

Super LSM

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USER'S MANUAL

EVS
BROADCAST EQUIPMENT

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Introduction

The EVS Super Live Slow Motion system is a high quality digital disk designed to record a super motion signal from triple scan cameras. Many capabilities are built into the unit, including a digital mixer / keyer, clip and playlist management and split screen.

The Super LSM is compatible with all types of Super Motion cameras (Philips LDK23HS, Panasonic AQ-2000 and Sony BVP-9000). While the Philips and Panasonic cameras can be directly connected to the mainframe of the Super LSM, the Sony camera requires an external 1U interface called "Splitter", and also developed by EVS.

The greatest advantage of the SLSM over tape based systems is its ability to record and playback at the same time! No longer do you have to wait for the action to finish and tapes to recue. As soon as you know the starting point of your replay, you can cue it. Your replay is ready before the action has finished and recording has never stopped!

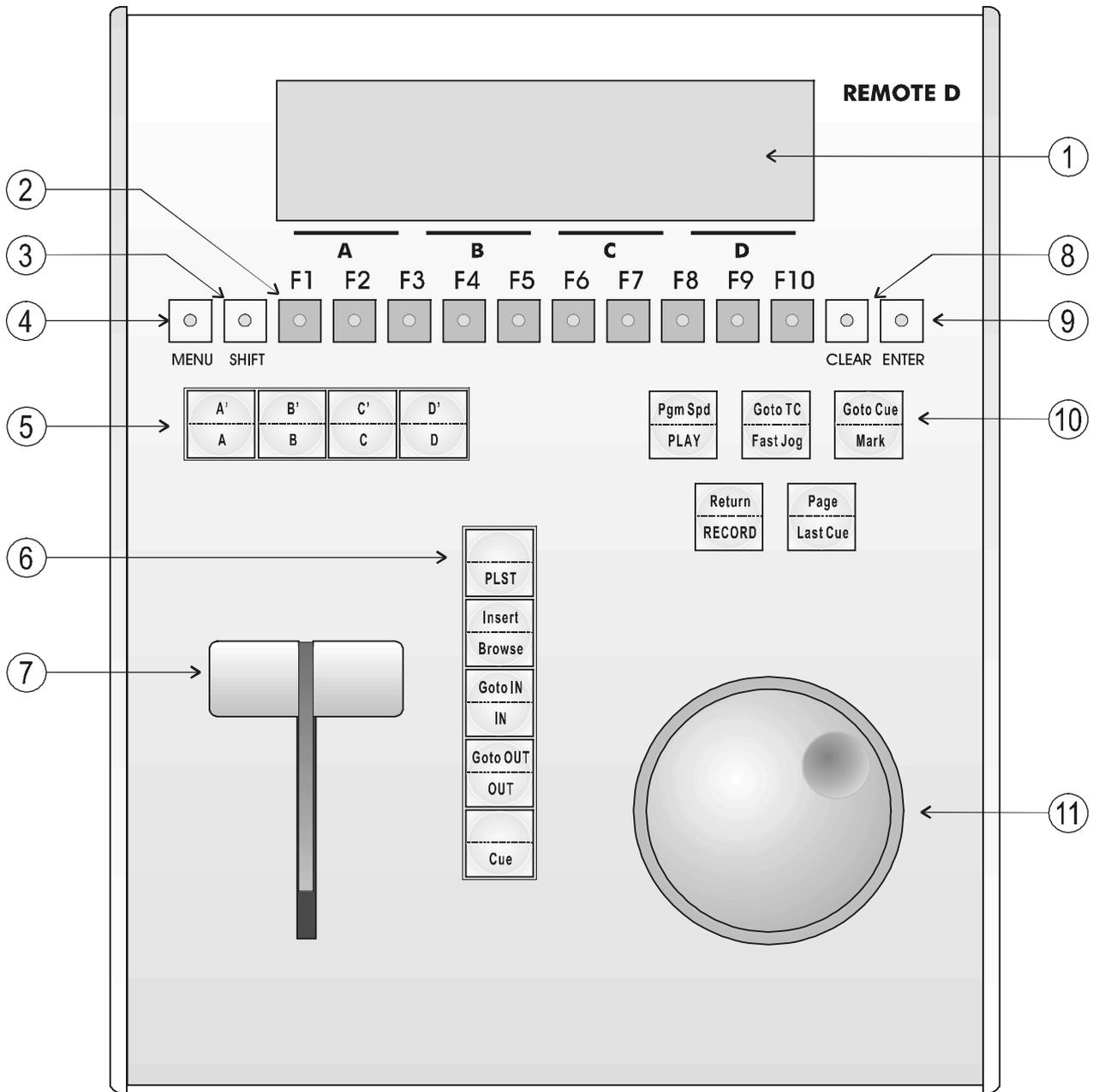
The use of CLIP & PLAYLIST MANAGEMENT allows highlights of your event to be stored for instant replay at a later time. Individual «clips» can be created and stored for use in a playlist allowing highlight and roll out packages to be built quickly for use throughout a broadcast.

