
**User's Manual for
QUIKSAMP**

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Welcome to the QUICKSAMP Work Sampling Program

TO INSTALL QUICKSAMP 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 three files from the Design Tools CD:
NSBRuntime.prc, MathLib.prc, and "QuikSamp.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 storing the results of the work sampling 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 the result under "QUICKSAMP ver 1.0: recorded date (Work Sampling Data)".
- Highlight the desired Work Sampling file 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 Work Sampling should be displayed as text in Notepad.
- Select File > Save As... from the menu.
- Enter in your desired file name.

DESCRIPTION FOR EACH SCREEN IN QUIKSAMP

1. QUIKSAMP Screen: Choose between:

Generate number of observations: Enter a limit of error and obtain the number of observations.

Generate limit of error: Enter the number of observations and get a corresponding limit of error.

2. NUMBER OF OBSERVATIONS Screen: Enter appropriate information:

Prob. Down(p): Select the value for the probability of an operator or machine being down.

Confidence Interval(1- α): Select the value of '1- α ' for the confidence interval.

Limit of Error: Select the value of limit of error.

PRESS THE "CALCULATE" BUTTON UPON FINISHING THE ABOVE INFORMATION

Number of Observations: Automatically displayed after the calculation.

PRESS THE "NEXT" BUTTON UPON CONFIRMING THE VALUE.

3. LIMIT OF ERROR Screen: Enter appropriate information:

Prob. Down(p): Select the value for the probability of an operator or machine being down.

Confidence Interval(1- α): Select the value of '1- α ' for the confidence interval.

Max Sample Size(n): Input the desired sample size.

(Enter text "graffiti" on the Palm, using the keyboard found by pressing the "abc" area on your Palm's data entry.)

PRESS THE "CALCULATE" BUTTON UPON FINISHING ABOVE INFORMATION

Limit of Error: Its value is automatically shown.

4. SAMPLE DAY & TIME Screen

Select Days: Select the day(s) of the week desired for the study.

Work Time: Input the working time (on a 24 hour clock) over the course of a single day (required)

Break Time: Input a break time if needed (optional).

(Note, if you need to collect data across two days, e.g. night shift, 2200 to 0600, enter 0000 to 2400 for the Work Time and 0600 to 2200 for the Break Time. Also, minutes can be entered using the keypad.)

PRESS THE "GENERATE TIMES" BUTTON UPON FINISHING ABOVE INFORMATION

(This may take a minute or more, depending on the sample size. 60 samples requires approximately one minute.)

5. SAMPLING TIME Screen: This Screen displays the random sampling times generated.

PRESS THE "NEXT" BUTTON UPON CONFIRMING THE RESULT

6. DISTRIB. OF SAMPLE TIME Screen: Displays the sampling times by days of the week.

PRESS THE "NEXT" BUTTON UPON CONFIRMING THE RESULT

7. GENERATE WORK SAMPLING SCREEN: Enter required information:

Num. of Study: The study number for organizational purposes (default is 001).

Num. of Operator: Select the number of operators to be observed (from 1 to 6).

Num. of Elements: Select the number of elements for observation (from 1 to 6).

Warning: Select the amount of time at which a warning beep-sound starts. No warning may also be selected. The data recording form will only appear during the warning phase.

PRESS THE “ENTER INPUT” BUTTON UPON FINISHING INPUT INFORMATION

8. ELEMENT NAME INPUT: Enter labels for element(s) (the default is **EI 1** to **EI 6**).

PRESS THE “SUBMIT” BUTTON UPON FINISHING ELEMENT NAME INPUT AND “START” TO BEGIN THE WORK SAMPLING STUDY

9. WORK SAMPLING Screen:

CLICK THE BOX(ES) THAT YOU OBSERVE AT A GIVEN TIME. THEN CLICK “NEXT”

(Note that there is a delay when entering data by clicking on the appropriate box. Be careful not to click twice.)

Current Time: It is displayed continuously.

Next Obser.: The time for the next observation is also displayed continuously.

(After entering an observation, the data table disappears until the warning time for the next observation. Note that the Palm may automatically power off after several minutes of idle time. Therefore, you need to activate the left-hand green button click the “REFRESH” button at regular intervals to check on the status of the next observation.)

AFTER THE LAST OBSERVATION, THE MENU SCREEN WILL APPEAR AUTOMATICALLY.

