ARRI

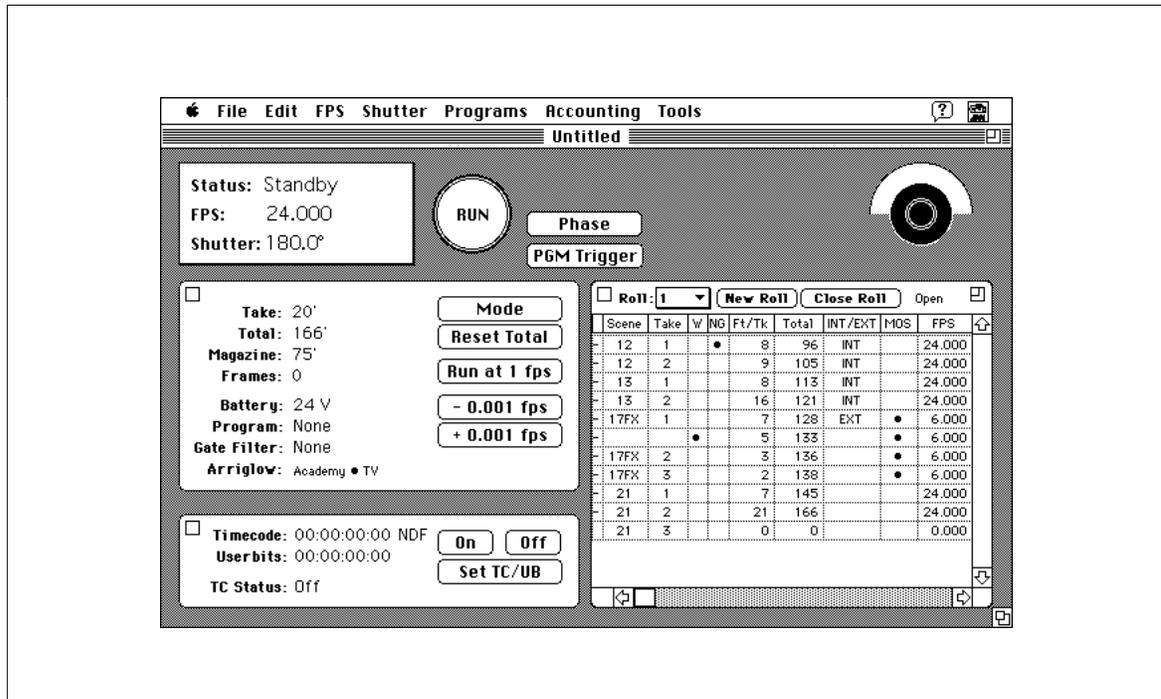**LCC Basics**

ARRI Laptop Camera Controller

The Arriflex LCC (Laptop Camera Controller) is a software program that allows the camera assistant to control the Arriflex 535, 535B, 435, and 16SR 3 from a Laptop computer. Through an easy to use graphical interface, the user can access all camera status information, change camera settings and keep film inventory logs and camera reports.

The LCC allows for an unprecedented amount of control over the camera, including such advanced features as multiple step speed/exposure ramps, frame accurate rewinding or fast forwarding, and running the camera at the speed of 1 fps and at negative speeds, depending on the camera used.

Display/Control Features.
  • The Main Screen (see graphic) displays all camera status information and basic control buttons.
  • Customizable pulldown menus allow the user to change fps, shutter angle and Arriglow settings.
  • Multiple step speed/exposure ramps can be created and stored. The LCC assists the user by automatically calculating relevant shutter angles, fps range and T-stop compensation and by displaying screentime and footage needed. Cameras without an electronic mirror shutter can still use the full power of speed/exposure ramps when used with the Arriflex ICU (Iris Control Unit).
  • The *Go to...* feature allows for rewinding (or running forward) to any frame on a roll of film.
  • Setting of Timecode and Camera Preferences is simplified.
  • Extensive help screens and alerts keep the user informed on all aspects of camera operation.

Accounting Features
  • Through the *Received*, *Available*, and *Exposed Film Log*s all film that passes through the camera persons' hands can be accurately accounted for.
  • Information (i.e. fps, shutter angle, length of exposed take, total footage shot) can be entered in completely customizable *Camera Reports* either automatically by the camera or manually by the user.
  • *Camera Reports* can be printed, faxed, sent by modem and/or exported for use in post production.
  • The *Daily Film Report* lists all footages used during the day sorted by emulsion.

