

## eSTV Help

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Comments, bug reports, to [joe@datator.co.uk](mailto:joe@datator.co.uk)

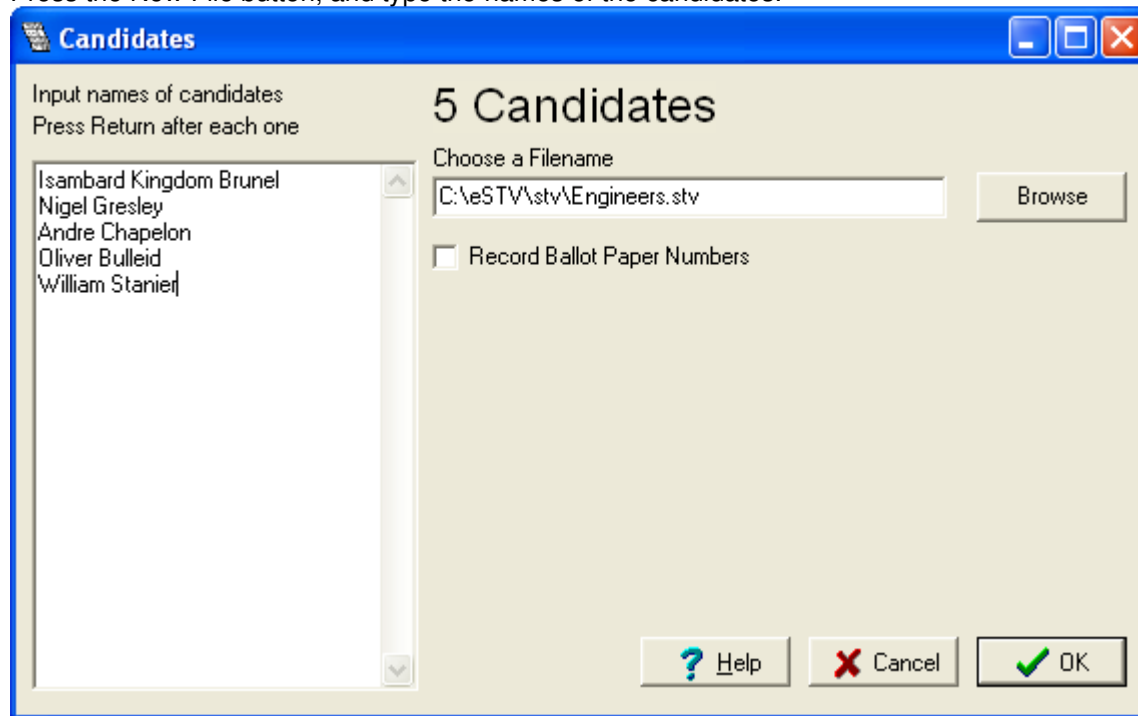
This software is available under a variety of licenses:

- By the Electoral Reform Society without charge, in order to promote the use and understanding of STV. It is limited in the number of candidates and votes that can be handled. For larger elections it is recommended that Electoral Reform Services be used <http://www.erbs.co.uk/>.
- Within the Church of England, modified to implement the church's particular STV rules
- Bespoke, for various requirements.

## Quick Start

### New file

Press the New File button, and type the names of the candidates.



Choose a filename for saving your election details in. Votes will be saved in another file as they are entered. Press OK.

Enter the Title of the election.

Press the 'Add Votes' button to begin entering votes.