Analysis of the sport is taken to a higher level with use of the SPLIT SCREEN, TARGET TRACKING and PAINTING.

EVS is a Belgian company that takes pride in making the best products available. Always eager to stay one step ahead of the rest, EVS strives to constantly improve and grow. Customer feedback is a must and always greatly appreciated.

Have fun operating the EVS Super Live Slow Motion system. It only gets better!

1. Remote panel layout



2. Remote panel operational controls

Please refer to diagram on previous page.

Note: *The operational buttons have PRIMARY and SECONDARY functions. You will see that they are divided into upper and lower sections. The PRIMARY function is represented by the LOWER label and the SECONDARY by the UPPER label. By pressing the SHIFT button you gain access to the secondary functions*

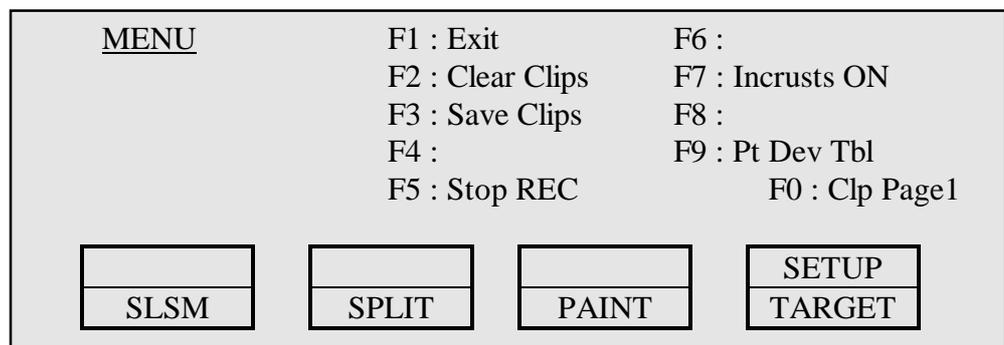
1. LCD DISPLAY: provides current status of system
2. F1 - F10 buttons: used when modifying user adjustable software settings, to store / recall Clips, recall Playlists and enter timecode information
3. SHIFT key: enables use of the secondary key functions
4. MENU key: provides access to the LSM Main Menu - Also used to escape pop-up windows
5. SOFT keys: with LCD display, enables operator to enter SLSM MENU system
6. Operational block:
 - PLST - initiates active PLAYLIST
 - INSERT / BROWSE - used in playlist management to view / modify playlist
 - IN / OUT - used to enter in / out points when storing / modifying clips
 - CUE - used to mark KEYFRAMES in TARGET TRACK mode.
7. SLOMO LEVER: initiates slow-motion and playlist replay
8. CLEAR button: multi-purpose key used to clear PLAYLISTS and CUES
9. ENTER button: used to ENTER clips into PLAYLIST and to validate other options
10. Operational block:
 - PLAY initiates forward motion
 - PGM SPD locks the playback speed to the Pgm Speed defined in Setup.
 - GOTO TC enables timecode entry, with «F» keys
 - FAST used with JOG dial for rapid manual recue of disk recorder

