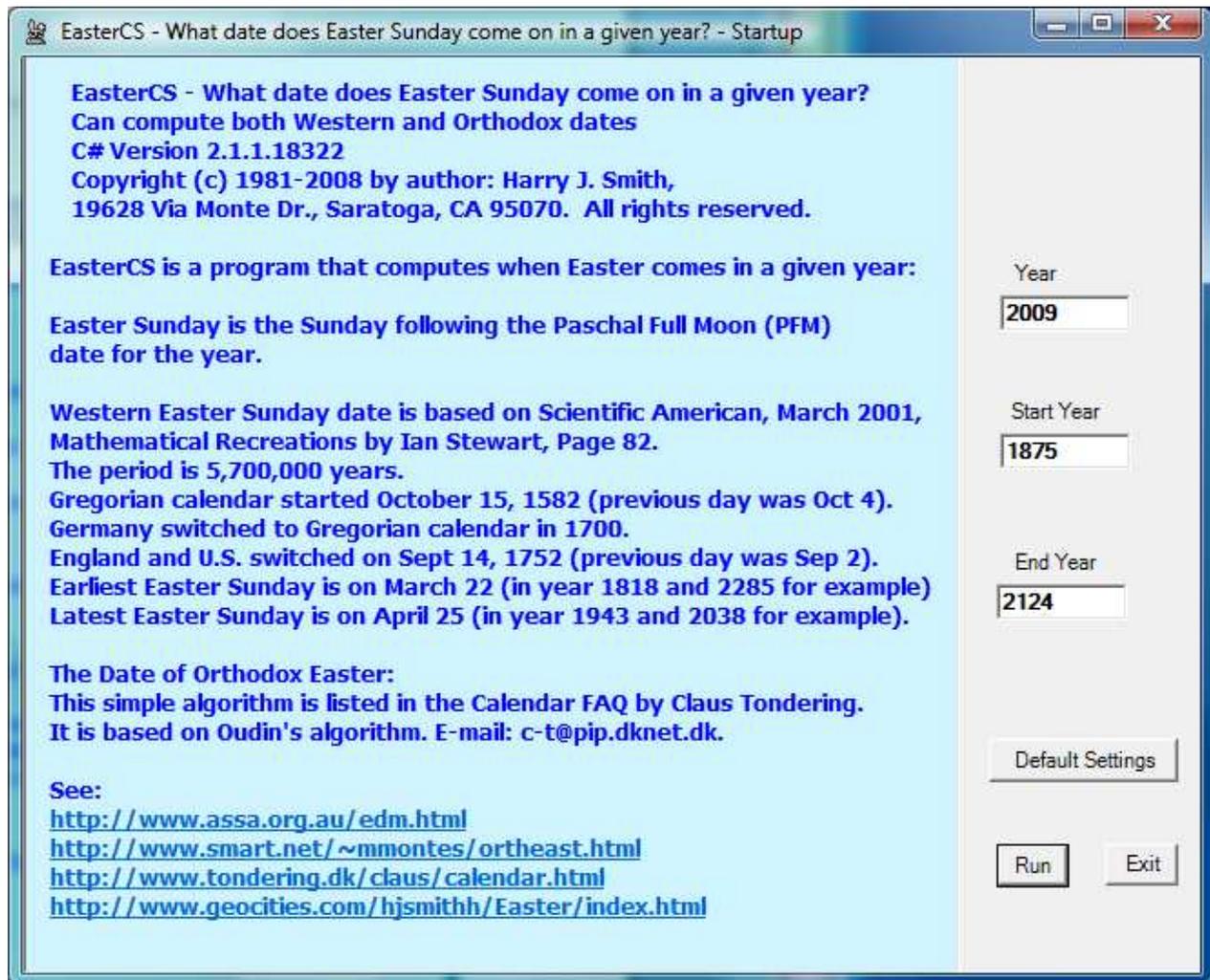This document applies to the C# Version **2.1.1.18322** of EasterCS,
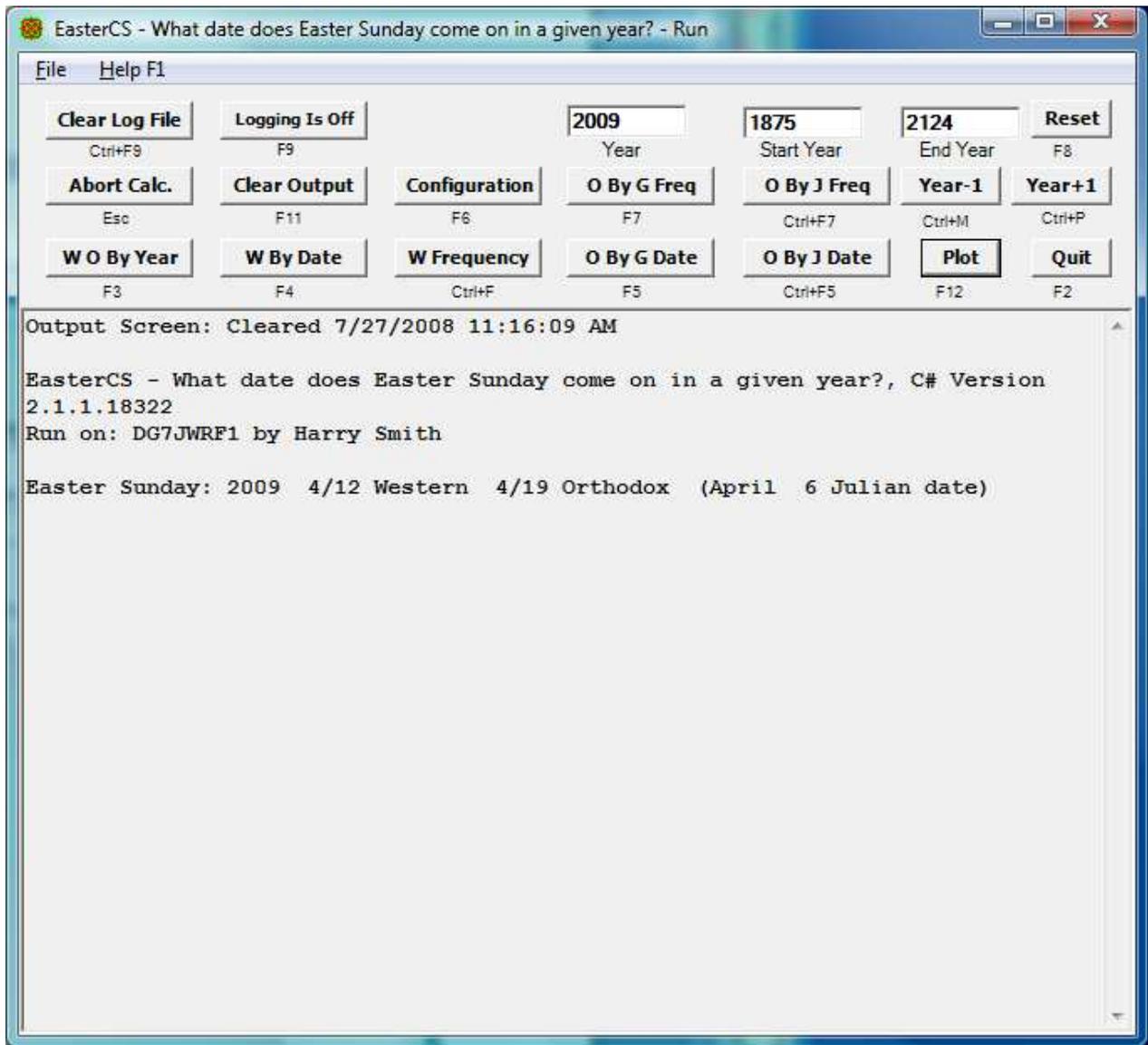Copyright (c) 1981-2008 by author: Harry J. Smith, Saratoga, CA.


