ChoicePlus Pro

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Version 2.1 -- July 2001

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1. OVERVIEW

The program will perform the count for a preference voting (a.k.a. "single-transferable vote" [STV]) election. Currently preference voting elections are in use in New York City for School Board elections, in Cambridge, Massachusetts for City Council and School Board elections, in Ireland, Malta and Australia. This method is used in many non-governmental elections in the United States and around the world.

Note that ChoicePlus Pro tabulates the results -- the votes must be entered before the count can be made. This document describes the required format of the data supplied to ChoicePlus Pro in text files. Votes can be entered by any word processor into appropriate files (see section 5, "INPUTTING THE VOTES", for more information) or software provided by others can prepare suitable files.

ChoicePlus Pro then executes the count, writing the results to several files. These files are described in section 7.

2. INSTALLATION AND QUICK START

REQUIREMENTS

ChoicePlus Pro 2.1 is a Java™ application, and requires an installed Java™ Runtime Environment (JRE) to operate. The Windows distribution package includes Java™ Runtime Environment 1.2.2, copyright© by Sun Microsystems, Inc.

Under Windows, ChoicePlus Pro 2.1 requires the following:
1. Windows 95/98, Windows NT, or Windows 2000 operating system
2. 16 MB of hard disk space for ChoicePlus Pro and JRE 1.2.2 (mostly JRE).
3. A minimum of 32 MB of RAM. You should probably have an additional 2 MB RAM for each 1000 ballots you expect to process, so a machine with 128 MB of RAM should easily handle an election with 50,000 ballots.
4. VGA or better graphics capability.

INSTALLATION

To install the software on a Windows machine, simply run the program "cppinstall.exe" on the CD. Follow the instructions that appear onscreen and put the software into a directory of your choice, e.g., "C:\VSoln".

QUICK START

Once installed, to run the program go to the Start Menu, select "Programs", then "Voting Solutions", and then click on the "ChoicePlus Pro" icon. First a Command window will appear. A few moments later a "ChoicePlus Pro " window will appear. From the "Contest" pull-down menu, select "Load & Run" and specify the file that is your main contest input file. After the data loads, ChoicePlus Pro will proceed to count your election.

After running the election, you can look at the results in any word processor, by looking at the text file "Detail Report.txt" in the directory where your input file was located. ChoicePlus Pro produces several other output files in the same directory, which are described in section 7 below.

To leave the program, select " Exit" from the "File" pull-down menu.

3. FEATURES & OPTIONS

- Allows duplicate rankings (where voters mark two different candidates with the same ranking).

- Validating ballots:
  - Provides for double-entry verification.
  - Will disallow duplicate rankings as per New York law.
  - Checks that candidates listed on ballots are in the election or are write-ins.
  - other checks

- Thresholds:
  - Droop or Hare
  - Integral or fractional

- Transfers from defeated candidates:
  - Will transfer from the bottom or the top of the pile (this can matter in non-fractional transfer systems).

- Surplus Transfers (from elected candidates):
  - Fractional (modern) or Whole Ballots (old style)
  - For whole ballot surplus, will use Cambridge or New York style
  - Will transfer from all winners simultaneously, or just the one that has the most votes.
  - Will transfer from all ballots when one achieves the threshold, or just from the last batch of ballots.
  - If desired, will immediately stop transferring to a candidate who has reached the threshold in the middle of any but the first round.
  - If desired, will avoid transferring exhausted ballots in non-fractional elections.

- Handling of ties:
  - Supports the standard method (whoever had the most votes the previous round wins the tie)
  - If tied all the way from the beginning, will show a dialog box for the election administrators to resolve the tie, or if desired, the computer will "flip a coin."

- Reading the data:
  - Reads the data from a human readable file, which is very useful for simple input, and for auditing.
  - Configurable input data format.
  - Data for one election can be in many different files.
  - Will accept write-in candidates at any time.
  - Input format will accepted embedded information in the rankings that ChoicePlus Pro will ignore. This can be used for auditing purposes.

- Reporting:
  - Reports are generated in two formats, plain text and delimited. The delimited files are designed to be importable into a spreadsheet program to produce nice tables and/or charts of results.
  - A Detail Report (plain and delimited) showing round-by-round counts.
  - A series of HTML detail files that can be viewed with a browser.
  - A Tabular Report (delimited only) with candidates in rows and counts in columns by round.