2. The Main Screen

Basic Status Field   Basic Control Buttons   Shutter Icon
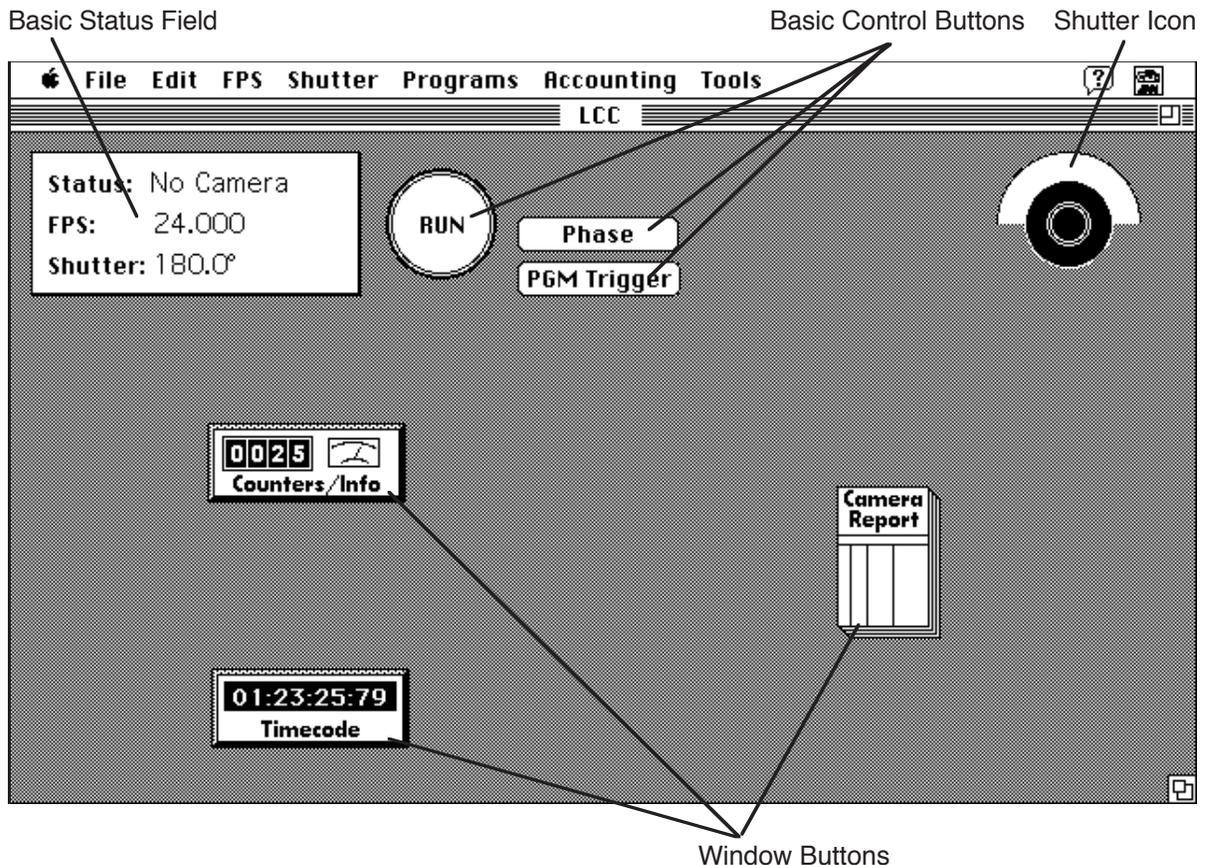
Window Buttons

The Main Screen allows the user to read the status of the camera and to control its features. Clicking on one of the *Window Buttons* will open up the respective window.

The Basic Status Field

The *Basic Status Field* shows the three most important pieces of information: the status of the camera, the fps value and the shutter opening. In addition the LCC will indicate an active speed/exposure ramp and show ramp status information during an external ramp.

The Basic Control Buttons

Clicking once on the *Run* button will start the camera, clicking again will stop it.
The "~" key can also be used to start and stop the camera. This key will function at any time. The Start/Stop button on the camera can of course also be used. Regardless of how the camera is started, the LCC will know when the camera is running.

The *Phase* button on the LCC performs the same functions as the PHASE button on the camera.