Introduction -

When you execute the program EasterCS.exe it responds by displaying the Startup form:



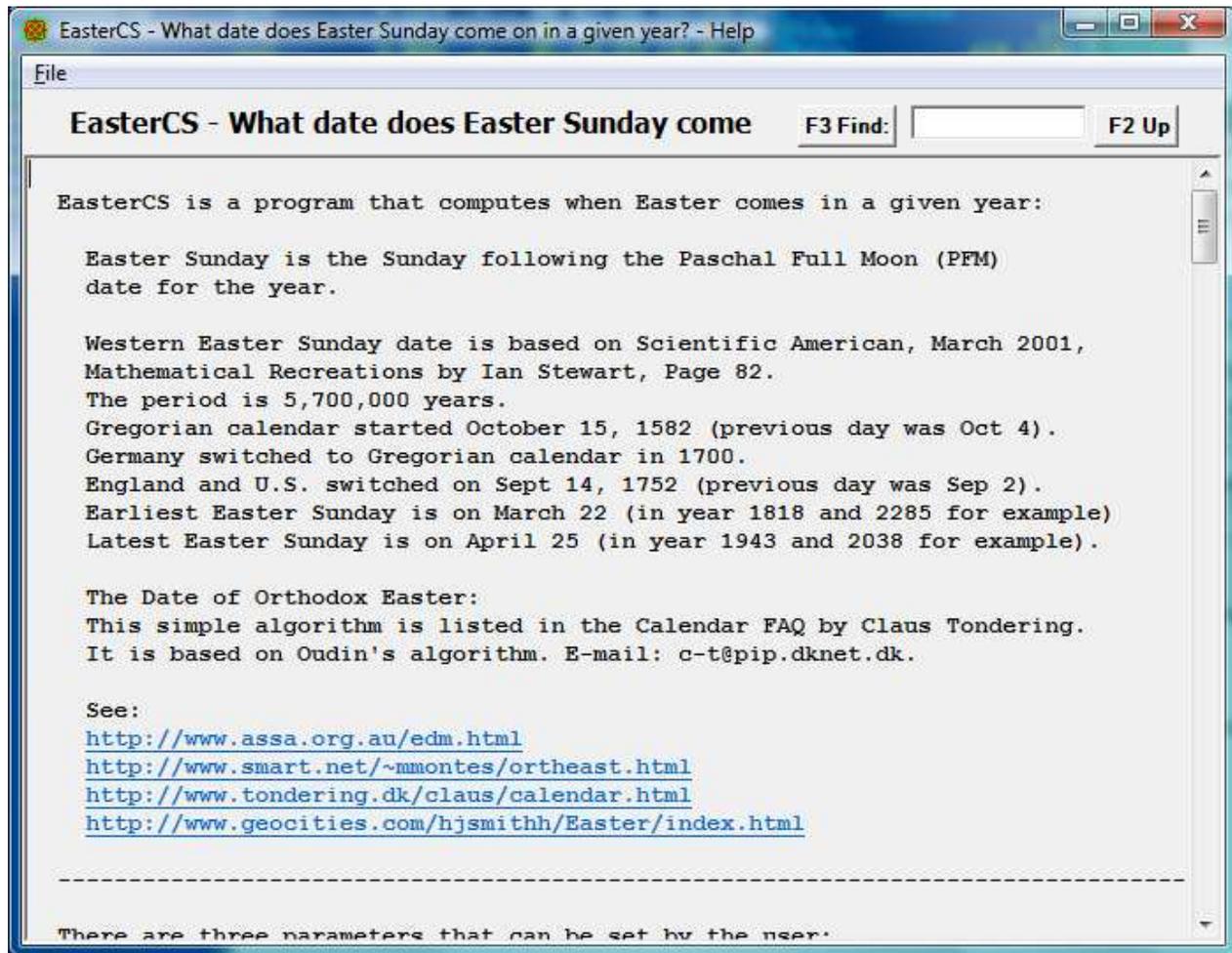Just click the Run button and the Run form is displayed.

Run form –

The Run form has one large text box for text output.

If the program is executed from the DOS prompt with one or more arguments, the first argument is used as the name of an EasterCS code file and the commands in the file are executed.

Pressing the Help F1 key causes the Help form to be displayed:

The Help form is scrollable and resizable. It helps explains what the program does.


EasterCS is a program that computes when Easter comes in a given year:

  Easter Sunday is the Sunday following the Paschal Full Moon (PFM)
  date for the year.

  Western Easter Sunday date is based on Scientific American, March 2001,
  Mathematical Recreations by Ian Stewart, Page 82.
  The period is 5,700,000 years.
  Gregorian calendar started October 15, 1582 (previous day was Oct 4).
  Germany switched to Gregorian calendar in 1700.
  England and U.S. switched on Sept 14, 1752 (previous day was Sep 2).
  Earliest Easter Sunday is on March 22 (in year 1818 and 2285 for example)
  Latest Easter Sunday is on April 25 (in year 1943 and 2038 for example).

  The Date of Orthodox Easter:
  This simple algorithm is listed in the Calendar FAQ by Claus Tondering.
  It is based on Oudin's algorithm. E-mail: c-t@pip.dknet.dk.

  See:
  http://www.assa.org.au/edm.html
  http://www.smart.net/~mmontes/ortheast.html
  http://www.tondering.dk/claus/calendar.html
  http://www.geocities.com/hjsmithh/Easter/index.html

-------------------------------------------------------------------------------

There are three parameters that can be set by the user:

Year - The year that will be displayed when the run form starts. It is also used by the Year-1 and Year+1 command buttons on the run form.

Start Year - The first year used when a list of dates are generated.

End Year - The last year used when a list of dates are generated.

These three parameters can be initially set on the Startup form and can be changed on the Run form. Their values are limited to be from 1 to 10,000,000.

-----------------------------------------------------------------------------

Command buttons -

There are 17 command buttons on the Run form:

  Clear Log File: Clears the log file. Same as Ctrl+F9 key.


  Logging Is On/Off: Toggle Logging to Log file on/off. Same as F9 key.