MARK reusable cue entry, 128 cycling cues
 RECORD initiates «LIVE IN» mode
 LAST CUE re-cues disk recorder to last cue entered
 (max 128 cues)

11. JOG knob: used to accurately cue disk recorder

3. Main Menu

Remote Panel Display :



SLSM : enter the SLSM mode
 (to playback slosmos, define clips, build playlists)
SPLIT : enter the SPLIT SCREEN mode
PAINT : enter the PAINTING mode
TARGET : enter the TARGET TRACKING mode
SETUP : enter the SETUP Menu of the remote panel

The Remote Control LCD display at the MAIN MENU has special *function key* operations as shown above, as well as the «soft» key options.

Select the corresponding function key and in order to validate the selection, press ENTER.

F1: Exit LSM – Exits the LSM software and goes back to the EVS Menu.

F2 : Clear Clips – Exits the LSM software, clears all clips and restarts the LSM software. The whole procedure will take about 30 seconds. All recorded information will be lost..

F3: Save Clp – Saves all clips. Since the record must be stopped for a few seconds, the operator is prompted to confirm this operation. After the clips are saved, the record is automatically restarted.

F5: Stop REC – Stops the record. The RECORD key will go off. Press the RECORD key to restart the Record.

F7 : Incrusts ON – Enables or disables the characters (time code, clip ID,

playlist duration ...) on the monitoring outputs.

F9 : Pt Dev Tbl – Initializes the tablet/ touch screen. If the tablet is not properly calibrated , use this function to re-initialize it.

F0: Clp Page1 – Toggles between Clip Page1, Clip Page2 and Clip Page3.

Important Note:

Prior to using the Super LSM, the operator should enter the SETUP menu and set all necessary parameters.

If clips are stored with certain parameters and the operator wishes to change them after the fact, those clips will not change. Thus, it is important to set these parameters first.

4. Set-up mode

(Shift + D' from MAIN MENU)

The LSM has four menu pages once in the SET-UP mode.

To select NEXT page, press F1 - To return to LAST page, press F - To QUIT set-up mode, press MENU.

Adjustments are made as follows: Select MENU page, using F9 (Previous Page) / F10 (Next Page) as necessary.

Choose setting to be modified by pressing F button (see table below) & make adjustment by rotating JOG knob. To restore the default value of a parameter, press CLEAR and the corresponding F button.