The *PGM Trigger* button will trigger a pre-programmed speed or speed/shutter change. These programs can be created, edited and activated by using the commands in the *Programs* menu.

The Shutter Icon

When connected to a 535 or 435ES, the *Shutter* icon will show the shutter opening. The shutter angle for the 535B and 16SR 3 will only be displayed as long as the camera is running at 1 fps (PHASE). At any other speed, the shutter icon will look as if it was completely closed. The *Shutter* icon will rotate when the camera is running.

The Counters/Info Window   The Timecode Window   The Small Camera Report Window
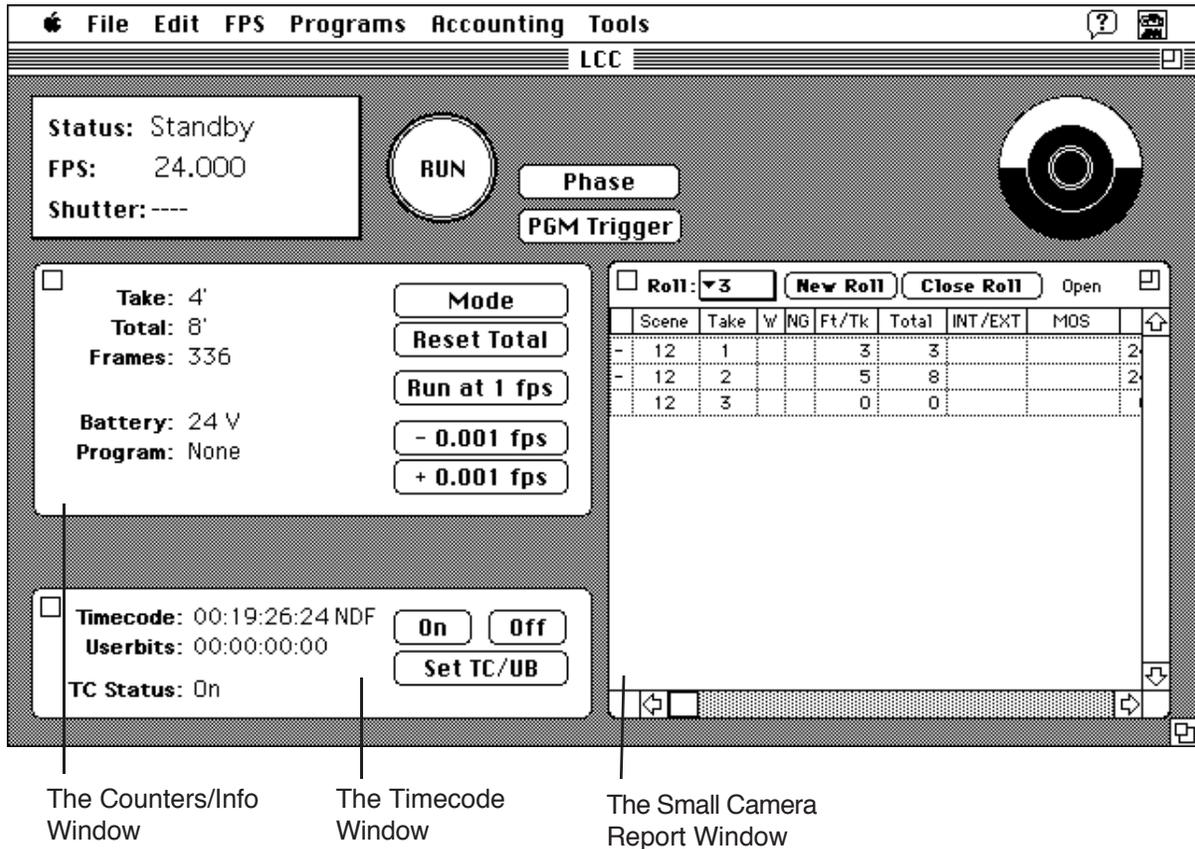
Clicking on any of the Window buttons will open the respective window. These windows contain additional status information and advanced control capabilities.
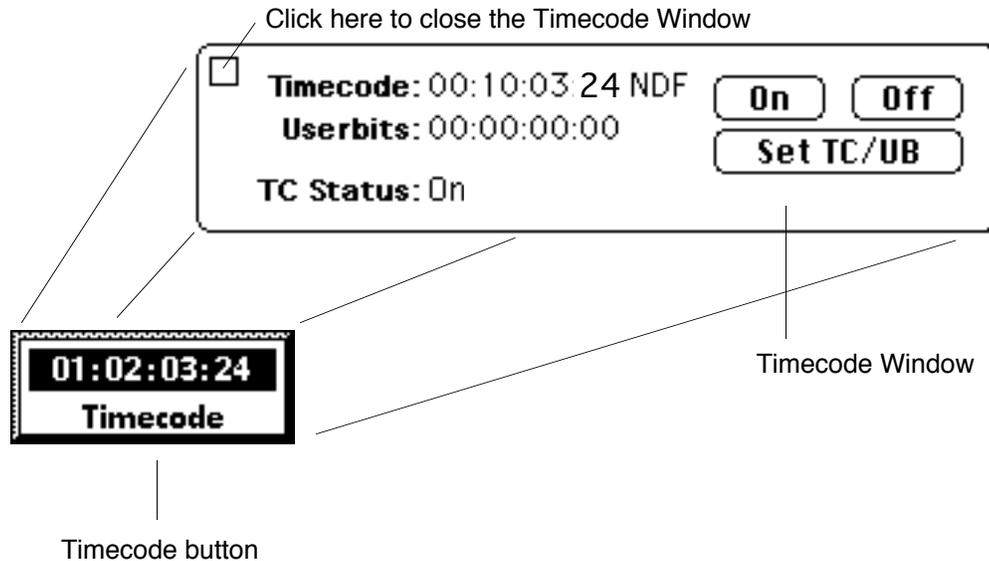
Counters