  Reset: Reset text boxes and display year. Same as F8 Key:

If any of the three text boxes, Year, Start Year, or End Year, has illegal values, they are reset to their previous good values. The dates for Year will be displayed in the output text box.


  Abort Calc.: Interrupt/Abort a long calculation. Same as ESC key.


  Clear Output: Clear output text box. Same as F11 key.


  Configuration: Display Configuration form. Same as F6 key:


  O By G Freq: Compute and display. Same as F7 key:

Gregorian Calendar, Frequency of Dates of Orthodox Easter
will be displayed for dates from Start Year to End Year.
For example:
Easter Sunday: 4/ 9  12 Times in 250 Years, 4.8 %


  O By J Freq: Compute and display. Same as Ctrl+F7 key:

Julian Calendar, Frequency of Dates of Orthodox Easter
will be displayed for dates from Start Year to End Year.
For example:
Easter Sunday: 4/ 6  11 Times in 250 Years, 4.4%


  Year-1: Compute for previous year. Same as Ctrl+M key:

The Year will be reduced by one and the dates for this Year will be
displayed in the output text box.

Year+1: Compute for next year. Same as Ctrl+P key:

The Year will be increased by one and the dates for this Year will be displayed
in the output text box.


    W O By Year: Compute and display. Same as F3 key:

Gregorian Calendar Easter dates for years Start Year to End Year
will be displayed.
For example:
Easter Sunday: 2009  4/12 Western  4/19 Orthodox  (April  6 Julian date)


    W By Date: Compute and display. Same as F4 key:

Gregorian Calendar Years when Western Easter falls on a given date
will be displayed for dates from Start Year to End Year.
For example:
3/31    1907 1918 1929 1991 2002 2013 2024 2086 2097


    W Frequency: Compute and display. Same as Ctrl+F key:

Gregorian Calendar, Frequency of Dates of Western Easter
will be displayed for dates from Start Year to End Year.
For example:
Easter Sunday: 4/10  11 Times in 250 Years, 4.4 %


    O By G Date: Compute and display. Same as F5 key:

Gregorian Calendar Years when Orthodox Easter falls on a given date
will be displayed for dates from Start Year to End Year.
For example:
4/19    1903 1914 1925 1987 1998 2009 2020 2071 2082 2093


    O By J Date: Compute and display. Same as Ctrl+F5 key:

Julian Calendar Years when Orthodox Easter falls on a given date
will be displayed for dates from Start Year to End Year.
For example:
 4/ 6    1903 1914 1925 1987 1998 2009 2020 2071 2082 2093 2104


    Plot: Brings up the Plot form and plot. Same as F12 key:

When the Plot form comes up it will display a plot of the last frequency
calculation W Frequency or O By J Freq. If these calculations have not yet been
made, the W Frequency is performed and then plotted.


    Quit: Quit and go back to the Startup form. Same as F2 Key:

If a calculation is running, indicated by the word **Running** displayed on the
Run form, when Quit is clicked or F2 is pressed; it is treated as an Abort
Calc. request, with the message:

        When **Running**, select Quit twice to quit


There are 9 command buttons on the Plot form:

W Frequency: Compute and display a plot:

This will use the current Start Year and End Year from the Rum form and perform a W Frequency on the Run form, then plot the results.


W Frequency 7600: Compute and display a plot:

This is the same as the W Frequency command button except the Start Year and End Year on the Run form are first changed to 1900 and 9499 respectively to produce a 7600 year report and plot.


W Frequency 5700000: Compute and display a plot:

This is the same as the W Frequency command button except the Start Year and End Year on the Run form are first changed to 1900 and 5701899 respectively to produce a 5700000 year report and plot.


Plot: Display a plot:

This will display a plot of the last frequency calculation W Frequency or O By J Freq performed on the Run Form or Plot form.


O By Freq: Compute and display a plot:

This will use the current Start Year and End Year from the Rum form and perform an O By Freq on the Run form, then plot the results.


O By Freq 7600: Compute and display a plot:

This is the same as the O By Freq command button except the Start Year and End Year on the Run form are first changed to 1900 and 9499 respectively to produce a 7600 year report and plot.


O By Freq 5700000: Compute and display a plot:

This is the same as the O By Freq command button except the Start Year and End Year on the Run form are first changed to 1900 and 5701899 respectively to produce a 5700000 year report and plot.


About: Display the About information:

About will bring up a dialog box with Application Title, Version, Application Description and URL to obtain the latest version of the program.


Exit: Close the Plot form and return to the Run form.


Notes about the numbers 7600 and 5700000:

Earlier programs use the table:

{ Easter falls on the first Sunday following the arbitrary Paschal Full Moon,
  which does not necessarily coincide with a real or astronomical full moon.
  The Paschal Full Moon is calculated by adding 1 to the remainder obtained

by dividing the year by 19 and applying the following table:

     1 - Apr. 14    6 - Apr. 18   11 - Mar. 25   16 - Mar. 30
     2 - Apr.  3    7 - Apr.  8   12 - Apr. 13   17 - Apr. 17
     3 - Mar. 23    8 - Mar. 28   13 - Apr.  2   18 - Apr.  7
     4 - Apr. 11    9 - Apr. 16   14 - Mar. 22   19 - Mar. 27
     5 - Mar. 31   10 - Apr.  5   15 - Apr. 10
}

But this table is only good for the years 1894 through 2203 (310 years).

Using this table causes Easter dates to have a period of 7600 years (19 * 400)
The true period is 5,700,000 years.


-------------------------------------------------------------------------------

            +-----------Function Keys on Run form-----------+
            |   F1  => Display Help form                     |
            |   F2  => Quit and go back to the Startup form  |
            |   F3  => Compute and display W O By Year       |
            |   F4  => Compute and display W By Date         |
            |   F5  => Compute and display O By G Date       |
            |   F6  => Display Configuration form            |
            |   F7  => Compute and display O By G Freq       |
            |   F8  => Reset text boxes and display year     |
            |   F9  => Toggle Logging to Log file on/off     |
            |   F11 => Clear output text box                 |
            |   F12 => Brings up the Plot form and plot      |
            |   Ctrl+F5 => Compute and display O By J Date   |
            |   Ctrl+F7 => Compute and display O By J Freq   |
            |   Ctrl+F9 => Clear Log File                    |
            |   Ctrl+F => Compute and display W Frequency    |
            |   Ctrl+M => Compute for previous year, year-1  |
            |   Ctrl+P => Compute for next year, year+1      |
            |   ESC => Interrupt/Abort a long calculation    |
            +------------------------------------------------+


