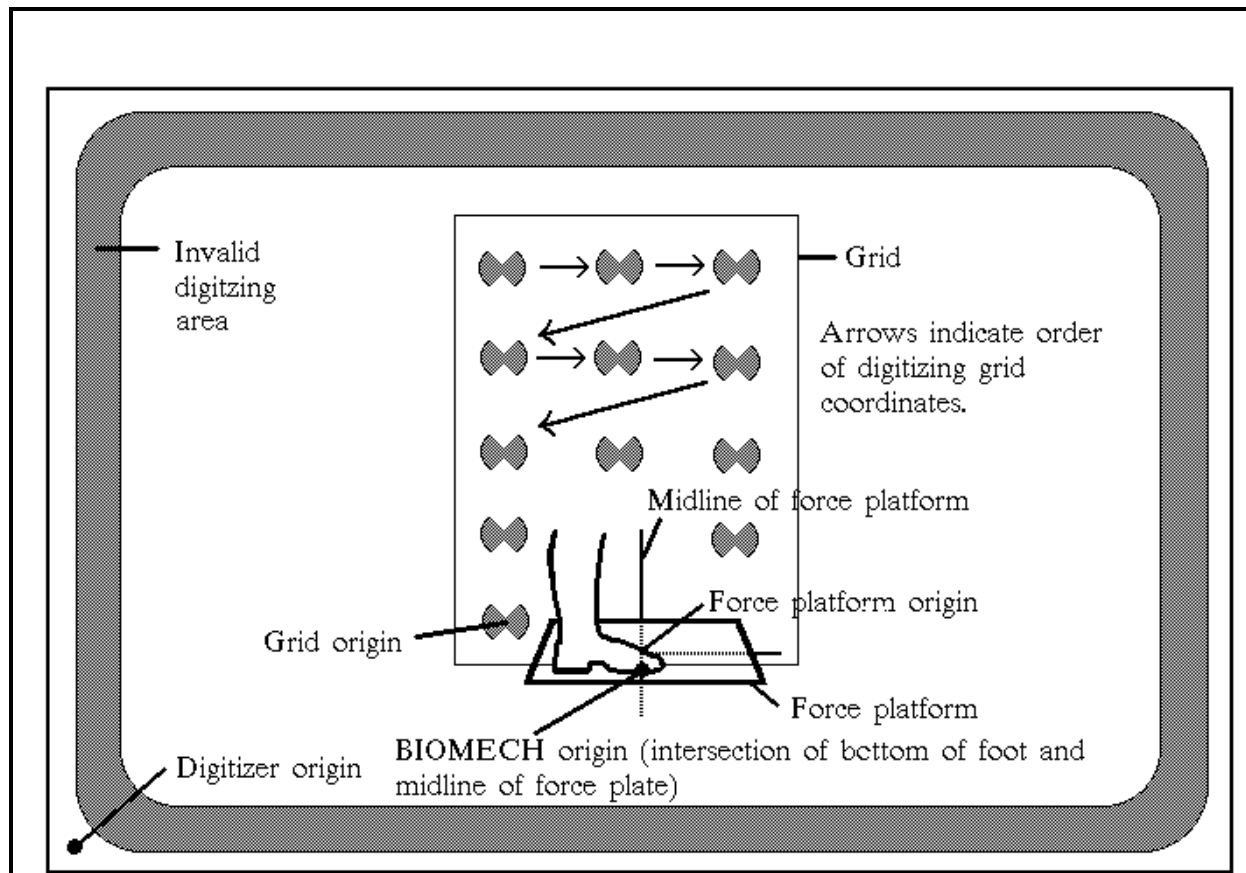


Figure 1 Locations of various digitizing origins and order of digitizing grid reference points.