Depending on the camera used, the *Counters* window displays the following counters that are also available on the camera LCD display: Take, Total, Magazine, Battery, Gate Filter.

In addition it displays the following status information: Frames, Program, Arriglow.

Buttons

Mode	Clicking this button will change the mode of the LCD display on the camera.
Reset Total	Clicking this button will reset the TOTAL counter on the camera to "0000".
Run at 1 fps	Clicking this button will make the camera run at 1.000 fps crystal speed.
+/-0.001 fps	Each time one of these buttons is clicked, the current camera speed will change by 1/1000 fps. These buttons can be used to fine tune the fps rate while shooting a monitor.

Click here to close the Timecode Window

```
┌─────────────────────────────────────────────────────────────────┐
│ □    Timecode: 00:10:03 24 NDF   ┌──On──┐ ┌──Off──┐ │
│      Userbits: 00:00:00:00       ┌─Set TC/UB─┐      │
│                                                      │
│      TC Status: On                                   │
└─────────────────────────────────────────────────────┘
```

Timecode Window

```
┌─────────────────┐
│ ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓ │
│ 01:02:03:24     │
│                 │
│ Timecode        │
└─────────────────┘
```

Timecode button

Clicking the *Timecode* button will open up the *Timecode* window. Once opened, this window can be closed by clicking in the square at the top left of the window.
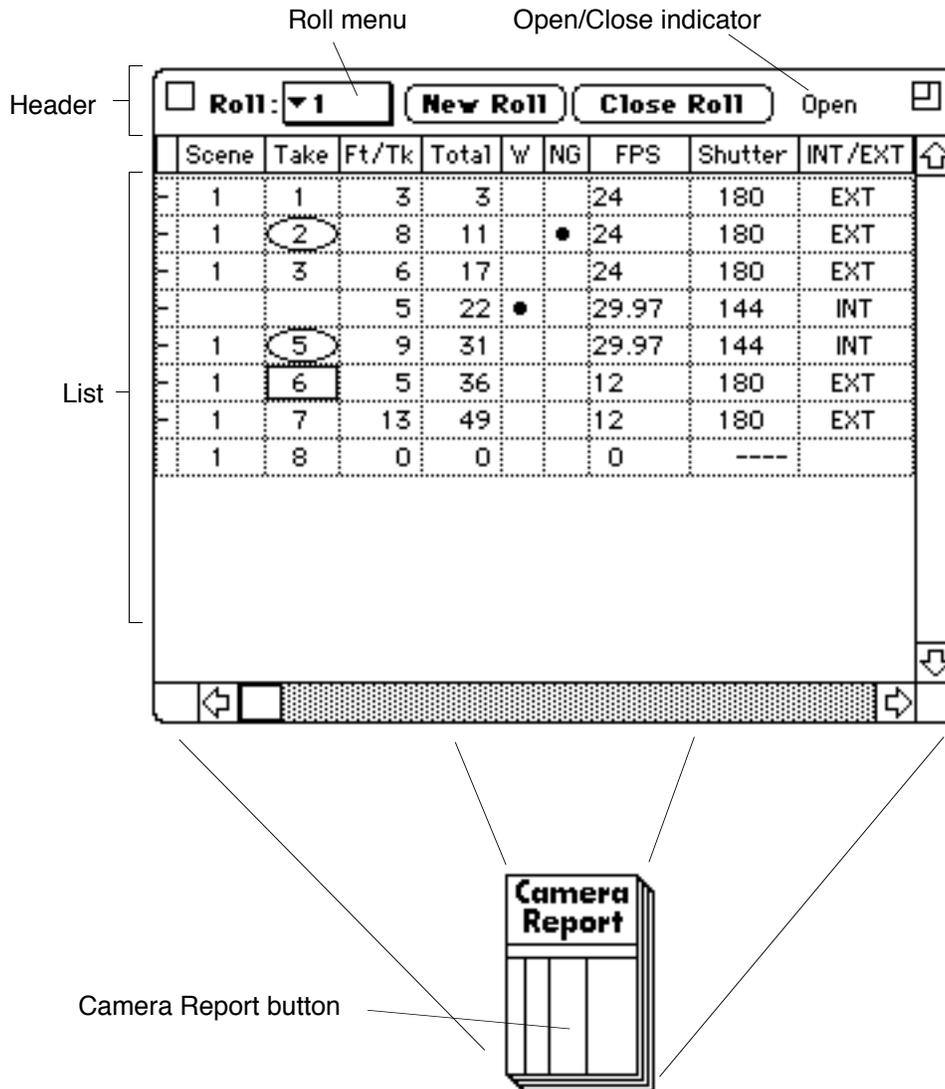
Timecode Counters and Status

The current Timecode and Userbits will be shown. After the Timecode number, you will see either *NDF* (non-drop frame) or *DF* (drop frame).

The *TC Status* will indicate if Timecode is on, off, or if an error condition exists.

The Buttons in the Timecode Window

On	This button will turn Timecode on. This may take up to 4 seconds, so be patient.
Off	This button will turn Timecode off. This may take up to 4 seconds.
Set TC/UB	Clicking on this button will bring up a dialog box that allows the user to change the Timecode and/or Userbits in the camera. Setting new Timecode with this dialog box will automatically turn Timecode on.
Set TCS	Only with the 435: the timecode sensitivity (TCS) number can be set.

Roll menu   Open/Close indicator

Header

☐ **Roll:** ▼ 1	(**New Roll**)	(**Close Roll**)	Open					

Scene	Take	Ft/Tk	Total	W	NG	FPS	Shutter	INT/EXT
1	1	3	3			24	180	EXT
1	(2)	8	11		●	24	180	EXT
1	3	6	17			24	180	EXT
		5	22	●		29.97	144	INT
1	(5)	9	31			29.97	144	INT
1	6	5	36			12	180	EXT
1	7	13	49			12	180	EXT
1	8	0	0			0	----	

List

Camera Report

Camera Report button

The *Small Camera Report* is used to record information automatically from the camera.

