User's Manual for QUIKTS

Welcome to the help and instructions for the Quik TS Time Study Capture.

Several Notes:

- If you are unfamiliar with entering text "graffiti" on the palm, you can use the keyboard by pressing the "abc" area on your palm's data entry.
- Snapback timing method is used.
- If a study is started and finished in the same minute, an error will occur. Adjust either the start time or finish time (see code at the end of the file for further understanding).

TO INSTALL QUICK TS ON YOUR PALM:

- Install the Palm Desktop CD to your PC.
- Reboot your desktop PC after installation
- Open up the Palm Desktop program on your PC.
- In the left-hand column, select the "Install" Icon and an "Install Tool" Window will appear.
- Select which palm device you would like to install the files to under "USER:"
- Press the "Add" Button and select the two files from the Design Tools CD called "CASLrt.prc" and "Quik TS.prc"
- Next, press the "Done" button and upon next synchronization, the files will be sent to your Palm handheld.
- *For more information on synchronization with a Palm handheld, refer to the instructions that came with your Palm handheld.*

Directions for Uploading to PC and Design Tools:

- After Compiling Study and Sending the Study to the MemoPad in Palm, the Palm must be synchronized via HotSync to the desktop.
- Once synchronized, open the "Palm Desktop" application and press the "Memo" button on the desktop. You should see your study under "Time and Motion Study ver 1.0 (TIME STUDY DATA)"
- Highlight the desired Time Study and "Drag" it to the Clipboard on the Desktop.
- Open up the Notepad Program. This can usually be found under the start menu and selecting Programs->Accessories->Notepad.
- In Notepad, select Edit->Paste and your Time Study should be displayed as text in Notepad.
- Select File->Save As... from the menu.
- Enter in your desired file name AND BE SURE TO ADD ".TSD" TO THE END OF YOUR FILE NAME. This allows it to be viewed as Time Study Data in Design Tools.
- IMPORTANT: under "Save as type:" be sure to select "All Files" instead of "Text Documents (*.txt)" so that the file can be viewed as Time Study Data in Design Tools.
- Open Design Tools.
- Select Work Measurement->Time Study from the Menu.
- In the Time Study Main Page, select File->Open and select your saved file from the specified folder.
- Finally, Refer to Design Tools about evaluating your data and developing a standard time.

DESCRIPTION FOR EACH PAGE/SCREEN IN QUIK TS

1. **STUDY INPUT PAGE:** Enter Information about your study

Study No.: The number of your study for organization purposes (default is 001)
Operation: Action that the worker is performing
Date: Date of Time Study (default is today)
Operator: Name given to worker performing operation
Observer: Person who is observing operation and recording time study

PRESS "ENTER INPUTS" BUTTON UPON FINISHING STUDY INPUT INFORMATION

2. **ELEMENTS NAME PAGE:** Enter specific names of each element in your study after observing a few cycles.

ENTER NAMES IN TEXT FIELDS IN SEQUENTIAL ORDER THEN PRESS "SUBMIT ELEMENT NAMES" BUTTON UPON COMPLETION.

3. **TIME STUDY PAGE:** This is where the actual time study will occur

PRESS THE "START" BUTTON TO BEGIN STUDY CAPTURE

Rating: You can rate the worker on his or her speed on each individual element (default is 100%)
El. But.: Button corresponding to each element name. Note that the name of the element is on the actual button. ***PRESS THE ELEMENT BUTTON WHEN AN ELEMENT HAS BEEN COMPLETED TO CAPTURE AN ELEMENT.***
El. Time: Time captured, in decimal minutes, of an element. This time is calculated between when the last element finishes and the current element finishes.
Cyc: Number of cycles that have been captured for a given element.
FE: Foreign Element Button. ***PRESS THIS BUTTON IF A FOREIGN ELEMENT, OR SOMETHING NOT ROUTINELY IN A GIVEN OPERATION, OCCURS DURING AN ELEMENT PERIOD.*** This will take you to the Foreign Element Screen and is discussed more in that section of the instructions.
Stop: Appears in place of the START button. Will end the time study and take you to the Data Page. The Data Page is discussed further in that section of the instructions.

4. **FOREIGN ELEMENT PAGE:** Foreign Elements can be documented and timed during the study. This removes them from being calculated in the Standard Time of the Operation.