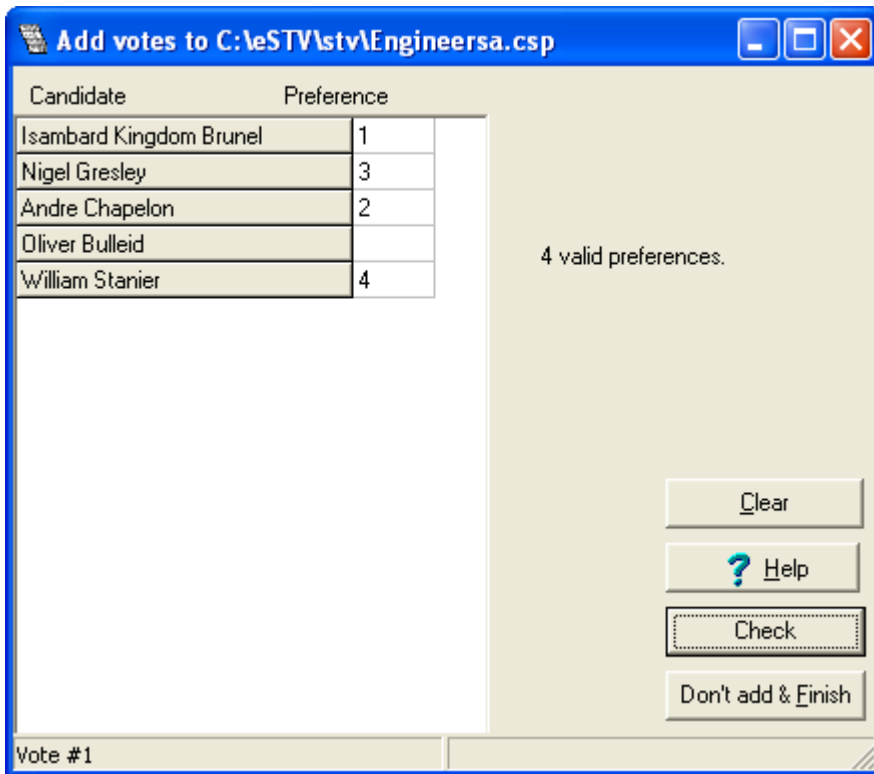
### Existing File

Open the file. If it is a control file, select the appropriate data file in the combo box.

If the "Add Votes" button is disabled, go to options and select "Allow Data Entry and Editing".

## Add Votes

In the next form, add preferences one by one in the spaces provided. It is easier to use the keyboard exclusively.



**TAB**, **ENTER** or **Down** to move from one candidate to the next; (done automatically if there are 9 or fewer candidates and "Fast entry mode..." is selected.)

**TAB** or **ENTER** to move from the last candidate to the Add - Next button;

**A** to move to the 'Add - Next' button while entering votes;

**ENTER** to press the 'Add - Next' button (when focused) or **TAB** to return to the ballot paper;

## Reverse Entry

If the reverse entry option is enabled, the 'Add - Next' button is replaced with a 'Check' button. On pressing this, the vote must be re-entered in reverse order, and 'Add - Next' now pressed.

## Invalid Votes

If a vote is invalid because there isn't exactly one first preference, or if it is partly invalid because other preferences are skipped or duplicated, a warning will appear when the user presses 'Add - Next' (Or 'Check' in Reverse Entry Mode). To cancel the warning and correct the vote, press 'Cancel'. To ignore the warning and proceed, press 'Ignore'.

Votes should be entered as cast, errors and all. The purpose of the warning is to guard against input errors that make a vote invalid, not to prevent invalid votes being entered at all.

## Finishing

Press "Don't Add - Finish" at any time to return to the main window without saving the current vote. You can return to add more votes at any time. Votes may also be edited in the editor.

## Performing the Count

To perform the count press the "Count" button.

A description of the progress of the count appears in the bottom left. The amount of detail in this description can be changed by adjusting the "Detail of Output" slider under Project Options.

A results sheet appears once the count is complete.

If there is a tie, a dialog box will appear asking you to select the candidate to be excluded (or the surplus to be transferred first). You should draw lots. Alternatively you may choose to have ties resolved pseudo-randomly by the computer, by pressing "Auto Tie-break" before starting the count. For Church of England elections, the Auto Tie-break option will be enabled by default and should be left on.

If a candidate withdraws, press the Withdrawals button before performing the count. You will be prompted to select the candidate(s) who have withdrawn.

When the calculations are complete, a results sheet will appear. If it is too large to fit on the screen, you can navigate with the scroll bars or the mouse wheel if you have one. (Roll the wheel to move right and left, or hold down the right mouse button and roll to move up and down.)

## Data File Formats

Recently used files appear under the file menu. Or press "Open" to open another existing file. For most purposes the user will only need to consider the Control File (\*.stv).

### Control Files IDH\_Control (\*.STV)

This format stores information about the election as well as the names of the data file(s).