The Header

The user can navigate camera reports through the *Roll Menu* in the Header. The Header also contains buttons that allow the user to close an existing camera report or to open a new one.
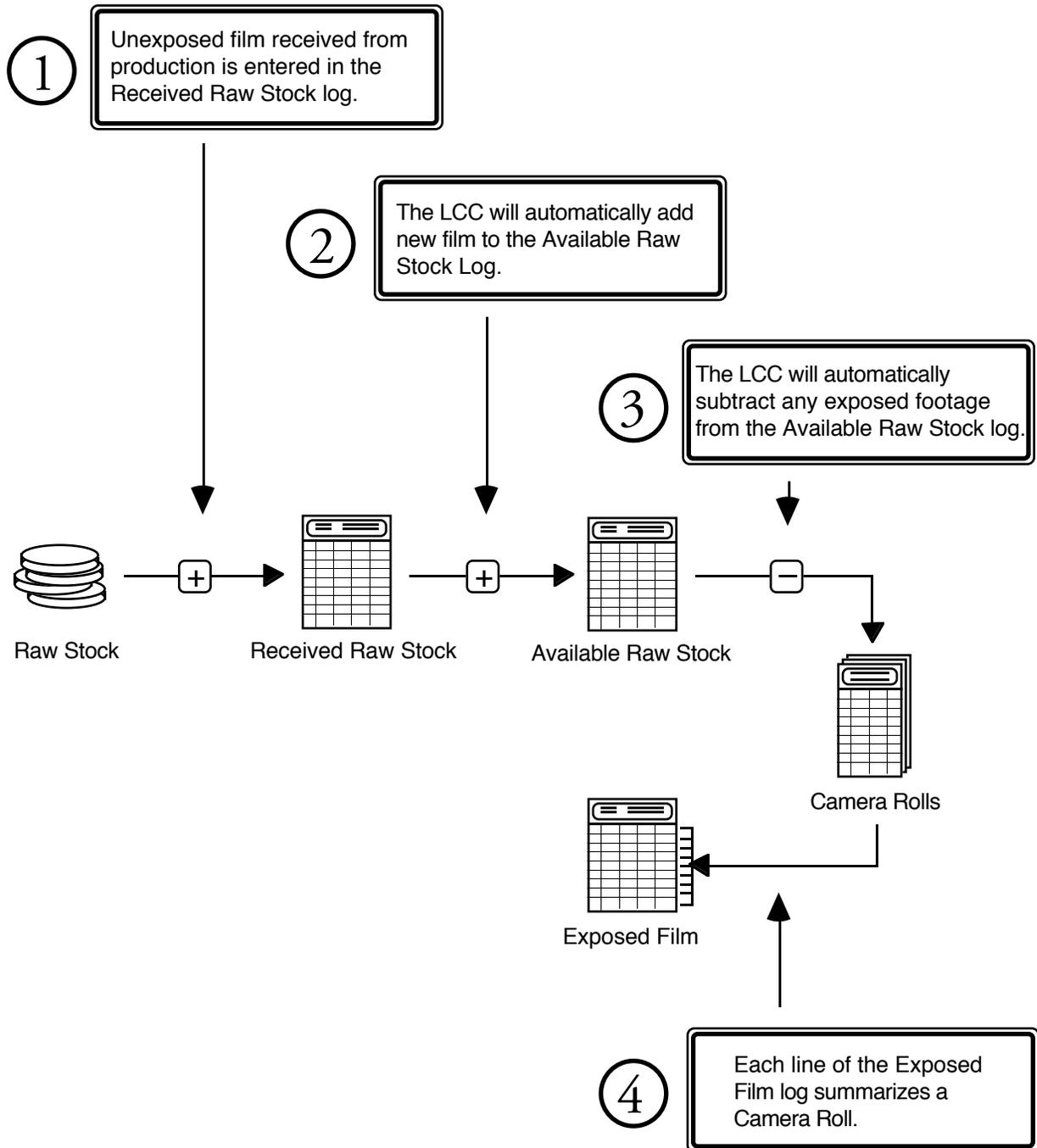
The List

The *List* part of the *Small Camera Report* is divided into various columns. The column width and position can be changed. Any column can be hidden from view with the *Columns* menu command.

The LCC can enter data automatically into the following columns: Scene, Take, Ft/Tk, Total, FPS, Shutter, TC In, TC Out, Userbits, Time of day, Frame In, Frame Out, Screentime, Program, Gate Filter, Take ID.

The user can enter data into any of these columns as well as into the following: NG, Waste, MOS, Int/Ext and 6 custom columns, that the user can name.

Circling Takes

Holding down the command key while placing the cursor over a take number will change the cursor into the circle tool. Clicking on a take with the circle tool will place a circle around that take number.

① Unexposed film received from production is entered in the Received Raw Stock log.

② The LCC will automatically add new film to the Available Raw Stock Log.

③ The LCC will automatically subtract any exposed footage from the Available Raw Stock log.

Raw Stock

Received Raw Stock

Available Raw Stock

Camera Rolls

Exposed Film

④ Each line of the Exposed Film log summarizes a Camera Roll.

The Flow of Film

The accounting features of the LCC allow the AC to keep track of all the footage from pre to post production. The LCC keeps three logs to track all footage. These are the *Received Raw Stock* log, the *Available Raw Stock* log and the *Exposed Film* log.