#: The number of the Foreign Element, in sequential order
Cyc: Cycle in which the Foreign Element occurred for a given element
El: Element number (1-6) that the Foreign Element occurred during

Description: An explanation of the nature of the Foreign Element (Default is "FE 'Ele#'-'Cyc#'). For example, "Dropped Part" or "Break"

Time: Time, in 1/100 minutes, which the Foreign Element occurred for. Time of FE begins when "FE" button was pressed and ends when "Submit Foreign Elements" button is pressed. THIS TIME WILL NOT BE CALCULATED UNTIL THE "SUBMIT FOREIGN ELEMENTS" BUTTON IS PRESSED.

Submit Foreign Elements: Button that ends time capture for the specified Foreign Element. Also, this button returns the user to the Time Study Page.

5. **RESULTS PAGE:** Compiles and displays the output in a box. This data cannot be edited in this location.

Compile and Display Results: This button does what it says. Text is shown. ***THIS MUST BE DONE BEFORE SENDING THE DATA TO THE DESKTOP.***

Send TS Data to MemoPad: Again, this button does what it says. Upon pressing this button, the data, formatted to be viewed and analyzed in Design Tools, is sent to the MemoPad on the Palm Device. See instructions above about uploading the file to Design Tools.

MENU CHOICE DESCRIPTIONS

1. INPUTS:

Study Input: Takes you to the Time Study Informational Input Page

Element Names: Takes you to the Element Naming Page

TIME STUDY: Takes you to the Time Study Capture Page

Foreign Elements: Takes you to the Foreign Elements Description Page

2. RESULTS:

See Data: Compiles Time Study and displays it on the Results Page

Data to Memo: Sends Compiled Study to the MemoPad on the Palm Device. ***DATA MUST BE COMPILED BEFORE IT CAN BE SENT TO THE MEMOPAD.***

3. EDIT:

Copy: Allows the user to copy text if so desired.

Paste: Allows the user to pasted copied text.

4. HELP:

Help: Describes how to upload data to Design Tools and Describes how Quik TS works.

About: Information about the product, programming language, and publisher.

To assist in understanding the coded data should a problem arise, the following sample identifies each of line of data:

Time and Motion Study ver 1.0 (TIME STUDY DATA)	*Title of File*
"Sample 1"	*Study No. under "General Information" on Time Study Main Page*
"06-20-1998"	*Date*
556	*Beginning time (in minutes)*
562	*Finishing time (in minutes). THIS NUMBER MUST BE LARGER THAN Beginning Time. FOR STUDIES LESS THAN ONE MINUTE IN LENGTH, INCREMENT THIS NUMBER BY ONE.*
1.86	*Calculated Time Elapsed Before Start*
0.6	*Calculated Time Elapsed After Finished*
"Machining"	*Operation*
"Niebel"	*Operator*
"Ben"	*Observer*
4	*Number of Elements used in Time Study*
1	*Rating Method (0 = Speed(overall), 1 =Speed (Individual), 2 = Westinghouse*
0	*Timing Method (0 = Snapback, 1 = Continuous)*
0	*Overall rating percentage (used for Westinghouse method)*
"Feed bar to stop"	*Element 1 Name*
"index, feed cutting tool to bar"	*Element 2 Name*
"turn 1/2 inch 550 rpm"	*Element 3 Name*
"withdraw tool and bar set down"	*Element 4 Name*
3	*Number of cycles in the study*
85	*FOR THE TIME STUDY OBERSVATION FORM, Rating(1,1) (Element, Cycle)*
0	*Watch time (1,1) W*
19	*Observed time(1,1) OT*
False	*Whether or not data point is an outlier*
0	*Whether data point was during a Foreign Element Observation (0 = no, 1 = FE)*
16.15	*NT(1,1) = OT*Rating*
90	*Rating(1,2)*
0	*Watch time (1,2) W*
22	*Observed time(1,2) OT*
False	*Whether or not data point is an outlier*
0	*Whether data point was during a Foreign Element Observation (0 = no, 1 = FE)*
19.8	*NT(1,2) = OT*Rating*
100	*Rating(1,3)*
0	*Watch time (1,3) W*
17	*Observed time(1,3) OT*
False	*Whether or not data point is an outlier*
0	*Whether data point was during a Foreign Element Observation (0 = no, 1 = FE)*
17	*NT(1,3) = OT*Rating*
105	*Rating(2,1)*
0	*Watch time (2,1) W*
12	*Observed time(2,1) OT*
FALSE	*Whether or not data point is an outlier*
0	*Whether data point was during a Foreign Element Observation (0 = no, 1 = FE)*
12.6	*NT(2,1) = OT*Rating*
105	*Rating(2,2)*
0	*Watch time (2,2) W*
13	*Observed time(2,2) OT*