	PAGE 1	PAGE 2	PAGE 3	PAGE 4
F1	Effect Duration : Set the duration of transition effect. Used as default value in playlist. (0 –500 fields) Default : 20 fields	Fast Jog : sets the increment of the jump when in Fast Jog mode. (2 to 20 times) Default : 20 times	Cursor Color : (**) F1, F2, and F3 are used to set the border color for the split screen and wipe effect. Set H : (0 – 360) Default : 0	Split Auto Drive: (ON/OFF) Enable/Disable the auto drive option in Split Screen mode Default: OFF
F2	Wipe Type : Choose from Vert (R>L,L>R), 45 UP (R>L,L>R) and 45 DN (R>L, L>R) Default : Vert (L>R)	Maj. Clip : the amount of «guard-band» before and after clips. (0 –500 fields) Default : 50 (fld)	Set V: (0 – 100) Default : 80	
F3	Switcher/Splitter : (*) . set to 'none' if no switcher/splitter is connected . set to 'Port 1 - 0x378' if a switcher/splitter is connected (to select between up to 3 Super Motion cameras)	Prgm Spd : (1 – 100%) during playback, selecting SHIFT+Play then rolling a selected clip will roll that clip at this predefined speed. Default : 33%	Set S: (0 – 100) Default : 0	
F4	Playlist Loop : Allows playlist to loop and replay continuously. (ON / OFF) Default : OFF	PlistInsert : Selects the mode for «INSERT» function of playlist. (before/after) Default : After	Speed Max 2 Play : when 2 play channels are required (Split Screen, Play with effect), the speed is limited to this value to avoid frozen pictures. Default : 50%	
F5	Pre-Roll : (0 to 500 field) Pre-roll for automatic cues Default : 05 (fld)	Audio Play-Var : enable or disable the audio when playing back in slow motion. (ON / OFF) Default : ON	Default Effect : (Mix / Wipe / None) Select the default transition effect Default : Mix.	
F6	Show Keyer Speed : duration of the fade in/out effect for keyer in Target Tracking & Paint mode. (0-100 fields) Default : 08 (fld)	Speed var : (1-100%) to limit the range of the lever to a maximum speed. Default : 40%	Painting Cursor : (black / white) select the color of the cursor in Target track /Painting mode. Default : white	
F7	NOT USED AT PRESENT	NOT USED AT PRESENT	NOT USED AT PRESENT.	

() Make sure that you have selected the right option 'Switcher' or Splitter' (moving the jog knob will go through 'Switcher : None / Port 1 - 0x378 / Port 2 - 0x278', then 'Splitter : None / Port 1 - 0x378 / Port 2 - 0x278'. 3 Super Motion cameras can be connected to the **EVS Switcher**. The switch between CAM A, B and C is commanded from function keys B (CAM A), C (CAM B) and D (CAM C) of the remote panel when this option is selected. The **EVS Splitter** is the interface between the Sony BVP-9000 Super Motion camera and the SLSM. Up to 2 BVP-9000 cameras can be connected to the Splitter. The switch between CAM A and B is commanded from function keys B (CAM A) and C (CAM B) of the remote panel when this option is selected. Note that in any case **only 1 Super Motion camera is recorded at a time**.*

*(**) When adjusting H, V and S values, the corresponding color is displayed on the PGM output of the LSM*

5. SLSM mode

5.1. Super LSM Control Modes

The SUPER LIVE SLOW MOTION can be set in three different basic modes, depending on commands used.

Live Mode

This mode which is selected at start-up could also be selected by pushing the RECORD key. The SUPER LIVE SLOW MOTION records the input signal and plays it at the same time on the program output.

Search Mode

This mode is selected by moving the COMMAND KNOB.

In this mode, the operator has the opportunity to search for an image, i.e. in order to define CUE points or a clip. Moving the command knob clockwise will force the SLSM to search forward, moving the command knob counter clockwise will force it to search backwards. The most important thing to note is that the **SUPER LIVE SLOW MOTION continues to record while searching.**

Slow Mode

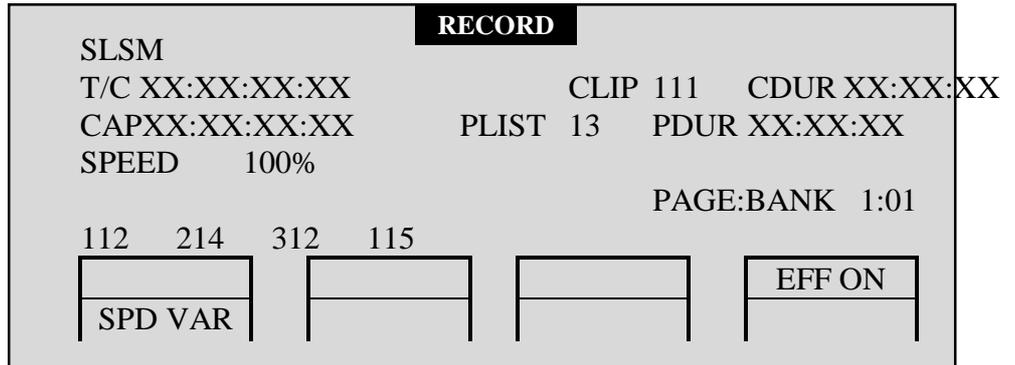
This last mode is selected by moving the LEVER in SEARCH mode.