-------------------------------------------------------------------------------


-Harry


About dialog box –
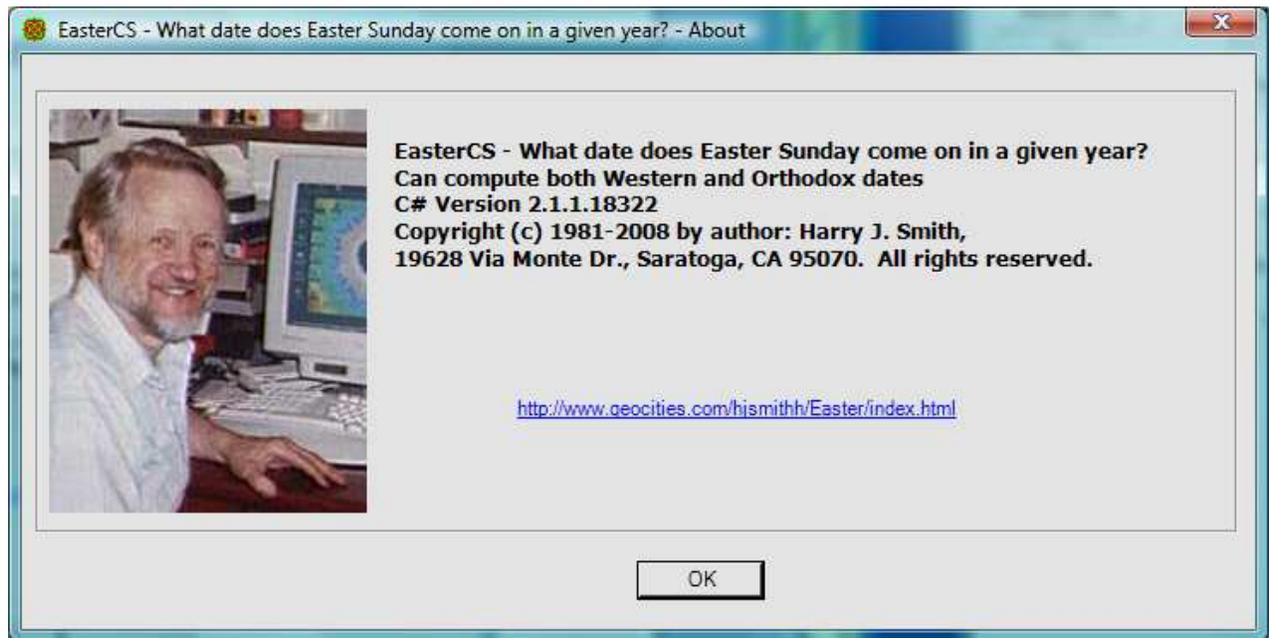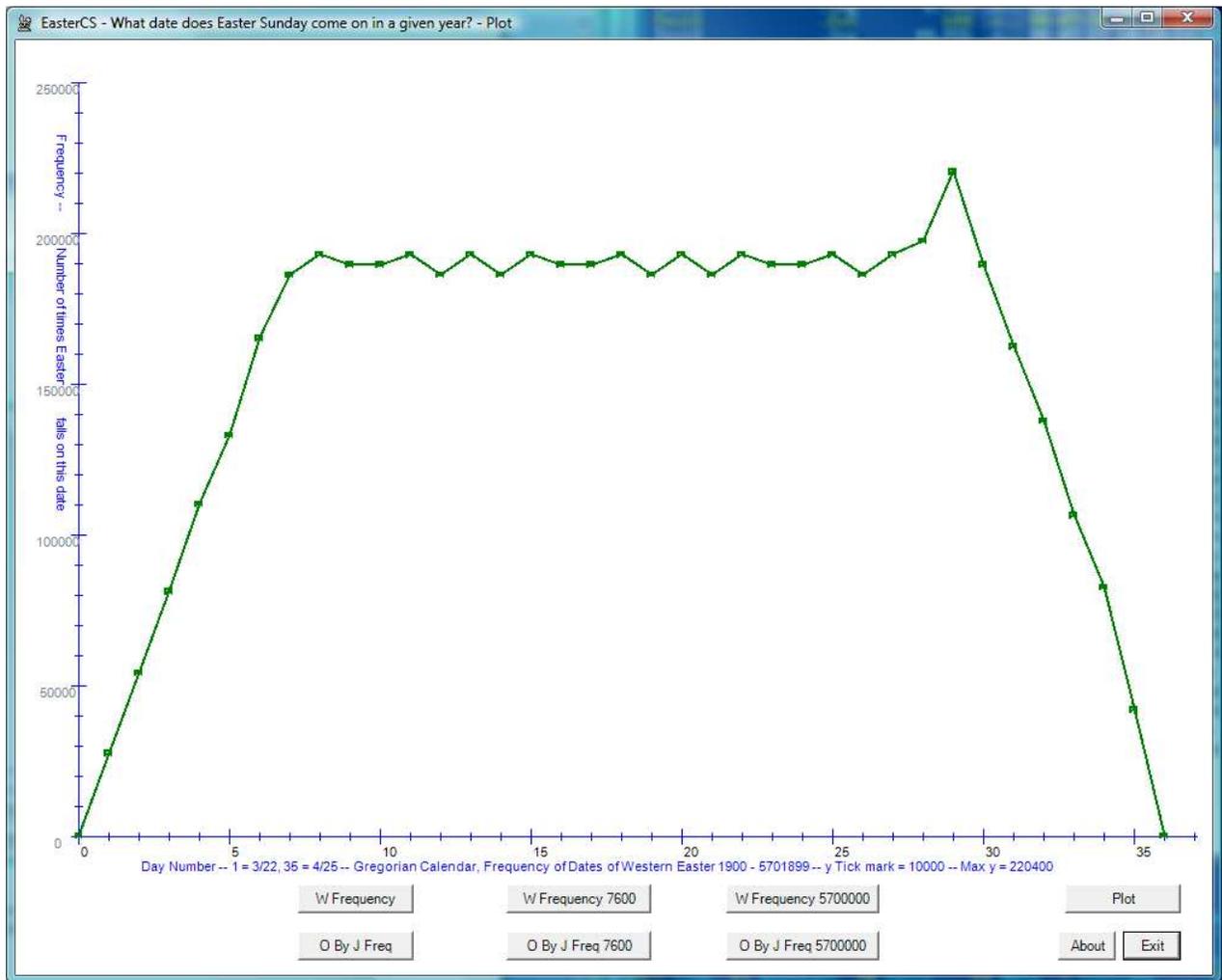
About will bring up a dialog box with Application Title, Version, Application
Description and a URL to obtain the latest version of the program:

Click the OK button, press Enter, or hit the escape button to remove this box.

Click the Plot button and the Plot form is displayed and a frequency calculation is plotted.