HOWEVER, IF YOU DO NOT WANT TO COMPLETE THE FULL STUDY (i.e. record all times), PRESS THE “FINISH” BUTTON.

10. MENU SCREEN: Four types of results can be displayed:

Observational Data: Displays the total number of observations for each operator/element.

Data as %: Displays the data as a percentage of the total.

Plot over Days: Displays the number of observations for the day selected (*select day, then “Result”*).

Confidence Interval: Displays the confidence interval for the data selected (*click the element and operator of interest*).

(Again there may be some delays while the data is being recalculated.)

PRESS THE “MENU” BUTTON TO RETURN TO THE MENU SCREEN.

PRESS THE “EXIT” BUTTON TO EXIT THE RESULT SCREENS COMPLETELY OR

PRESS THE “NEXT” BUTTON ON THE MENU SCREEN.

11. END OF QUIKSAMP SCREEN: You can store the collected data or restart the program

PRESS THE “STORE RESULT” BUTTON, TO STORE THE DATA IN THE PALM MEMOPAD.

PRESS THE “RESTART” BUTTON, TO RESTART THE PROGRAM FOR ANOTHER STUDY.

(Storing the data will take some time. Completion is indicated by the “OK” message.)

1. DataBase Structure

() : the order of data structure

	Operator1	Operator2	Operator3	Operator4	Operator5	Operator6
Element1	(1) El ₁ Op ₁	(2) El ₁ Op ₂	(3) El ₁ Op ₃	(4) El ₁ Op ₄	(5) El ₁ Op ₅	(6) El ₁ Op ₆
Element2	(7) El ₂ Op ₁	(8) El ₂ Op ₂	(9) El ₂ Op ₃	(10) El ₂ Op ₄	(11) El ₂ Op ₅	(12) El ₂ Op ₆
Element3	(13) El ₃ Op ₁	(14) El ₃ Op ₂	(15) El ₃ Op ₃	(16) El ₃ Op ₄	(17) El ₃ Op ₅	(18) El ₃ Op ₆
Element4	(19) El ₄ Op ₁	(20) El ₄ Op ₂	(21) El ₄ Op ₃	(22) El ₄ Op ₄	(23) El ₄ Op ₅	(24) El ₄ Op ₆
Element5	(25) El ₅ Op ₁	(26) El ₅ Op ₂	(27) El ₅ Op ₃	(28) El ₅ Op ₄	(29) El ₅ Op ₅	(30) El ₅ Op ₆
Element6	(31) El ₆ Op ₁	(32) El ₆ Op ₂	(33) El ₆ Op ₃	(34) El ₆ Op ₄	(35) El ₆ Op ₅	(36) El ₆ Op ₆

2. Example

For the following data table:

	Operator1	Operator2	Operator3	Operator4	Operator5	Operator6
Element1	0	0	1	0	1	0
Element2	1	0	0	0	0	0
Element3	0	1	0	0	0	0
Element4	0	0	0	0	0	0
Element5	0	0	0	1	0	1
Element6	0	0	0	0	0	0

The data is recorded as: 001010 100000 010000 000000 000101 000000

3. Sample data file:

QuikSamp ver 1.0: 01/15/2004 : Title of File

1 MON 8:35 : the 1st sampling time (observation time)

001010 100000 010000 000000 000101 000000 : recorded data on each observation

2 MON 9:23 : the 2nd sampling time (observation time)

100000 010000 001000 000100 000010 000001 : recorded data on each observation

3 MON 10:12 : the 3rd sampling time (observation time)

011000 100100 000000 000010 000000 000001 : recorded data on each observation

4 MON 11:23 : the 4th sampling time (observation time)

001010 100000 010000 000000 000101 000000 : recorded data on each observation

5 MON 13:45 : the 5th sampling time (observation time)

000000 000001 010000 101000 000100 000010 : recorded data on each observation

6 MON 15:52 : the 6th sampling time (observation time)

001010 100000 010000 000000 000101 000000 : recorded data on each observation

7 MON 16:17 : the 7th sampling time (observation time)

000010 100000 010000 001000 000101 000000 : recorded data on each observation

8 TUE 09:35 : the 8th sampling time (observation time)

001000 100000 010010 000000 000101 000000 : recorded data on each observation

9 TUE 10:49 : the 9th sampling time (observation time)

000000 100000 011010 000000 000101 000000 : recorded data on each observation

10 TUE 15:28 : the 10th sampling time (observation time)

001000 100010 010000 000000 000101 000000 : recorded data on each observation