

TIMECODE LOG CALCULATOR

USER NOTES

Timecode Logger.xls is a manual-entry logging and calculation tool designed for use in video production environments. It contains time saving features such as automatic time-colon entry, calculated Scene/TRT durations in both *hh:mm:ss:ff* and *frames* as well as error detection routines that flag negative durations, invalid frames and missing data. The tool exports data to printers and/or an XML file and is delivered with sample data to illustrate typical data entry conventions. This file is best viewed on a monitor running in 1024 x 768 pixel display mode.

Excel Requirement

Users of this file are assumed to have some operational familiarity with the Excel product.

The file must run in Excel. It was designed, tested and debugged in Excel 2003 SP3 running on a Windows XP Pro SP3 platform. Its forward, backward and lateral compatibility with other versions of Excel and/or other OS platforms has not been verified, although experience with other files built in Excel 2003 has typically demonstrated acceptable performance for *most* features on Excel versions one step (forward or backward) removed from the 2003 version. One documented feature that is *not* backward compatible is the **XML Export** procedure - it is inoperable in *Excel 97* as that product does not support the XML standard.

VB Code / Macros

The file contains VB (Visual Basic) code, commonly identified in Excel as *Macros*, to carry out numerous procedural tasks. Users must set the *Macro Security Level* of their Excel application to *Medium* - and answer *Enable Macros* at the Security Warning when opening the file - in order to take advantage of the features provided by the VB code. For help on setting Excel's Macro Security Level, enter *macro security* in Excel Help and read the instructions under *Change the security level for macro virus protection* (or similar article descriptor).

Password Protected / Read Only / Cells Locked

To avoid accidental erasure of critical formulas, the file is delivered (a) password protected, (b) in Read Only mode, (c) with cells locked that are not dedicated to user-entry and (d) with the worksheet protected. To preserve user-entered data, it is intended that Excel's *File | Save as...* menu option be used to save new copies of the original file to a new filename. New copies do not inherit the Password protection of the original file. If it is absolutely, positively necessary to use the original file's Password, it is *logger2open*.

Tabs

This file contains three tabs: **TC LOG** (on which user data entry is performed), **XML EXPORT** (on which *TC LOG* data is mirrored for application of XSD schema and XML export) and **USER NOTES** (you are reading them now). Users can expect to spend virtually all of their time on the *TC LOG* tab. The *XML EXPORT* tab should never be used for data entry of any kind nor should its XML mapping schema (ProjectData_map) be altered.

Sample Data

The file is delivered with sample data occupying user-entry cells between C2:E8 and A10:L32. The sample data is intended to familiarize users with data entry conventions they may wish to employ with their own data. Sample data may be removed by clicking the *Clear Data* button near the top right of the *TC LOG* worksheet. Once sample (or user!) data has been removed by the *Clear Data* feature, it cannot be restored with procedures such as Undo / Ctrl+Z. Provided it is not overwritten, the original *Timecode Logger.xls* file can

be reopened and will contain the sample data with which the file was originally delivered.

Data Entry

Workflow operates one row at a time, moving left to right. Do not skip rows. Excel navigates from cell to cell, one column to the next, by pressing the TAB key. Tab movements skip over locked cells not intended for user entry. Before beginning data entry, enter **Reel No.**, **Unique ID**, **Media Location**, **Job Title**, **Data Logged By** and **Data Logged Date** information in cells C2:C7. Verify the **Frames Per Second** value in cell C8 (see later discussion of *Frame Rate*) and enter **Format** and **Aspect** data in E7:E8. Begin Item-by-Item data entry at cell C10 - shortcut keys to access this cell from anywhere on the spreadsheet are *Ctrl+Shift+H*.

1. The **Reel No.** in column A automatically inherits the *Reel No.* from C2 whenever *Description* data for a row is entered in column C.
2. The **Item No.** in column B automatically initiates a count whenever data appears in a row's *Reel No.* column.
3. The *Description* field at column C typically contains user entered data describing an Item's context ("Brooklyn Bridge Curbside", "Brooklyn Bridge B Roll"). Cell height in this field - and fields in columns A, D and E - expands to accommodate extended data input.
4. The *Scene* field at column D typically contains user entered data on content ("MS Celebrity arrives in car", "B Roll WS City skyline").
5. The **Log Note** field at column E typically contains user entered data on shoot location, shoot date, lighting conditions, audio matters, performance grading, etc.
6. The **Mark-In / hh:mm:ss** field at column F contains user entry of the 6 numbers - without colons - corresponding to the Item's timecode. Colons are added automatically on conclusion of numeric entry. Warning messages display if invalid entries are detected.
7. The **Mark-In / fr** field at column G contains user entry of the number of frames corresponding to the Item's timecode. The field will automatically enter leading zeros for single digit entries (0 will become 00, 7 will become 07, etc).
8. The **Mark-Out / hh:mm:ss** and **Mark-Out / fr** cells store user numeric entry in the same fashion as the *Mark-In* cells.
9. As numeric data is entered to the *Mark-In* and *Mark-Out* fields, both row **Durations** (*hh:mm:ss fr* Cols J:K and **Frames** Col L) and the **Total Run Time** box at the top of the worksheet recalculate to display current values (assumes Excel Calculation Options are set to *Automatic Calculation*).