Plot form –

This is an example of the plot form plotting the case:
Gregorian Calendar, Frequency of Dates of Western Easter 1900 – 5701899


Messages and error reports -

There are several different messages and/or error reports that are a result of
user action (or conceivably an error in the EasterCS program):

EasterCS - What date does Easter Sunday come on in a given year?, C# Version
2.1.xxxx.xxxxx
Run on: <system name> by <user name>

Output Screen: Cleared mm/dd/yyyy hh:mm:ss am/pm

Manually aborted before list finished

When **Running**, select Quit twice to quit

Log file <file name> Opened for Append mm/dd/yyyy hh:mm:ss am/pm
Full name = <directory name>\<file name>

Log file <file name> Closed mm/dd/yyyy hh:mm:ss am/pm

File <file name> opened for writing
Full name = <directory name>\<file name>
Writing file <file name>

```
Log file <file name> Cleared mm/dd/yyyy hh:mm:ss am/pm
Full name = <directory name>\<file name>

File EasterCSHelp.txt opened for reading
Full name = <directory name>\EasterCSHelp.txt

Cannot open file EasterCSHelp.txt for input
Not in current directory <directory>
OpenRead: Could not find file <directory>\EasterCSHelp.txt'.

Cannot open <file name> for output
Full name = <directory name>\<file name>
OpenAppend: Access to the path '<directory name>\<file name>' is denied.
Aborting file write...

Cannot open <file name> for output
Full name = <directory name>\<file name>
OpenWrite: Access to the path '<directory name>\<file name>' is denied.
I/O operation aborted by operator!
Aborting file write...
```

Other forms –

Other forms that can be displayed to help in using the program are the Startup, Help, Configuration, Change File Path/Browse For Folder, Select a File, and Plot forms. On all forms except the Run form, pressing the ESC key will remove the form.


Startup form -

The Startup form is shown above and has three parameters that can be set before the program runs:

"Year" can be set to a value from 1 to 10000000 and it can be changed on the Run form. The nominal starting value is 2009.

"Start Year" can be set to a value from 1 to 10000000 and it can be changed on the Run form. The nominal starting value is 1875.

"End Year" can be set to a value from 1 to 10000000 and it can be changed on the Run form. The nominal starting value is 2124.

These three values are tested as they are edited. Zeros on the left or spaces on the left or right are removed so you will not see them. These numbers are displayed in bold face font iff they are acceptable values. If any of the three values are unacceptable, the Run button is disabled.

A "Default Settings" button is provided to reset the three parameters to their original values.

The Run button is used to bring up the Run form. It can be used after a Run form exits to reinitialize EasterCS and start running again. The Exit button will terminate the program.


Help form -

The Help form was shown and partially described above. It has a File menu button that has a menu with Print Setup, Print..., Print Preview and Exit. The Print Setup will bring up the Windows printer setup dialog box so you can select the printer to use. The Print... will start the printing process to start printing

the help file. This will normally bring up the printers dialog box. The Print Preview does just that, it can also be used for printing. The Exit does the same thing as pressing the escape key; the Help form is removed.

This form also has a "F3 Find:" button, a "F2 Up" button and a small text box for entering a string of characters to find. Pressing F3 is the same as clicking the "F3 Find:" button, the text in the small text box is searched for. Pressing F2 is the same as clicking the "F2 Up" button, same as F3 except the search is done from the current location towards the top of the large text box.

If during a find the text is not found, the sound from NotFound.wav is heard. If it is found, but only by starting over from the other end of the text, the sound from Wrap.wav is heard. This sound process uses the system file winmm.dll. If that file cannot be found, there will be no sound.
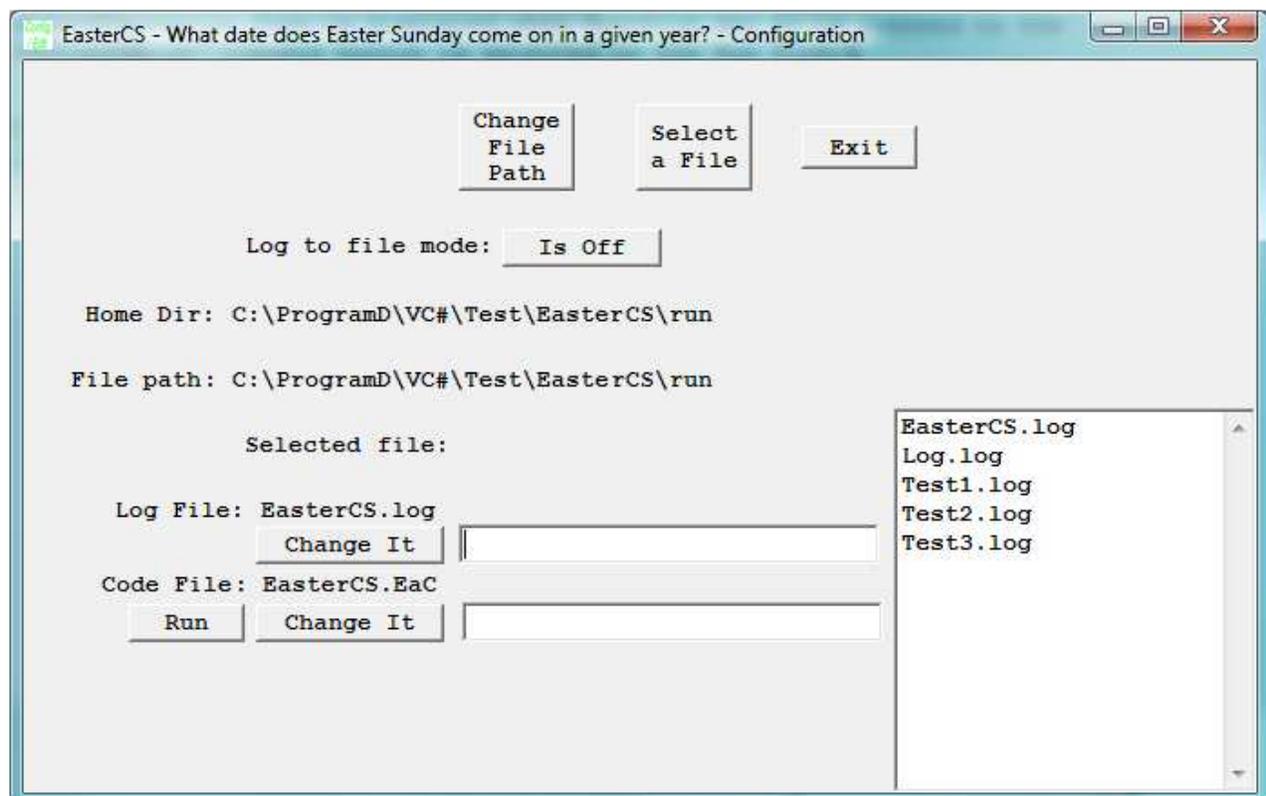
A short beep is also heard when the text is found. The beep is 277Hz = middle C# for a normal search and 554Hz one octave above for a search up. The beep process uses the system file kernel32.dll. If that file cannot be found, there will be no beep.

Text can be copied from the large text box to the small text box by selecting the text with the left mouse button and pressing Ctrl-F.

The Help form is unique in that more than one copy can be brought up at the same time. This may or not be useful, but it illustrates a technique in Windows programming.


Configuration form -

The Configuration form is displayed when function key F6 is pressed or the "Configuration" command button is selected on the Run form:



This form allows you to change:

```
        Log to file mode.
        Name of Log file.
        Name of Code file.
```

It also shows the Home Directory, File path, and the name of the log file if Log to file mode is on. The Browse For Folder form can be brought up by selecting the "Change File Path" command button, and the Select a file form can be brought up by selecting "Select a File" command button.