① All new raw stock should be entered in the *Received Raw Stock* log. This serves as a record for the AC to determine when what was received. New raw stock is entered through the *New Raw Stock Entry* dialog box which is available from the *Accounting* menu.

② Because it is now available for exposure, the new footage will automatically be posted in the *Available Raw Stock* log. This log will track all available footage. It lists the number of full 400 and 1000 foot cans as well as each single short end.

③ *Camera Rolls* are created either manually (by entering the good, no good and waste figures in the *Add Roll* dialog) or automatically (the LCC records each take in a camera report). In either case the footage for that roll will be taken out of the *Available Raw Stock* log.

④ Once a roll is finished and closed, the exposed footage will be posted in the *Exposed Film* log. Each roll is represented by a line in the *Exposed Film* log. This log is a summary of all camera reports.

At the end of the day the AC can print out all *Camera Reports* and/or a *Daily Film Report* which contains the totals of all the film shot, sorted by emulsion. The other logs can also be printed.

All these lists, reports and logs are stored in an accounting file. It is recommended to create one accounting file per show. If no accounting file is open, the title bar of the LCC will show the word "LCC". If an accounting file is open, its name will be displayed in the title bar.

Two Ways to Keep Accounting

The LCC allows the user to keep track of film in two different ways: manual and automatic accounting

The total footage for each roll can be entered into the LCC at the end of the day. The LCC will subtract the used footage from the *Available Raw Stcok* log and post the correct amounts in the *Exposed Film* log. This is called *Manual Accounting*. Alternatively, the LCC can be connected to a camera and record camera reports automatically. This is called *Automatic Accounting.*
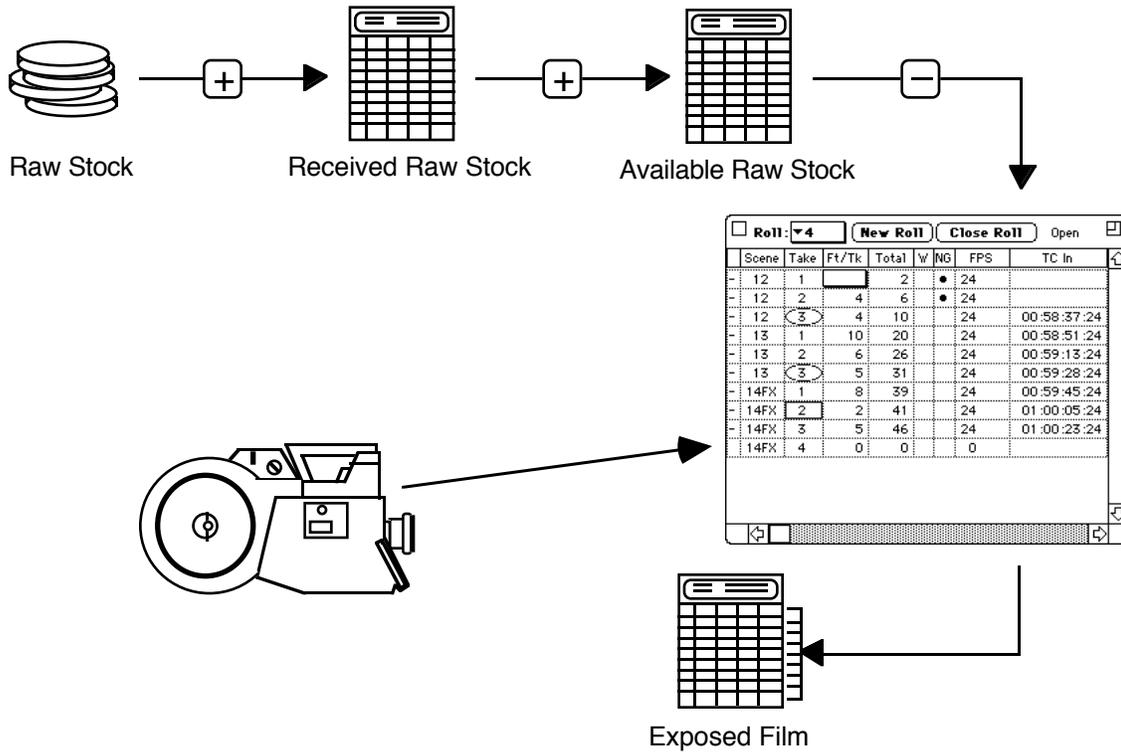
Raw Stock   Received Raw Stock   Available Raw Stock