- A Ballot Allocation Report (plain and delimited) showing final allocation of the ballots by ballot ID.
- A Final Piles Report (plain only) showing final ballot allocation of each ballot by candidate.
- A Transfer Report (plain and delimited) showing exactly what transfers occurred each round.
- An optional Statistics Report showing voting depth and voter success.

- Recounts:
  - Supports recounts
  - Allows exclusion of one or more candidates on recounts (helpful to fill mid-term vacancies, e.g.).
  - Allows the designation of an undefeatable candidate. (can support diversity or minimum representation requirements)
  - Allows recounts for subsets of data, such as each precinct or ward, so that election analyses can be more detailed.

- Autotesting:
  - Allows the creation of autotest input files that specify the proper outcome. When run the recorded outcome is compared to the outcome of the program and the results reported.

- Ballot Measures:
  - ChoicePlus Pro 2.1 can process ballot measures - that is, contests which represent a choice between two alternatives (For and Against, Yes and No, etc.). For these contests, ChoicePlus Pro produces a single Tally Result report, showing the number of votes cast for the opposing positions.

- Other:
  - Will drop multiple-lower ranking candidates who cannot win as per New York or Cambridge law.
  - Number of ballots that can be handled depends only on available memory.
  - Even very large elections can be tabulated very quickly: typically elections take anywhere from 5 seconds to 3 minutes to count.
  - Allows ballots to have different values. E.g., a convention in which preference voting is used might have a rule in which official delegates have 5 votes each, while non-delegate members have 1 vote each.

4. FEATURES REQUESTED

These are the top requests we have received. We would like to satisfy all these requests, but cannot promise that they will all get done, much less set a date for any of them.

1. Allow users of ChoicePlus Pro to input the votes directly into ChoicePlus Pro. Right now, the votes must be input with another program, then they are read and tabulated by ChoicePlus Pro.

2. Allow users of ChoicePlus Pro to use a graphical user interface to specify options. Right now, all options are specified by directives in the input files.

3. Allow ChoicePlus Pro to directly support multiple contests (races). For example, each ballot might contain a school board election, a city council election, propositions, etc. Right now, this ballot data would have to be put in separate files for the separate contests.

4. Fully support Australian, Irish and Maltese laws.

5. Use preference voting to order a set of options, as opposed to a set of candidates.

6. Support other election systems, such as cumulative voting, limited voting, pairwise/Condorcet, Bucklin, and weighted systems.

7. Support other PR-systems such as party-list, mixed member proportional, and proxy PR.

5. INPUTTING THE BALLOT DATA

You must enter the ballot data (votes) using some other tool, such as a word processor that can write pure "ASCII" text, or some other third-party software.

The ballot data can be in as many files as you like. Thus input files can be generated by multiple sources (i.e., polling machines or precinct tabulations) as separate files to make auditing the data trail easier. If the data is being entered manually, this allows more than one person to enter votes at the same time. These files are read directly by ChoicePlus Pro, so the data must be formatted according to ChoicePlus' specifications. You can use the files "test.in" and "test.dat" as samples.

You must always have a primary file. This is the first file that ChoicePlus Pro looks for (the one you specify from the "Contest" - "Load & Tally" menu item). For a small election where all the votes are entered on one machine, you may only need this one file. For elections with multiple files the primary file will contain references to one or more other files, which in turn may contain references to additional files, etc.

It is crucial that all input be pure ASCII data -- for instance, ChoicePlus Pro will not be able to read a Microsoft Word document. If you use Word or similar word processing software, be certain to save the data as ASCII text. For Microsoft Windows users, the Windows "Notepad" program is probably on your machine -- you can safely use it since it only reads and writes ASCII files.

Note to new users:
> *For information on programs that may be used to generate input files for ChoicePlus Pro, contact:*
>
> *Voting Solutions*
> *6422 Irwin Ct., Oakland, CA 94609*
> *510-654-7818   fax: 510-654-2253*
> *e-mail:* info@votingsolutions.com
> *web: http://www.votingsolutions.com*

Note to software developers:
> *If you wish to write a program that will input ballots, note that the output must conform to the specifications in this document. Contact Voting Solutions for more information.*

