LVEX Parameter Tables, Rev 1.0b

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Introduction

The LVEX file contains log information relevant to the correlator for each station participating in an experiment.

The LVEX Block Structure

The LVEX file contains one '$LOG' section containing a 'def x' for each station (or set of 'linked' stations) participating in an experiment, where 'x' is the single-character station ID code (or set of 'linked' station codes). The structure of an LVEX file is then as follows:

```
$LVEX_REV                          specifies revision level of LVEX file
$LOG                               station log section
   def A;                          log info for station A
      monitor_trk_override = …….;  monitor track override (optional)
      scan xxxx;                   scan
         .
      endscan;
      scan yyyy;                   scan
         .
      endscan;
      .
   enddef;
   def BC;                         log info for 'linked' stations B and C
     .
   enddef;
etc.
```

'Linked' stations are defined as the case where two (or more) stations are simultaneously writing data to the same tape.

LVEX Rules

There is normally one 'def <station>' section for each station participating in the experiment covered by this log file. If the log section for a station is missing, the operator will be queried for the necessary information at correlation time.

$LVEX_REV Block

The $LVEX_REV block specifies the revision level of the parameters structure of the LVEX file.

Parameter	Field	Description	Type	Allowed values	Units	Comments
rev	1	LVEX revision number	real	1.0		Will be updated as necessary

$LOG Block

The information for each scan is logged into a 'scan/endscan' block within the associated 'def <stn>' section, similar to the way scans are specified in the $SCHED section of the ovex file:

```
scan <scan_ID>;                 *scan_ID must match ovex scan_ID
     VSN = ….;                  *physical tape VSN
     head_pos = …..;            *headstack position
     start_tape = …..;          *tape start time, direction, footage
     stop_tape = …..;           *tape stop time, footage
     source =    ;
endscan;
```

There is no requirement that scans be in time order, though they would normally be in time order.

Up to 10 'monitor_trk_override=' statements may be specified within the $LOG block, but outside the 'scan/endscan' block (see lvex block structure above), to specify the use of monitor tracks for the playback drive. Each 'monitor_trk_override=' statement may specify a period of time during the experiment when that statement applies.

The log parameter definitions are as follows:

Parameter	Field	Description	Type	Allowed values	Units	Comments
VSN	1	Tape VSN number	char			Tape only
disc_set_ID	1	Disc set ID	char			See Notes
	2	Number of discs in set	int	1-16		
disc_serial	1-16	Disc serial numbers	char			In order 0M,0S,…..7M,7S; null if slot empty
disc_model	1-16	Disc model numbers	char			Mark 5: In order of slot position; null if slot empty
disc_size	1-16	Disc sizes	int			Mark 5: Disc size rounded down to nearest GB; 1 GB = 2^30 bytes =1,073,741,824 bytes
head_pos	1	DAS-commanded head position	length			Head-position written into tape-frame header
start_tape	1	Tape-motion 'start time'	time			If 'continuous' tape motion, time near (preferably somewhat before) start of good data; if disc, start time
	2	Tape position	length			Tape footage at 'start time'; if disc, byte count
	3	Tape speed at 'start time'	speed	real		Note: Not commanded speed. >0 if moving forward; <0 if moving in reverse. If 'continuous' motion, should reflect speed at which tape is moving at corresponding 'start time' and tape position. If starting from stopped position, should be =0.
stop_tape	1	Time at which stop command is issued	date			
	2	Tape position when stop command is issued	length			
start_disc	1	Disc 'start time'	time			
	2	Disc start position	bytes			Byte position at 'start time'
stop_disc	1	Time at which stop command is issued	date			
	2	Disc stop position	bytes			Byte position at 'stop time'
source	1	Source name	char			
	(2)	On-source time	date			Important if late on-source

monitor_trk_override	1	forward-motion trk#	int	0-35		If null, default is used
	2	reverse-motion trk#	int	0-35		If null, default is used
	(3)	start time for applicability	time			If null, assumed to apply from start of experiment
	(4)	stop time for applicability	time			If null, assumed to apply to end of experiment

Notes:

1. For Mark 5, the 'disc set ID' is an ASCII field created at record time of the form 'SS-YYMMDD-HHMM/n' where 'SS' is the standard 2-char station code, 'YYMMDD' is the year, month, day-of-month and 'HHMM' is the UT hour and minute of the *first-recorded data on the disc set* and *n* is the number of discs in the set (leading zeroes suppressed). This ID becomes the identification for the disc set and follows the set through processing at the correlator in the same way a VSN follows a tape through processing.
2. The 'disc_serial', 'disc_model' and 'disc_size' info need be present only once in each log for each disc set.
3. Up to 10 'monitor_trk_override=' statements may be present, each specifying a different time period during the experiment. The times specified in the 'monitor_trk_override=' will be compared against the scan nominal start time for the corresponding station as specified in the ovex $SCHED section to determine the proper track values to be used. If conflicting 'monitor_trk_override=" statements are present corresponding to the nominal start time of a specified scan, an error will result.