FALSE	*Whether or not data point is an outlier*
0	*Whether data point was during a Foreign Element Observation (0 = no, 1 = FE)*
13.65	*NT(2,2) = OT*Rating*
105	*Rating(2,3)*
0	*Watch time (2,3) W*
11	*Observed time(2,3) OT*
FALSE	*Whether or not data point is an outlier*
0	*Whether data point was during a Foreign Element Observation (0 = no, 1 = FE)*
11.55	*NT(2,3) = OT*Rating*
100	*Rating(3,1)*
0	*Watch time (3,1) W*
60	*Observed time(3,1) OT*
FALSE	*Whether or not data point is an outlier*
1	*Whether data point was during a Foreign Element Observation (0 = no, 1 = FE)*
60	*NT(3,1) = OT*Rating*
100	*Rating(3,2)*
0	*Watch time (3,2) W*
60	*Observed time(3,2) OT*
FALSE	*Whether or not data point is an outlier*
0	*Whether data point was during a Foreign Element Observation (0 = no, 1 = FE)*
60	*NT(3,2) = OT*Rating*
100	*Rating(3,3)*
0	*Watch time (3,3) W*
60	*Observed time(3,3) OT*
FALSE	*Whether or not data point is an outlier*
0	*Whether data point was during a Foreign Element Observation (0 = no, 1 = FE)*
60	*NT(3,3) = OT*Rating*
90	*Rating(4,1)*
0	*Watch time (4,1) W*
17	*Observed time(4,1) OT*
FALSE	*Whether or not data point is an outlier*
0	*Whether data point was during a Foreign Element Observation (0 = no, 1 = FE)*
15.3	*NT(4,1) = OT*Rating*
100	*Rating(4,2)*
0	*Watch time (4,2) W*
16	*Observed time(4,2) OT*
FALSE	*Whether or not data point is an outlier*
0	*Whether data point was during a Foreign Element Observation (0 = no, 1 = FE)*
16	*NT(4,2) = OT*Rating*
105	*Rating(4,3)*
0	*Watch time (4,3) W*
17	*Observed time(4,3) OT*
FALSE	*Whether or not data point is an outlier*
0	*Whether data point was during a Foreign Element Observation (0 = no, 1 = FE)*
17.85	*NT(4,3) = OT*Rating*
5	*UNDER ALLOWANCE (%): Personal Needs*
4	*Basic Fatigue*
1	*Variable Fatigue*
0	*Special*
10	*Total Allowance*
"Remarks"	*Remarks that can be made at the top of the Observation Entry Form*

1	*Total Number of Foreign Elements to Appear*
0	*W1 Reading for Foreign Element 1*
35	*W2 Reading for Foreign Element 1*
35	*OT for Foreign Element 1 = W2-W1*
"Check Dimension"	*Description for Foreign Element 1*
3	*Element number during which Foreign Element 1 occurred*
1	*Cycle number during which Foreign Element 1 occurred*