6. INPUT FILE FORMAT

You must at least tell ChoicePlus Pro how many people to elect, who the candidates are, and what is on each ballot. Here is a simple example of an input file, in which 5 people are running for three seats:

```
.TITLE Smalltown SPCA Executive Committee Election -- July 5, 2001
.TITLE (Note: Only Board of Directors may vote)

.ELECT 3

.CANDIDATE AA,"Alice Adamson"
.CANDIDATE BB,"Bill Belicose"
.CANDIDATE CC, "Cathy Callis"
.CANDIDATE DD, "Don Dilberton"
.CANDIDATE EE, "Edna Elmick"

1) AA,DD,EE,BB,CC
2) BB,AA,EE,CC,DD
3) DD,BB,CC
4) CC
5) AA,BB,DD,CC,EE
…
```

This means that on ballot #1, the voter ranked candidate AA (Adamson) as his or her first choice, candidate DD (Dilbertson) as second, etc.

TITLE LINES
Lines that begin with ".TITLE" will be output by the program as title lines for the election.
E.g.: ".TITLE Anytown Municipal Election"
    ".TITLE November 3, 1992"
If you don't use this command, then the program works fine, but there won't be anything to identify what election the report is for. We strongly recommend you use this command.

HOW MANY CANDIDATES SHALL BE ELECTED?
The ".ELECT" command tells ChoicePlus Pro how many candidates are to be elected.
E.g.: ".ELECT 7".

THE CANDIDATES
The ".CANDIDATE" command tells ChoicePlus Pro the code and name for each candidate.
E.g. ' .CANDIDATE BJ, "Bill Jones" '.
Tip: The easiest way to handle write-in candidates is to simply enter them at the bottom of the candidate list, assign them a code, and then treat them like any other candidate.
Advanced Tip: "CANDIDATE" commands can appear anywhere in the data, though keeping them together will make it easier to find them all at once, of course.

BALLOTS

In the default ballot-format, first there is a ballot number, followed by a ')'. Then the candidate numbers are entered, each separated by a comma. For example, the first ballot above is:

    1) AA,DD,EE,BB,CC

This means that on ballot 1 the first vote is for candidate AA. The next is for candidate DD, then EE, BB, and finally CC. You can enter a virtually unlimited number of ballots.

a. Basic Options

REMARKS

Any lines that begin with the character '#' are remarks, and will be ignored by ChoicePlus Pro. E.g., "# This is a remark".

USING MULTIPLE FILES

The ".INCLUDE" command tells ChoicePlus Pro to read the specified file now.
E.g. ".INCLUDE 007657.pr" would tell ChoicePlus Pro to read the file "007657.pr" -- which might be the votes for precinct #7657. If you don't use this command, it is OK, ChoicePlus Pro will only use the primary file. "INCLUDE" commands may be nested – that is, an included file may itself contain "INCLUDE" commands.

CONTEST DESIGNATION

The ".CONTEST" command gives ChoicePlus an identifying word to be prepended to output file names.
E.g. ".CONTEST Council" would cause the Detail Report to be called "Council Detail Report.txt."
The identifier should be a single word using only characters appropriate for file names.

STATISTICAL REPORT

The "STATISTICS-ON" command causes ChoicePlus Pro to generate the "Statistic Report.txt" file.

DUPLICATE RANKINGS

If the voter gives the same ranking to two different candidates, you enter that with an equal sign. For example, if on ballot #6 the voter ranked both Callis and Elmick first, then Belicose second, and then both Adamson and Dilbertson third, The ballot would look like:

    "6) CC=EE, BB, AA=DD"

EMBEDDING INFORMATION INSIDE VOTES

For auditing purposes, you can embed information with square brackets on ballot lines. This is required in New York and Cambridge. Here is how that last ballot would have looked if you wanted to record the voters actual rankings in the data:

    "3) CC [1]=EE [1], BB [2], AA [3]=DD [3]"

b. Advanced Options

THRESHOLDS

".THRESHOLD DROOP" -- default (Droop Threshold)
".THRESHOLD HARE"

    By default, ChoicePlus Pro uses the Droop Threshold (see below). If you want to use the Hare threshold, specify it.

".THRESHOLD HARE FRACTIONAL"

> The Hare Threshold is normally rounded down. For example if there were 10,108 votes, and ten candidates, the threshold would be 1010 votes. With this option, you can use a fractional threshold, so the threshold would be 1010.8 votes.