The SUPER LIVE SLOW MOTION plays in slow motion the incoming signal delayed, a clip or a play list and of course continues to record the incoming signal on disks.

On the other hand, as indicated thereunder and explained further, the SUPER LIVE SLOW MOTION could be used either in clip & play list management mode.

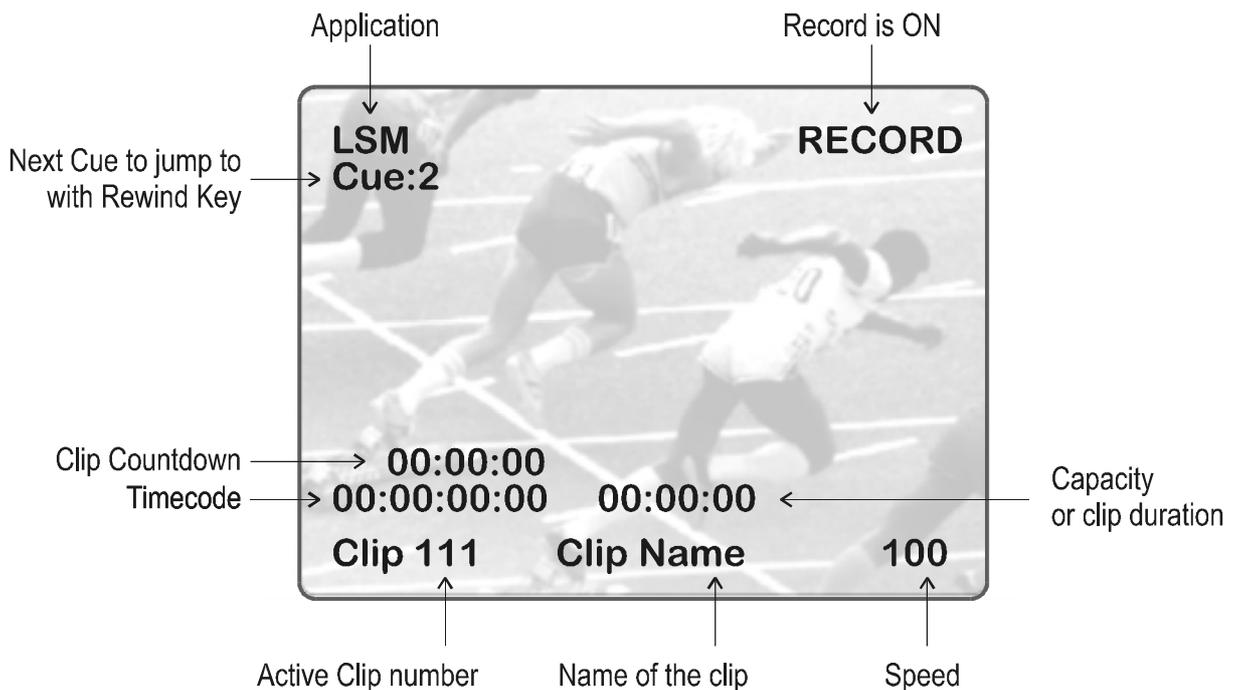
Each operation on the REMOTE panel with the command KNOB or LEVER will be associated to the SEARCH or SLOW mode respectively.