Clicking a "Change It" button when its text box is empty will bring up the current value. It can be edited, and a second click with the text box not empty will accept the entry. A space at the right or a Return/Enter key will also accept it.

The Log to file mode can be changed/toggled by clinking the corresponding button. If the mode is on, the button will says "Is On", then clicking it will turn the mode off and the button will change to "Is Off". If the mode is off, the button will says "Is Off", then clicking it will turn the mode on and the button will change to "Is On".

The Log to file mode and name of Log file interact in that if the file name is changed while a log file is open, the file name of the open file will not change until the log file is closed and reopened.

Clicking the "Run" button will cause the selected Code file to be read in and executed.
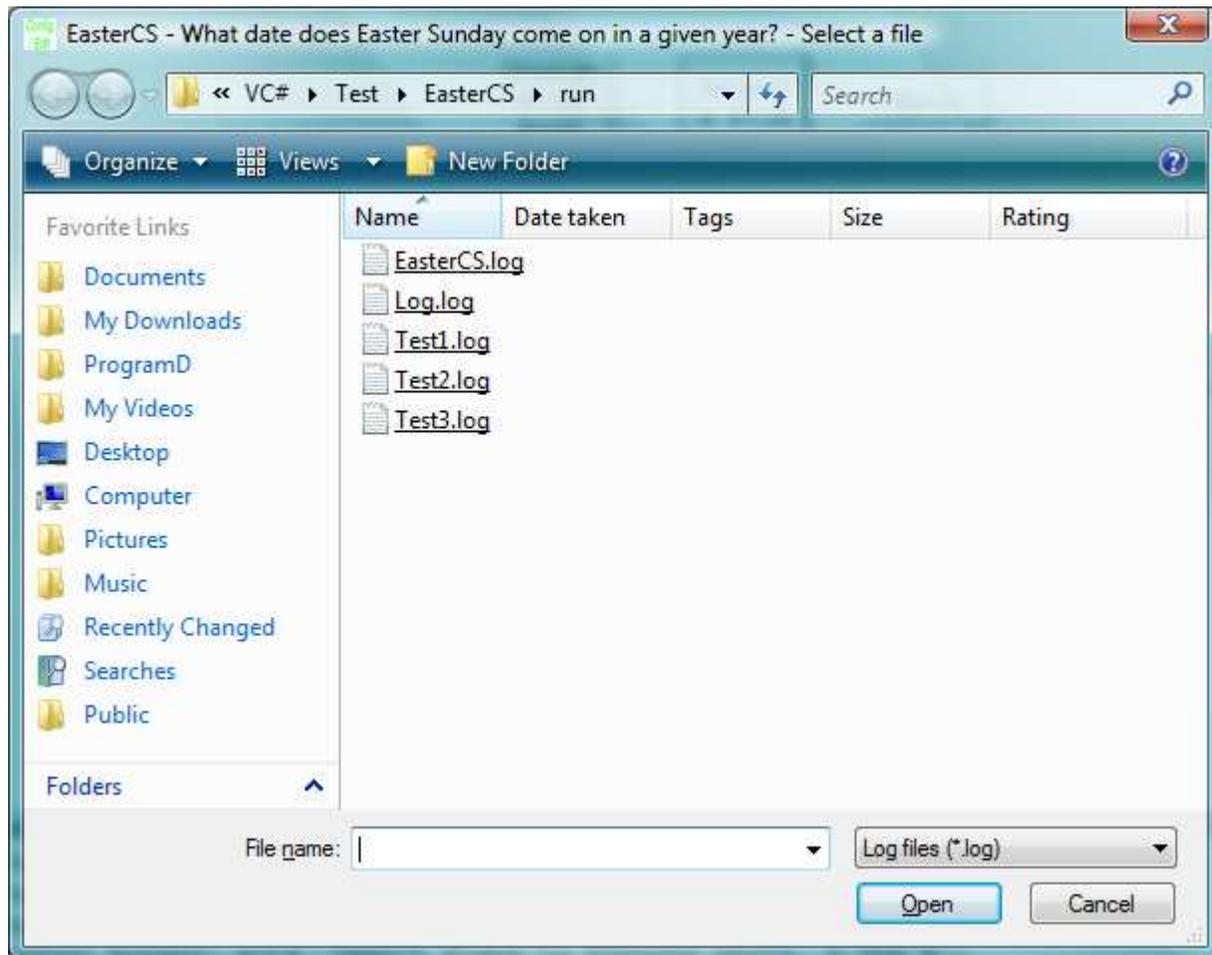

Browse For Folder form –

The Browse For Folder form is displayed when the "Change File Path" command button is selected on the Configuration form:

To change the current directory to be used for the Log file, use this form to select a path. This form is resizable as is the Run, Help, and Select a file forms.


Select a File form -

The Select a file form is displayed when the "Select a File" command button is selected on the Configuration form:



This provides a way to browse and select a file. If a file is selected, it can then be used to set a file name on the Configuration form by clicking the file name "Change It" buttons. The first click enters the file name in the text box and a second click will accept it. This form can also be used to change the file path.

The list box in the lower right hand corner of the Configuration form is a list of the files in the currently selected file path. The wild card selection for these files (*.log, or *.*) is the same as last used on the Select a file form.


Code Files –

Code files are Plain Text files that contain EasterCS code commands that can be executed by this program. The commands in the file are simple mnemonics and some are followed by a parameter:

Year=<year> :

Sets Year to <year>. For example Year=2008.


Year-1 :

Same as clicking Year-1 on the Run form.


Year+1 :

Same as clicking Year+1 on the Run form.


StartYear=<start year> :

Sets StartYear to <start year>. For example StartYear=2009.


EndYear==<end year> :

Sets EndYear to <end year>. For example EndYear=2019


WOByYear :

Same as clicking W O By Year on the Run form.


WByDate :

Same as clicking W By Date on the Run form.


WFreq :

Same as clicking W Frequency on the Run form.


OByGFreq :

Same as clicking O By G Freq on the Run form.


OByJFreq :

Same as clicking O By J Freq on the Run form.


OByGDate :

Same as clicking O By G Date on the Run form.


OByJDate :

Same as clicking O By J Date on the Run form.


LogOut("<file name>") :

Sets the name of the Log file. For example LogOut("EasterCS.log").

LogScreen(<0 or 1>) :

Same as clicking Logging is On/Off on the Run form, but a parameter of 0 turns
it off and a parameter of 1 turns it on. For example LogScreen(1) turns logging
on, LogScreen(0) turns it off.


ClearLog

Same as clicking Clear Log File on the Run form.


Exit :

Same as clicking Exit on the Run form File Menu. This will terminate the
program.