Paper Camera Report

Exposed Film
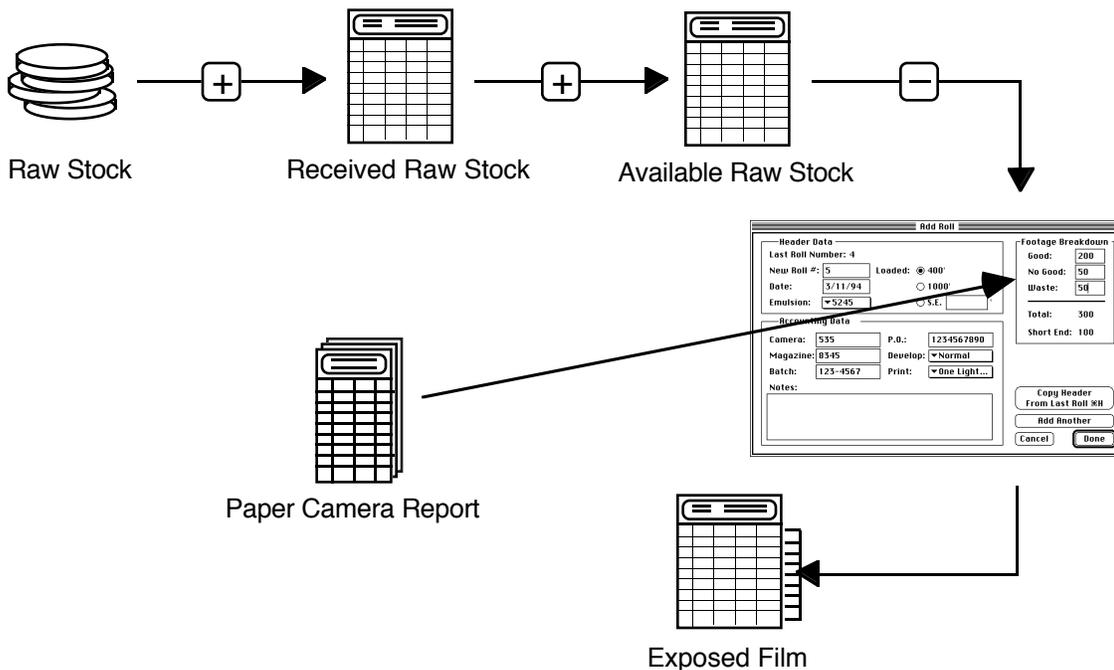
Manual Accounting

Received film is entered into the *Received Raw Stock* log. At the end of the day the good, no good and waste footages from the paper camera reports are entered into the *Add Roll* dialog. This will create a camera roll for each paper camera report, subtract the used footage from the *Available Raw Stcok* log and post them in the *Exposed Film* log.

With this method the LCC can accurately keep track of all raw stock, exposed film and short ends. It also allows the user to see how much film is left for each stock, and to print out *Daily Film Reports*, listing all the footage used in a concise form.

Raw Stock   Received Raw Stock   Available Raw Stock

Roll: ▼4	(New Roll)	(Close Roll)	Open

Scene	Take	Ft/Tk	Total	W	NG	FPS	TC In
12	1		2		●	24	
12	2	4	6		●	24	
12	3	4	10			24	00:58:37:24
13	1	10	20			24	00:58:51:24
13	2	6	26			24	00:59:13:24
13	3	5	31			24	00:59:28:24
14FX	1	8	39			24	00:59:45:24
14FX	2	2	41			24	01:00:05:24
14FX	3	5	46			24	01:00:23:24
14FX	4	0	0			0	

Exposed Film

Automatic Accounting

When connected to a camera, the LCC can record camera reports automatically. Received footages are entered into the *Received Raw Stcok* log. Once the camera is started and stopped, the LCC will record a new line in the camera report with the information for that take

When closing the roll by clicking the *Close Roll* button, the LCC will subtract the used footage from the *Available Raw Stock* log and post them in the *Exposed Film* log.

Mixing Manual and Automatic Accounting

The LCC does not care whether a camera report or part of it has been created in the manual or in the automated fashion. Both are the same before the digital gods, so the user is free to use either method when appropriate.