SURPLUS TRANSFERS

By default, ChoicePlus Pro uses the fractional method of transferring surplus votes. However, most existing public elections that use preference voting usually use a semi-random method. ChoicePlus Pro now supports this. The acceptable modifiers to the **.SURPLUS** command are:

.SURPLUS RANDOM EVERY-NTH-CAMBRIDGE

> Use random transfers, and the Cambridge semi-random methodology. (In Cambridge, if you need to transfer 20% of the ballots, you would take ballots #5, #10, #15, etc.)

.SURPLUS STOP-ON-THRESHOLD

> While transferring, as soon as anyone reaches the threshold, immediately declare them elected and don't transfer any more ballots to them

.SURPLUS AVOID-EXHAUSTED-BALLOTS

> While transferring, if a ballot would end up going to the "Exhausted" pile, don't transfer it; instead use another ballot.

E.g.: ".SURPLUS RANDOM EVERY-NTH-CAMBRIDGE STOP-ON-THRESHOLD AVOID-EXHAUSTED-BALLOTS" is the command to comply with Cambridge law.

E.g.: ".SURPLUS FRACTIONAL ALL-BALLOTS" is the ChoicePlus Pro default, and complies with the rules of the UC Berkeley Student Senate.

E.g.: ".SURPLUS FRACTIONAL LAST-BATCH" complies with the rules of Tasmania, Australia.

DROPPING WEAK CANDIDATES EARLY

".INITIAL-DROP LESS-THAN" means to simultaneously drop all candidates that have less than a certain number of votes before dropping any other candidates.

E.g.: ".INITIAL-DROP LESS-THAN 50" -- complies with Cambridge law.

NEW YORK LAW -- for the City of New York, any candidates that can be shown mathematically to be guaranteed to lose can and will be defeated simultaneously. This typically occurs with write-ins and very unpopular candidates, and simplifies the election report substantially. This is a fairly elegant way of handling these sorts of candidacies, and is now the ChoicePlus Pro default.

EXCLUDING CANDIDATES

".EXCLUDE-CANDIDATE" allows you to recount an election, excluding one or more candidates that may have resigned after having been elected. This lets you fill an open position in the most fair manner.

E.g.: ".EXCLUDE-CANDIDATE JRL" -- would exclude candidate #JRL.

UNDEFEATABLE CANDIDATES

".UNDEFEATABLE" allows you to specify a candidate who will never be selected for defeat, even if he or she has the smallest vote count.

E.g.: ".UNDEFEATABLE JRL" -- would make candidate #JRL undefeatable.

DUPLICATE RANKINGS

Note that by default, duplicate rankings are allowed. When candidates have the same rank, it means they share that vote. E.g., let us say that Able, Baker, and Cain are all marked #1. Each will get 1/3 of this vote. If Cain is then defeated, Able and Baker now will each have 1/2 of this vote. If Baker was then defeated, Able would then have the full vote.

Under New York and Cambridge law, duplicate rankings are not counted. In New York, a ballot is valid until duplicate rankings are encountered. At that point, the ballot goes to the Exhausted pile (which means it can not be used for any continuing candidate).

In Cambridge, duplicate rankings are skipped, and the vote will go to the next continuing candidate that does not have a duplicate ranking.

In ballot lines in the data file, duplicate rankings are handled with the equal sign. For example, "Able=Baker=Cain" would mean that all three candidates had the same ranking.

COMPLYING WITH THE LAW IN GOVERNMENTAL ELECTIONS

ChoicePlus Pro is now used in New York City (since 1996) and Cambridge (starting in 1997). To simplify their configuration, we provide a special directive for each city. Space here does not permit explaining all of New York or Cambridge law. To fully comply with New York or Cambridge law, simply use the following directives:

".COMPLY-WITH NEW-YORK-CITY"
".COMPLY-WITH CAMBRIDGE"

DOUBLE ENTRY VERIFICATION

In a highly politicized or highly complex election, if the ballots are manually entered instead of using a scanning system, you would probably have a lot of data-entry errors. However, there is a standard methodology for reducing the error rate to a negligible level. Each ballot must be entered twice, and then you use a tool to compare the two entries and make sure they are identical. Whenever a ballot has been found to have a problem, you get the original ballot out, find the mistake, and correct it.

By default, ChoicePlus Pro only expects one copy of a ballot. If you want to use double-entry verification, simply set the directive to "DOUBLE-ENTRY-VERIFICATION ON". ChoicePlus Pro will compare all ballots that have the same ballot-id. You will get a report with any errors in it.

