TIME LAPSE VIDEOGRAPHY USING SONY CAMCORDERS

(1) LAPSE TIME (frames)	(2) LAPSE TIME (secs)	(3) LAPSE TIME (mins)	(4) TIME SPEEDUP FACTOR	(5) ELAPSED TIME COLLECTION (mins/sec of finished video)	(6) ELAPSED TIME COLLECTION (hrs/sec of finished video)	(7) MAXIMUM FINISHED VIDEO WITH 1-HR TAPE RECORD (secs)
10	0.33	0.01	10.00	0.17	0.003	360
20	0.67	0.01	20	0.33	0.01	180
30	1	0.02	30	0.50	0.01	120
60	2	0.03	60	1	0.02	60
120	4	0.07	120	2	0.03	30
300	10	0.17	300	5	0.08	12
600	20	0.33	600	10	0.17	6
900	30	0.50	900	15	0.25	240
1800	60	1	1800	30	0.50	240
9000	300	5	9000	150	2.50	240
18000	600	10	18000	300	5.00	240

= Use realtime camcorder recording on 1-hr tape with ***speedup*** in post

= Use Interval Recording with 15 frames per interval; ***resample*** in post.

The above table shows, as a function of **Lapse Time** (the time between recording periods – columns (1), (2), and (3)), the amount of **Elapsed Time Collection - ETC** (wall clock time) required to produce 1-sec of **Finished Video Time - FVT** (columns (5) and (6)), assuming 1-frame per recording interval in the finished video. Column (4) shows the **Time Speedup Factor - TSF** - for each of the interval times.

The **Time Speedup Factor** is defined as $TSF(hrs/\sec) = \frac{ElapsedTimeCollection(hours)x3600}{FinishedVideoTime(\sec s)}$

The blocks marked in **BLUE** indicate a range of **Lapse Times** and consequential **Time Speedup Factors** that can achieved by using the camcorder's *standard* recording mode and speeding up the video in post by the **Time Speedup Factor**. The **Lapse Times** in **GREEN** indicate the discrete **Lapse Times** and **Speedup Factors** that are achievable using the camcorder's *Interval Recording* mode

To select the appropriate recording mode and parameters first enter the total time period to be recorded (**ETC**) and desired **FVT** into the **TSF** equation above to compute the **Time Speedup Factor**.

If this number is less than 600, use standard recording and speedup the resulting video recording in post by the TSF.

If the **TSF** greater than 900, select the the next smaller value from the green area of column (4) and set the camcorder to the Interval Recording mode and use the **Lapse Time** associated with this **TSF** as the Interval Time for the camcorder along with a record time of 0.5 seconds. Resample the recorded video in post by a factor of 15.