5.2. Remote Panel LCD Display



Displayed Information	Brief explanation
RECORD	the RECORD is on
T/C XX:XX:XX:XX	time code of the on-air image.
CLIP XXX	indicates the selected clip.
CDUR XX:XX:XX:XX	duration of the selected clip.
PLST XX	indicates the selected play list.
PDUR XX:XX:XX:XX	duration of the selected play list.
PAGE:BANK X:XX	number of the selected page and bank (from 1 to 9). A bank is a collection of 10 clips.
CAP XX:XX:XX:XX	Remaining capacity of the system.
SPEED XXX%	Current Playback Speed
112 214 312 115 ...	Clips inside the current playlist
SPD VAR	Enable / Disable the Speed Var function
EFF ON	Enable transition effect to chain clips manually. RECORD IS STOPPED

5.3. Monitoring Output Display



At start up, the VGA screen will display the Clip window and the Cue Up Points window. Refer to the Clip Management and Cue Management sections of this manual for more details.

5.4. Remote Panel Operations : Direct functions

RECORD: This key lights «red» when the system is in operation; at this time the input signal is recorded, and played back at full speed.

MARK : Marks up to 128 cues that can be marked while recording / playing. The cues are always marked on the LIVE program, even when playing back other material. As soon as the first Cue point is marked, this key lights green. To take into account the reaction time of the operator, the actual cue point is marked on a frame recorded slightly before the MARK key is hit. The time difference between the live picture and the actual Cue point is the PRE-ROLL duration, and can be defined in the Setup Menu of the remote panel. The 128 cues are looped, i.e. when you mark the 129th cue, the first is overwritten. The nearest 20 cues are displayed on the VGA monitor in the Cue Points Window. If this window is hidden, press F8 on the keyboard to bring it in front.

To delete a Cue point, recall this particular Cue point (the MARK key must light red) and press CLEAR - MARK

To clear all Cue points, press CLEAR - MARK when the MARK key is green

LAST CUE : Re-cues machine to *last entered* cue, pressing again will re-cue to the previously marked cue etc. This will loop around the entered cues (up to 128). In the top left corner of the monitoring output, you can see the number of the cue point that will be reached by pressing the MARK button (ex : **Cue : → 2**). When the arrow is not present, it means that the current picture is a Cue point. In this case, the MARK button lights red.

PLAY : Initiates forward motion. Can also be used to commence playback of playlist; refer to PLST command.

IN : Defines the «IN» point of a clip. This key illuminates RED if the «on-air» image is at this «in» point and GREEN if an «IN» point exists but is not the image you see. This point can be entered while recording. When an «IN» point is entered, the «IN» characters appear on the monitoring output, and the countdown above the time code information becomes the time difference between the «IN» point and the current picture. Once you have marked an «IN», should you require to change it, the marked «IN» should be cleared first,
i.e.

CLEAR IN

OUT: Defines the «OUT» point of a clip. This operates with the **IN** button.

Modification of CLIP IN / OUT points: Select the clip that you wish to modify, use the JOG dial to position the material at the new IN or OUT point, and remark the **IN** or **OUT** point(s) as required

***Important note** : when in / out points are set, the system automatically write protects a user definable length of material before and after the in / out points respectively, these are referred to as the **GUARD - BANDS**. This can be set in the **SETUP** menu under «**Maj. Clip**» as required.*

JOG KNOB: Used to accurately cue material.

FAST : When selected enables FAST picture search. The actual speed of this fast jog is adjustable in the SETUP menu.

The JOG dial is active at all times when the system is in PLAY & RECORD

LEVER: Used to perform slow-motion 0 - 100%. When Spd Var mode (Shift-A key) is enabled, the range of the lever is limited to 0 - Spd Var %. The value of Spd Var is defined in the Setup Menu of the remote panel (page 2, F6. Default : 40 %). When Pgm Spd mode (Shift-Play) is enabled, the lever will play at Pgm Spd only, whatever its position, or 0 % for the lowest position. The value of Pgm Spd can be adjusted in the Setup Menu of the remote panel (page 2, F3. Default : 33 %).