Frame Rate

A rudimentary way to work in NTSC/ATSC or PAL is provided in cell C8, in which Frames Per Second are selected. All calculations in the file use this value and, if modified, users will see an immediate change in calculated values. The FPS feature isn't highly sophisticated, it merely causes calculated hh:mm:ss values to vary the seconds value when the number of frames exceeds 29 (for NTSC/ATSC) or 24 (for PAL). The drop down list value in cell C8 for NTSC/ATSC is 30. For PAL it's 25. No need for values such as 29.97 or 23.98 - while they would work, the calculations don't actually split hairs that fine. And the file does not make allowances for DF or NDF.

Calculated 1 Frame Results

When the In and Out Marks for an Item are the same (that is, they have the same hh:mm:ss fr), formulas calculate a Duration of 1 frame. This may seem counter intuitive but the results are consistent with behaviors observed in NLE systems such as Final Cut Pro. When In and Out Marks for an Item are *not* the same, formulas suppress the phantom 1 frame calculation.

Total Run Time

The *Total Run Time* box at the top right of the worksheet recalculates *hh:mm:ss fr* and total **Frames** in real time to display current values from user data input (assumes Excel Calculation Options are set to *Automatic Calculation*).

Data Validation

The file contains a number of data validation routines within the TC LOG tab to help assure calculation and information integrity.

1. If a value exists on any row of the **Duration hh:mm:ss** column (J10:J84) and a **Reel No. , Job Title , Data Logged By , Data Logged Date , Format or Aspect** cell is empty (C2:E8), the empty cell will highlight red to remind the user to enter the missing data.
2. If a **Mark-In** entry for **hh:mm:ss** is less than its corresponding **Mark-Out** value, the **Duration hh:mm:ss** will display in red.
3. If a frame entry in a hh:mm:ss fr string contains a frame value inconsistent with the Frames Per Second value in C8, the fr cell containing the invalid frames value will display red. Values in **Duration** and **Total Run Time** cells may also display red or return a #NUM! error, depending upon their calculated sums. Using the sample data, change C8 from 30 to 25 and observe the validation warnings that will populate the data.
4. If a **Mark-In** or **Mark-Out** entry for **hh:mm:ss** does not contain 6 numeric characters and/or contains non-numeric characters an **Invalid Input!** message box will display describing the invalid input and the entry will be purged allowing the user to regroup and try again.
5. If the number of rows containing data on the TC LOG tab **exceeds** the number of mirrored data rows on the XML EXPORT tab, a message box appears during XML Export warning the user of this condition. An additional warning appears in XML EXPORT cell G5 to "Add [##] rows of formulae to this tab". Read the paragraph on **Extending the Spreadsheet** at the end of these User Notes and contact the author when modifications to formulas are required to correct the *Message Box* and *Add Formulae* warnings.

Formatting

Cells within the TC LOG worksheet are configured to a variety of specific formats so as to allow for calculation validity, background VB code processing and to provide for display integrity. Hidden cells are also present. Users should refrain from making alterations to cell formatting.

Print Log

The *Print Log* button near the upper right of the TC LOG worksheet opens a print preview display from which the user can select a Printer and print options. If the print preview is canceled, no output will be sent to the printer. Previews and printouts from this button will contain only those cells in which relevant data has been entered and empty rows will be suppressed.

Export XML

An XML file is a widely accepted data interchange format that allows information systems running in virtually any application on virtually any operating system to share structured data. XML - derived from the term *eXtensible Markup Language* - adheres to a free open standard recommended by the World Wide Web Consortium (W3C). The recommendation contains lexical grammar and parsing requirements. The *Export XML* button near the upper right of the TC LOG worksheet allows the user to export an XML file containing all data on the TC LOG worksheet. Two dialogue boxes display, the first asking for the XML filename and the second confirming the directory path to which the XML file was saved. An ".xml" extension will automatically be appended to a user-entered filename for which no extension was defined, all spaces (if any) in a filename will be replaced by underscores ("_") and uppercase characters (if any) will be converted to lowercase. By default, the XML file is saved to the current worksheet's directory. If the specified XML filename already exists, the export is suspended and a message box displays to alert the user. Once an XML file is saved to the current worksheet's directory, the user can manually copy or move the XML file to other locations. Element tags in the XML file replicate a number of common Final Cut Pro tags, though TC LOG tags are fewer in quantity and have a different hierarchy as compared to FCP. Also, because Excel does not support the concept of *frames* in time calculations, the XML file timecode strings *omit* all numerals pertaining to frames. **Note:** The XML export feature is inoperable in *Excel 97* as that product does not support the XML standard. Attempts to run *Export XML* in *Excel 97* will generate an Error No.438 message.

Clear Data

Sample or user data may be removed from the file by clicking the *Clear Data* button near the top right of the TC LOG worksheet. A warning message will display offering the user the options to proceed with or abort the *Clear Data* process. *Clear Data* removes *all* sample or user entered data from the file. Once data been removed by the *Clear Data* feature, it cannot be restored with procedures such as Undo /

Ctrl+Z. Provided a file has been saved at some point prior to an unintentional *Clear Data* purge, data up to the point of the previous save can be restored by closing (not saving!) the current file then reopening the same file - however any data input subsequent to the prior save will be lost.

Extending the Spreadsheet

As delivered, the TC LOG worksheet provides for 75 rows of data entry. Because certain row and column data is embedded in VB code, extending the file to accommodate additional rows and/or columns is more complex than simply invoking Excel's Copy Down or Copy Right features. Please contact the author at the email addresses below for extended versions of this file.

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Elements of this file have been adapted from open source work developed by: Scott Taylor ©2004 / Prototek Corporation and John Lacher ©2000 / John F. Lacher Associates.