Files can be loaded and saved by selecting the appropriate entry in the File menu. If you choose to save a control file, one will be created if it doesn't already exist.

Control files are always updated automatically whenever the information they contain is changed by the user.

### Ballot Paper files (\*.CSP)

Ballot papers are stored as comma separated preferences, with each file headed by the candidates names, for example:

```
"Joe Bloggs","John Smith","Jenny Jones"
1,2,
1,,
,2,1
```

In the above example, Bloggs has two first preferences and Jones has one.

Press the "Open File" button to get a dialog to open the data, or choose "Open" under the File Menu.

Whenever a vote is added, it is saved automatically in the data file.

If candidate names are misspelled, they can be corrected here. If there are multiple .csp files, they must be identical in each file.

### Data Transfer files (\*.DAT IDH\_DAT)

This format is for transporting data between different STV counting programs. It stores title, vacancies and withdrawal information. Unlike control files, DAT files are not updated automatically when these fields are changed. To save changes you must save the file.

## Saving Results

Data can be cut and pasted from the summary output into another application, and saved or printed from the file menu.

The results table can be manually saved as a .csv file if the default automatic saving is switched off.

It can be sent to a spreadsheet program.

The results table can be printed out directly, if necessary over multiple pages. Choose page

setupIDH\_PageSetup under the file menu to choose sizing options and see a print preview.

	Stage 2	Stage 3	Stage 4	Stage 5					
Surplus of	Exclusion of	Exclusion of	Exclusion of	Exclusion of					
nces Smith	Monk	Glazier	Wright						
134	-26.42	107.58	107.58	107.58					
105	+1.68	106.68	+2.00	108.68					
Prince	91	+0.63	91.63	+4.00	95.63	+2.84	98.47	+3.84	102.31
Freeman	90	+2.94	92.94	+1.00	93.94	+3.05	96.99	+2.63	99.62
Carpenter	81	+7.14	88.14	+0.21	88.35	+16.00	104.35	+18.00	122.35
Baron	64	+0.21	64.21		64.21	+1.63	65.84	+2.42	68.26
Abbot	59	+0.84	59.84	+5.00	64.84	+1.63	66.47	+0.63	67.10
Vicar	55	+0.21	55.21	+10.00	65.21	+2.26	67.47	+2.84	70.31
Wright	27	+5.25	32.25		32.25		32.25	-32.25	
Glazier	24	+6.51	30.51		30.51	-30.51	-		
Monk	23	+0.42	23.42	-23.42	-		-		
Non-transferable		+0.59	0.59	+1.21	1.80	+3.10	4.90	+1.89	6.79
Totals	753		753.00		753.00		753.00		753.00

## Project Options

Not all options are available in all versions

### General

**Allow Data Entry and Editing:** Check this box to allow editing of votes in the vote grid on the main form, and also to allow the addition of new votes by pressing the "Add Votes" button. See Adding VotesIDH\_Enter

**Detail of Output:** At the lowest setting, just the names of candidates elected will be reported. At the highest setting, the numbers and values of papers transferred at each stage will be reported. This setting can also be changed in the main application window if the "Detail" toolbar is made visible (Toolbars Menu).

**Use Reverse Checking on Entry:** Requires each ballot paper to be input twice, once forward and once in reverse, to reduce the risk of input error.

**Allow Repeated Attempts to Verify:** If this and 'Use Reverse Checking on Entry' are both checked, users may have multiple attempts to enter the ballot paper in reverse order. If this is unchecked then both forward and reverse entries must be repeated if there is a discrepancy.

**Detail of output:** Determines the quantity and detail of the count audit.

**Save Result Sheet:** If on, the result sheet will be saved automatically when the count is completed.

**File for Result Sheet:** File to which the result sheet will be automatically saved, if 'Save Result Sheet' is on.

### Rules

**Use Pseudo-random number generator to resolve ties:** If this box is checked, the computer will resolve any ties. The seed for the pseudo-random number generator is set using the system clock at the moment the "Calculate Results" button is pressed. This setting can also be changed in the main application window by pressing the "Auto Tie-break" button.

Always on for Church of England elections

## Advanced (Registered Version Only)

**Record Ballot Paper Numbers:** If the ballot paper's serial number is entered for each ballot paper, they will be checked for duplicates when the count is started.