Example output -

Year=2008
Easter Sunday: 2008  3/23 Western  4/27 Orthodox  (April 14 Julian date)
 StartYear=2009
 EndYear=2019
 WOByYear

Gregorian Calendar Easter dates for years 2009 - 2019
Easter Sunday: 2009  4/12 Western  4/19 Orthodox  (April  6 Julian date)
Easter Sunday: 2010  4/ 4 Western  Same Orthodox  (March 22 Julian date)
Easter Sunday: 2011  4/24 Western  Same Orthodox  (April 11 Julian date)
Easter Sunday: 2012  4/ 8 Western  4/15 Orthodox  (April  2 Julian date)
Easter Sunday: 2013  3/31 Western  5/ 5 Orthodox  (April 22 Julian date)
Easter Sunday: 2014  4/20 Western  Same Orthodox  (April  7 Julian date)
Easter Sunday: 2015  4/ 5 Western  4/12 Orthodox  (March 30 Julian date)
Easter Sunday: 2016  3/27 Western  5/ 1 Orthodox  (April 18 Julian date)
Easter Sunday: 2017  4/16 Western  Same Orthodox  (April  3 Julian date)
Easter Sunday: 2018  4/ 1 Western  4/ 8 Orthodox  (March 26 Julian date)
Easter Sunday: 2019  4/21 Western  4/28 Orthodox  (April 15 Julian date)
Total years tabulated = 11

 WByDate

Gregorian Calendar
 Date    Years when Western Easter falls on a given date for years 2009 - 2019
 3/26    none
 3/27    2016
 3/28    none
 3/29    none
 3/30    none
 3/31    2013
 4/ 1    2018
 4/ 2    none
 4/ 3    none
 4/ 4    2010
 4/ 5    2015
 4/ 6    none
 4/ 7    none
 4/ 8    2012
 4/ 9    none
 4/10    none
 4/11    none

```
 4/12   2009
 4/13   none
 4/14   none
 4/15   none
 4/16   2017
 4/17   none
 4/18   none
 4/19   none
 4/20   2014
 4/21   2019
 4/22   none
 4/23   none
 4/24   2011
 4/25   none
Total years tabulated = 11

  WFreq

Gregorian Calendar, Frequency of Dates of Western Easter 2009 - 2019
Easter Sunday: 3/26  0 Times in 11 Years, 0 %
Easter Sunday: 3/27  1 Times in 11 Years, 9.090909 %
Easter Sunday: 3/28  0 Times in 11 Years, 0 %
Easter Sunday: 3/29  0 Times in 11 Years, 0 %
Easter Sunday: 3/30  0 Times in 11 Years, 0 %
Easter Sunday: 3/31  1 Times in 11 Years, 9.090909 %
Easter Sunday: 4/ 1  1 Times in 11 Years, 9.090909 %
Easter Sunday: 4/ 2  0 Times in 11 Years, 0 %
Easter Sunday: 4/ 3  0 Times in 11 Years, 0 %
Easter Sunday: 4/ 4  1 Times in 11 Years, 9.090909 %
Easter Sunday: 4/ 5  1 Times in 11 Years, 9.090909 %
Easter Sunday: 4/ 6  0 Times in 11 Years, 0 %
Easter Sunday: 4/ 7  0 Times in 11 Years, 0 %
Easter Sunday: 4/ 8  1 Times in 11 Years, 9.090909 %
Easter Sunday: 4/ 9  0 Times in 11 Years, 0 %
Easter Sunday: 4/10  0 Times in 11 Years, 0 %
Easter Sunday: 4/11  0 Times in 11 Years, 0 %
Easter Sunday: 4/12  1 Times in 11 Years, 9.090909 %
Easter Sunday: 4/13  0 Times in 11 Years, 0 %
Easter Sunday: 4/14  0 Times in 11 Years, 0 %
Easter Sunday: 4/15  0 Times in 11 Years, 0 %
Easter Sunday: 4/16  1 Times in 11 Years, 9.090909 %
Easter Sunday: 4/17  0 Times in 11 Years, 0 %
Easter Sunday: 4/18  0 Times in 11 Years, 0 %
Easter Sunday: 4/19  0 Times in 11 Years, 0 %
Easter Sunday: 4/20  1 Times in 11 Years, 9.090909 %
Easter Sunday: 4/21  1 Times in 11 Years, 9.090909 %
Easter Sunday: 4/22  0 Times in 11 Years, 0 %
Easter Sunday: 4/23  0 Times in 11 Years, 0 %
Easter Sunday: 4/24  1 Times in 11 Years, 9.090909 %
Easter Sunday: 4/25  0 Times in 11 Years, 0 %
Total years tabulated = 11

  OByGFreq

Gregorian Calendar, Frequency of Dates of Orthodox Easter 2009 - 2019
Easter Sunday: 4/ 3  0 Times in 11 Years, 0 %
Easter Sunday: 4/ 4  1 Times in 11 Years, 9.090909 %
Easter Sunday: 4/ 5  0 Times in 11 Years, 0 %
Easter Sunday: 4/ 6  0 Times in 11 Years, 0 %
Easter Sunday: 4/ 7  0 Times in 11 Years, 0 %
Easter Sunday: 4/ 8  1 Times in 11 Years, 9.090909 %
Easter Sunday: 4/ 9  0 Times in 11 Years, 0 %
Easter Sunday: 4/10  0 Times in 11 Years, 0 %
```

```
Easter Sunday: 4/11   0 Times in 11 Years, 0 %
Easter Sunday: 4/12   1 Times in 11 Years, 9.090909 %
Easter Sunday: 4/13   0 Times in 11 Years, 0 %
Easter Sunday: 4/14   0 Times in 11 Years, 0 %
Easter Sunday: 4/15   1 Times in 11 Years, 9.090909 %
Easter Sunday: 4/16   1 Times in 11 Years, 9.090909 %
Easter Sunday: 4/17   0 Times in 11 Years, 0 %
Easter Sunday: 4/18   0 Times in 11 Years, 0 %
Easter Sunday: 4/19   1 Times in 11 Years, 9.090909 %
Easter Sunday: 4/20   1 Times in 11 Years, 9.090909 %
Easter Sunday: 4/21   0 Times in 11 Years, 0 %
Easter Sunday: 4/22   0 Times in 11 Years, 0 %
Easter Sunday: 4/23   0 Times in 11 Years, 0 %
Easter Sunday: 4/24   1 Times in 11 Years, 9.090909 %
Easter Sunday: 4/25   0 Times in 11 Years, 0 %
Easter Sunday: 4/26   0 Times in 11 Years, 0 %
Easter Sunday: 4/27   0 Times in 11 Years, 0 %
Easter Sunday: 4/28   1 Times in 11 Years, 9.090909 %
Easter Sunday: 4/29   0 Times in 11 Years, 0 %
Easter Sunday: 4/30   0 Times in 11 Years, 0 %
Easter Sunday: 5/ 1   1 Times in 11 Years, 9.090909 %
Easter Sunday: 5/ 2   0 Times in 11 Years, 0 %
Easter Sunday: 5/ 3   0 Times in 11 Years, 0 %
Easter Sunday: 5/ 4   0 Times in 11 Years, 0 %
Easter Sunday: 5/ 5   1 Times in 11 Years, 9.090909 %
Easter Sunday: 5/ 6   0 Times in 11 Years, 0 %
Total years tabulated = 11

 OByJFreq

Julian Calendar, Frequency of Dates of Orthodox Easter 2009 - 2019
Easter Sunday: 3/21   0 Times in 11 Years, 0%
Easter Sunday: 3/22   1 Times in 11 Years, 9.090909%
Easter Sunday: 3/23   0 Times in 11 Years, 0%
Easter Sunday: 3/24   0 Times in 11 Years, 0%
Easter Sunday: 3/25   0 Times in 11 Years, 0%
Easter Sunday: 3/26   1 Times in 11 Years, 9.090909%
Easter Sunday: 3/27   0 Times in 11 Years, 0%
Easter Sunday: 3/28   0 Times in 11 Years, 0%
Easter Sunday: 3/29   0 Times in 11 Years, 0%
Easter Sunday: 3/30   1 Times in 11 Years, 9.090909%
Easter Sunday: 3/31   0 Times in 11 Years, 0%
Easter Sunday: 4/ 1   0 Times in 11 Years, 0%
Easter Sunday: 4/ 2   1 Times in 11 Years, 9.090909%
Easter Sunday: 4/ 3   1 Times in 11 Years, 9.090909%
Easter Sunday: 4/ 4   0 Times in 11 Years, 0%
Easter Sunday: 4/ 5   0 Times in 11 Years, 0%
Easter Sunday: 4/ 6   1 Times in 11 Years, 9.090909%
Easter Sunday: 4/ 7   1 Times in 11 Years, 9.090909%
Easter Sunday: 4/ 8   0 Times in 11 Years, 0%
Easter Sunday: 4/ 9   0 Times in 11 Years, 0%
Easter Sunday: 4/10   0 Times in 11 Years, 0%
Easter Sunday: 4/11   1 Times in 11 Years, 9.090909%
Easter Sunday: 4/12   0 Times in 11 Years, 0%
Easter Sunday: 4/13   0 Times in 11 Years, 0%
Easter Sunday: 4/14   0 Times in 11 Years, 0%
Easter Sunday: 4/15   1 Times in 11 Years, 9.090909%
Easter Sunday: 4/16   0 Times in 11 Years, 0%
Easter Sunday: 4/17   0 Times in 11 Years, 0%
Easter Sunday: 4/18   1 Times in 11 Years, 9.090909%
Easter Sunday: 4/19   0 Times in 11 Years, 0%
Easter Sunday: 4/20   0 Times in 11 Years, 0%
Easter Sunday: 4/21   0 Times in 11 Years, 0%
```

```
Easter Sunday: 4/22  1 Times in 11 Years, 9.090909%
Easter Sunday: 4/23  0 Times in 11 Years, 0%
Total years tabulated = 11

  OByGDate

Gregorian Calendar
 Date    Years when Orthodox Easter falls on a given date for years 2009 - 2019
 4/ 3    none
 4/ 4    2010
 4/ 5    none
 4/ 6    none
 4/ 7    none
 4/ 8    2018
 4/ 9    none
 4/10    none
 4/11    none
 4/12    2015
 4/13    none
 4/14    none
 4/15    2012
 4/16    2017
 4/17    none
 4/18    none
 4/19    2009
 4/20    2014
 4/21    none
 4/22    none
 4/23    none
 4/24    2011
 4/25    none
 4/26    none
 4/27    none
 4/28    2019
 4/29    none
 4/30    none
 5/ 1    2016
 5/ 2    none
 5/ 3    none
 5/ 4    none
 5/ 5    2013
 5/ 6    none
Total years tabulated = 11

  OByJDate

Julian Calendar
 Date    Years when Orthodox Easter falls on a given date for years 2009 - 2019
 3/21    none
 3/22    2010
 3/23    none
 3/24    none
 3/25    none
 3/26    2018
 3/27    none
 3/28    none
 3/29    none
 3/30    2015
 3/31    none
 4/ 1    none
 4/ 2    2012
 4/ 3    2017
 4/ 4    none
```

```
4/ 5    none
4/ 6    2009
4/ 7    2014
4/ 8    none
4/ 9    none
4/10    none
4/11    2011
4/12    none
4/13    none
4/14    none
4/15    2019
4/16    none
4/17    none
4/18    2016
4/19    none
4/20    none
4/21    none
4/22    2013
4/23    none
Total years tabulated = 11
```