BALLOT MEASURES

".SYSTEM BALLOT-MEASURE"

This command tells ChoicePlus Pro to process this contest as a ballot measure. The data file should specify that one is being elected, and there should be only two "candidates" defined, with suitable names so that the report makes sense:

.ELECT 1
.CANDIDATE Y, "In Favor"
.CANDIDATE N, "Opposed"

c. Very Advanced Options

These options are normally used by software developers, data input companies, and researchers.

AUTOTESTING

Version 2.1 now supports autotesting. The following commands implement this feature:

".AUTOTEST election.tst" would run an autotest on the file "election.tst" and report the success or failure of the test.

".RESULTS AA,3,ELE,2; BB,2,DEF,2; CC,0,DEF,1; CAND-EXHAUSTED,1,SPEC,0" records the results of the contest in the file in question. For example, if this command appeared in "election.tst" it would specify that candidate AA was elected in round 2 with 3 votes in his or her "final pile", candidate BB was defeated in round 3 with 2 votes, etc.

The last item in the "RESULTS" command above give the number of ballots in the EXHAUSTED pile at the end of the election.

BALLOT FORMAT SEPARATORS

By default, certain punctuation is used to separate one field from another on each ballot. The default separators are the comma, the parenthesis, and the semi-colon. If you want to change this you can use the command, "BALLOT-FORMAT-SEPS". E.g., ".BALLOT-FORMAT-SEPS ,)" means to only use commas and parenthesis.

This command must be specified before any ballots are encountered.

SPECIFYING A DIFFERENT FORMAT FOR THE BALLOT

You can use the command ".BALLOT-FORMAT-FIELDS" when the data is in a different format than the ChoicePlus Pro default. You will not normally need this command. The default ballot format is as described above under "mandatory input". But if the format is different, you can specify it for ChoicePlus Pro, so that ChoicePlus Pro can still read your data.

ChoicePlus Pro will expect the data to be in the order you specify. For example, the default ChoicePlus Pro format can be specified by the command: ".BALLOT-FORMAT-FIELDS BALLOT-ID-NUMERIC RANKINGS-ALPHA". This means that first it expects the ballot-id as a numeric value, then the candidate ids, also in numeric form, in ranked order. Note the field separators are specified by the ".BALLOT-FORMAT-SEPS" command documented just above this command.

The acceptable modifiers to this command are as follows:

"BALLOT-VALUE"

The normal value for a vote is 1.0. However, this allows the vote value to be modified. This is used sometimes in conventions, to give certified delegates more votes than a member who just participates, can be used if proxies are allowed, or could be used in the future to avoid decimal places by giving all voters 100 or 1000 "votes" instead of 1.000 votes. This latter approach is common in Australia.

"BALLOT-ID-ALPHA"

The ballot-identifier, in alphanumeric form. ChoicePlus Pro will sort on this field for producing the final Ballot Allocation report.

"BALLOT-ID-NUMERIC"

The ballot-identifier, in numeric form. In this case, ChoicePlus Pro will recognize ballot-identifiers as numbers and, when sorting, will sort them in numeric order (e.g., 1-2-10 instead of 1-10-2).

"IGNORE-FIELD"

ChoicePlus Pro is being told to expect data there, but not to worry about understanding or using it. This is sometimes used by companies writing front-ends to ChoicePlus Pro, and can contain data that they need, but ChoicePlus Pro doesn't need.

"PRECINCT-NUM-ALPHA"

This field is a precinct number, in alphanumeric form. ChoicePlus Pro will currently ignore this field.

"BALLOT-TOP-ALPHA"

The ballot-top-identifier, in alphanumeric form. ChoicePlus Pro will currently ignore this field.

"CAND-IDS-NUM-RANKED"

By default ballots are in "RANKINGS-ALPHA" form. If all your candidate-ids are numbers, and if the numbers sometimes have leading zeroes, you will probably need to specify this format field to get your format working properly.

"RANKINGS-ALPHA"

This means that ChoicePlus Pro should now expect to see the candidates codes, in alphanumeric form and in ranked order. In addition, optionally, bracketed information may be embedded in the rankings (e.g. "1) AA [1], BB [2] ...") For Cambridge and New York City, the bracketed data is the actual number the voter assigned to the candidate; this data is there for auditing purposes.