**Show Result Sheet:** Uncheck this to suppress the result sheet.

## Withdrawals

Press this button to be prompted for candidates to withdraw. Withdrawn candidates will be passed over in allocating votes. Votes not going to a valid candidate will be counted as invalid and the quota reduced accordingly.

To select multiple candidates hold down the Ctrl button on the keyboard while clicking on the candidates.

## Using the Editor

The editor allows you to edit the votes in a data file. A backup of the unedited file is saved automatically, which you can restore by renaming the files in Windows Explorer.

Select the preference you wish to change using the mouse, and enter a new one using the keyboard.

Pressing Cancel will abandon any and all changes.

**Considerable care should be taken to ensure that edited votes are accurate.**

## File Management

A Control file contains a variety of information about an election. A typical file might look like this:

```
NCand=5
Vacancies=4
Title=My Election
Datafiles=4
Datafile1=MyBallot3a.csp
Datafile2=MyBallot3b.csp
Datafile3=MyBallot3c.csp
Datafile4=MyBallot3d.csp
Rules=ERS97
PseudoRandom=True
...
```

Although the format is readable, you should not edit the file directly. All the functionality necessary to make alterations to the file is built into the program.

When creating a new file, you will have the opportunity to create a Control File. If you decline, only candidates' names will be saved in the data file. If you agree, you will be able to create multiple data files - so that multiple operators can enter data simultaneously on different machines, or so that you can keep track of batches of papers. You can always add extra data files later.

If your control file is called "MyBallot6.stv", then by default the first/only data file will be named "MyBallot6a.csp", a second file called "MyBallot6b.csp", etc. Choose which of these files to add to or edit using the combo box below the "Edit Votes" button.

## Loading and Saving

When you load a Control File, all the associated data files are loaded automatically.

You can choose "Save Control File" at any time from the File menu to save Title, Vacancy and Options

information. You must explicitly save the Control File before quitting the application, or such information may be lost.

## Managing Data Files

Press the **Manage Files** button to access this feature.

Only files that are checked are used when results are calculated.

**Add New File** creates a new empty data file and associates it with the Control File.

**Locate File** recreates the association between an existing data file and the Control File, if the data file has been moved or renamed. You can use this to add a data file which has been created independently.

**Move/Rename** moves or renames a data file without breaking the association with the Control File.

**Delete File** deletes a data file and removes reference to it from the control file.

**Discard File** removes reference to a data file from the control file.

Checking and unchecking **Use absolute file paths** converts data file paths between absolute and relative.

## File being edited by another user. Only one user at a time may edit or add to one data file

This message appears if you try to enable editing of a data file when somebody else already has write access to that file.

If eSTV is not shut down properly (i.e. a computer crashes, or a user presses CTRL+ALT+DEL) then a file may not be released for editing. If this happens, delete the lock-file in Windows Explorer. It has the same name as the data file, but with a ~ at the end. (Eg the lock-file for MyBallot1a.csp is MyBallot1a.csp~)

## Casual Vacancies

**Ensure that data and results files are backed up before performing a casual vacancies count.**

Re-open the .stv file. **Save the .stv file under a new file name indicating the casual vacancies election**, go to Project Options and specify a new result file name. Then press 'Count'. You will be prompted to choose a count for casual vacancies and then given the opportunity to indicate which candidates have withdrawn.

You do not need to save copies of the .csp files as these are unchanged by the count.

## Constraints

Constraints are defined in terms of classes and categories. The classes represent the types of attribute on which a constraint may be applied, such as gender, age and geographic location. Within a class, the categories represent the groupings that candidates may belong to. For example

- Class: Gender; Categories: Male, Female
- Class: Geographic Location; Categories: England, Scotland, Wales

Press 'Add Constraint Class' to add a class. When a class is selected, you may press 'Add Category' to add a category.

Within each category, tick the candidates who belong to that category. Also define the Min and Max numbers of candidates that may be elected from that category. All candidates must belong to exactly one category in each class. You may therefore have to add an 'others' category in some classes, with a 0 minimum and a high maximum.

When you have finished, press 'Test Validity' to check that the information is consistent and that a compliant result is possible. You should already have specified the number of places to be filled at the election as this is

used in the validity test.