Distribution files –

The distribution files can be downloaded from my website:

> http://www.geocities.com/hjsmithh/

in the **Files to Download** section

> http://www.geocities.com/hjsmithh/download.html#Easter .

When you install the program using the distribution file EasterCS21?.exe or EasterCS21?.zip, a folder is created with 3 subfolders:

```
├──EasterCS 2.1
│   ├──doc
│   ├──run
│   └──src
│
```

The main folder has two files sseexec.dat and SSEun.dat. These are needed to be able to uninstall the program

The doc subfolder has the following 4 files:

```
00.txt          (A short list of features)
EasterCS.doc    (Microsoft Word file)
EasterCS.txt    (Plain ASCII text copy of the .doc file without graphics)
Fixes.txt       (A list of features and fixes added to each version)
```

There is also available on my website a copy of the .doc file in an Adobe Acrobat Reader file EasterCS.pdf.

http://www.geocities.com/hjsmithh/Easter/index.html .

The run subfolder has the following files

```
00.txt
EasterCS.EaC
EasterCS.exe
EasterCS.log
EasterCSHelp.txt
Log.log
```

```
        NotFound.wav
        Test.Bat
        Test1.Bat
        Test1.EaC
        Test1.log
        Test2.EaC
        Test2.log
        Test3.EaC
        Test3.log
        Wrap.wav
```

The .exe file is executed from there.

The src subfolder has all the source files needed for development:

```
        00Note.txt
        AboutForm.cs
        AboutForm.resx
        AssemblyInfo.cs
        Common.cs
        ConfigEdit.ico
        ConfigForm.cs
        ConfigForm.resx
        COPYING.txt
        cs.ico
        EasterCS.cs
        EasterCS.csproj
        EasterCS.ico
        EasterCS.sln
        EasterCS.suo
        EasterCS.csproj.user
        Global.cs
        harry.jpg
        HelpForm.cs
        HelpForm.resx
        PlotControl.cs
        PlotControl.resx
        PlotForm.cs
        PlotForm.resx
        RunForm.cs
        RunForm.resx
        StartupForm.cs
        StartupForm.resx
```

The end -

Report any errors by sending me a letter, an e-mail or call me at my home phone.

-Harry

Harry J. Smith
19628 Via Monte Dr.
Saratoga, CA 95070-4522, USA

Home Phone:  1 408 741-0406
E-mail:  hjsmithh@sbcglobal.net
Website:   http://www.geocities.com/hjsmithh/