E.g.: ".BALLOT-FORMAT-FIELDS PRECINCT-NUM-ALPHA BALLOT-ID-ALPHA BALLOT-TOP-ALPHA RANKINGS-ALPHA", is the actual format for the Cambridge data in a 1991 recount.

E.g.: ".BALLOT-FORMAT-FIELDS BALLOT-VALUE RANKINGS-ALPHA", is the ballot format for a national group's elections at its conventions.

If desired, this capability can be expanded. Note that this command must be specified before any ballots are encountered.

7. OUTPUT FILES

ChoicePlus Pro produces eight or nine text output files for a normal (candidate) contest. These files are placed in the same directory as the primary input file. The eight files are named:

> "Ballot Allocation Report.txt"
> "Ballot Allocation Report (Delimited).txt"
> "Detail Report.txt"
> "Detail Report (Delimited).txt"
> "Final Piles Report.txt"
> "Statistics Report.txt" (optional)
> "Tabular Report (Delimited).txt"
> "Transfer Report.txt"
> "Transfer Report (Delimited).txt"

(remember that these names may be preceded with an contest identifying word)

The delimited files contain the data in a form that can be easily imported into most spreadsheet programs (Excel, Quattro Pro, Lotus 1-2-3, etc.) to facilitate the preparation of nicely formatted tables and charts. The character that delimits fields is a *pipe* ("|"). See the Question and Answer section below for a description of the process of importing into Excel.

The other files are just plain text files, that can be imported into any word processor for annotation and printing.

The Ballot Allocation Reports contain a list of all ballots ID's in order, showing where the ballot ended up. If the rules use fractional transfers, the report shows the exact fractional allocation of the ballot to each successful candidates (or to the exhausted pile).

The Detail Reports show round-by-round totals for each candidate and the number of transfers to and from each candidate each round. They also report as candidates are elected or defeated.

The Final Piles Report shows the same data as the Ballot Allocation Report, but organized by candidate instead of by ballot - that is, for each candidate it lists the ballots (or fractional allocations from ballots) that ended up in that candidate's pile. This is the file that is used as the starting point for a recount.

The Statistics Report shows voting depth and voter success. Voting depth shows how many voters cast empty ballots, how many cast ballots with just one candidate, how many with two candidates, etc. Voter success shows haow many voters elected their first choice candidate (or one of their first choice candidates if duplicate rankings are allowed), how many elected their second, but not their first choice, etc.

The Tabular Report (only in delimited form) gives an overview of the entire contest in one table, with one row per candidate and one column per round. The entries in the body show the count for that round for each candidate.

The Transfer Reports show the details of exactly which ballots (or fractions of ballots) were transferred each round and the source candidate and destination candidate of each transfer.

In addition, ChoicePlus Pro 2.1 creates an initial HTML page that describes the election and an additional HTML page for each round of the election. These files are named:

"Round.htm'
"Round1.htm"
etc.

(again, these names may be preceded with an contest identifying word)

A ballot measure contest produces just a single output file:

"Tally Report.txt"

containing the final tally of the opposing positions.

8. QUESTIONS AND ANSWERS

Q. How many votes can ChoicePlus Pro handle?

A. Whatever the memory of your computer will support. With the Java version each ballot needs about 2000 bytes, and the program about 10 megabytes. So a machine with sixty-four megabyte (64 MB) of RAM free can handle 30,000 ballots, and a 128 MB machine about 60,000 ballots, etc. Be sure to test it before using it, though! The program behaves fairly gracefully – as it is taxed too heavily it starts to use virtual memory more, disk activity increases, and it slows down.

Q. How quickly will the program work?

A. Very quickly. A small election (e.g. less than 500 votes), will be tallied in about 5 or 10 seconds. For a larger election (15,000 votes, on a machine with enough memory) it might take a couple of minutes. The majority of the time is spent in reading in the ballots. These times are on a 266 MHz Pentium II, so adjust your expectations accordingly.

Q. How do I import a delimited file into Excel?

A. Launch Excel and go to "File/Open" to get an "Open" dialog box. Under "Files of type" select "Text Files". Then navigate to and select the delimited report you wish to open. When you open it you should see the "Text Import Wizard". At Step 1 select an original data type of "delimited". At Step 2 select only "Other" under Delimiters and enter the pipe character ("|", usually over the backslash on most keyboards). At Step 3 select "Finish".

[This documentation last modified 7/23/01.]