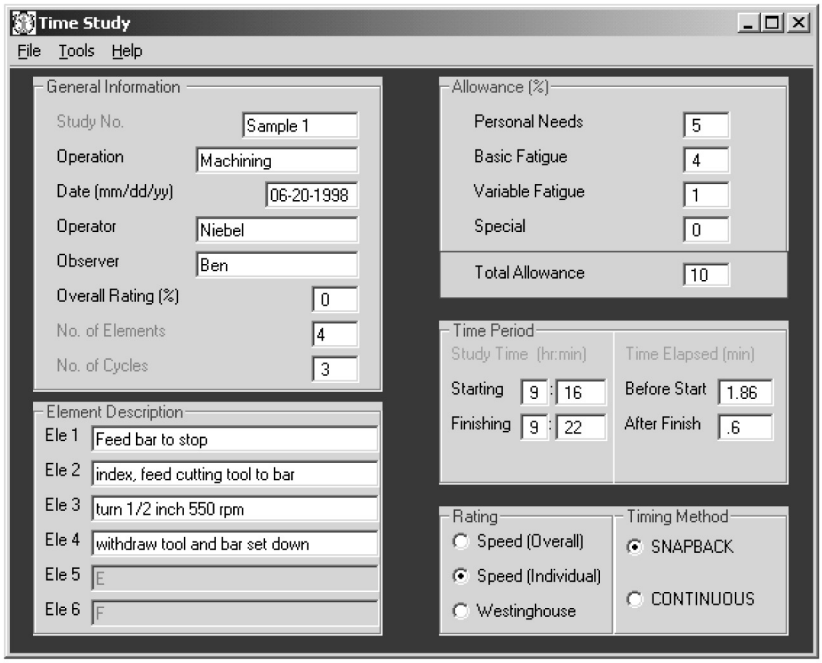

Figure 1: Information Displayed on the Time Study Main Sheet in Design Tools

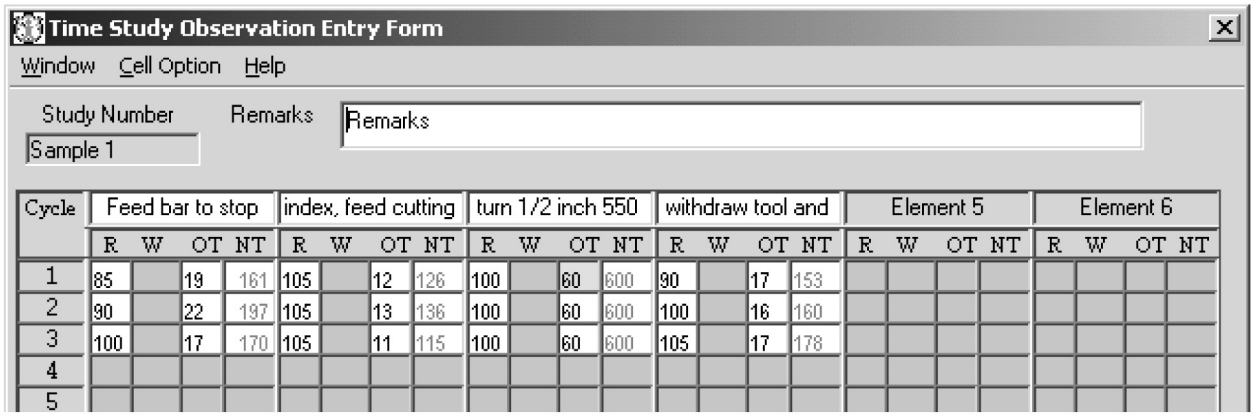

Figure 2: Information Displayed in Observation Entry Form

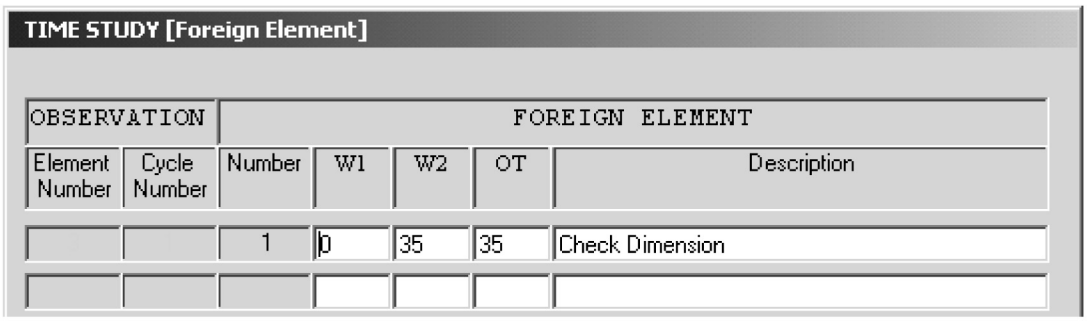

Figure 3: Information Displayed in Foreign Element Page