PLST : Selects the active PLAYLIST, once a playlist has been compiled. To play back a playlist that has been cued, press the PLAY button and it will roll at the set speeds. ***(Please refer to «Making a Playlist»)***

ENTER : Enters CLIP(s) into PLAYLIST

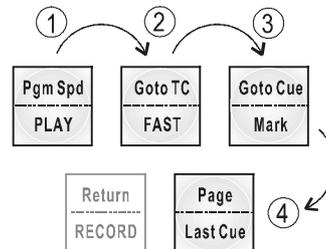
CUE : to mark key frames in TARGET TRACKING mode

MENU: Enables operator to gain access to Super LSM MAIN MENU. Also used as an escape key to cancel commands requiring a confirmation.

CLEAR : to clear IN / OUT/ PLST / CUE UP

REBOOTING THE SYSTEM FROM REMOTE PANEL («HARD REBOOT»)

*In the event that the system needs to be rebooted, the process can be accomplished from the remote panel. Keep in mind, doing this will **DELETE ANY CLIPS THAT WERE NOT SAVED**. This is very important. To reboot, press the following key sequence,*



(See area 10 on «Remote Panel Layout», Page 5)

After doing so, the **REC** button will flash GREEN and the **LAST CUE** button will flash RED. Hitting the **LAST CUE** button will reboot the system.

«SOFT REBOOT» FROM KEYBOARD

It is also possible to run a «soft reboot» which will exit the software and return the user to the EVS Menu. Here, the software can be selected and entered again without having to reboot the entire system. When running the following procedure, the system will automatically run a save clips upon exit.

Hit **ALT + Q** on the keyboard, and confirm with **ENTER** or cancel with **ESC**. You will exit the Super LSM software and go back to the EVS Menu.

TO REFRESH THE REMOTE PANEL DISPLAY

By simultaneously pressing **CTRL + R** on the keyboard, the remote control unit will be refreshed (keys and LCD display). Also, in the instance when the remote fails to respond, use these keys and it will be re-initialized.

TO RE-INITIALIZE THE TIME-CODE BOARD

Press simultaneously **CTRL + T** on the keyboard. This will re-initialize the time code board, in case the time code of the system doesn't match with the incoming time code signal.

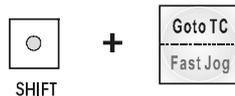
5.5. Remote Panel Operations : Shift functions

PGM SPD (Program Speed) : When selected, the PGM SPD/PLAY button will flash red. Selecting a clip or playlist and hitting PLAY will now roll the video at the «Program Speed» that is set in the SETUP menu. So if 33% is your default speed here, the clip or playlist will roll at that speed. Hitting SHIFT + PGM SPD again will disable this function.

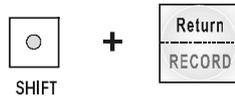


GOTO TC (Shift FAST Jog): This function is used to jump to a particular time code. Press this key, the following message appears on the program output (PGM) above the current time code :

« GotoTC : .. : .. : .. ». Use the function keys F1 to F10 to enter the desired time code (6 digits : hh:mm:ss). After the 6th digit is entered, the LSM3CAM will automatically go to the required time code. If the last digits are 0 (zeros), you don't need to enter them. Press ENTER on the remote to validate the entry and reach the desired video.

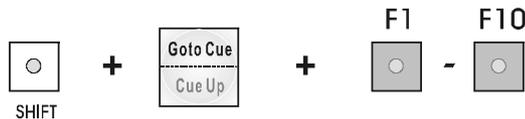


RETURN : This function allows the operator to exit from within a clip and search on the disk at the point he was at when first selecting the clip. Whatever timecode the operator was at when he selected the clip will be the point where this function will return them.



PAGE: This function allows the operator to toggle between Clip pages 1, 2 and 3 (Same function as F10 key in the Main Menu of the Remote panel)

GOTO CUE : This function is used to recall a specific cue. Press this key and use the function keys F1 to F10 to enter the number of the cue to jump to. Press ENTER to validate the jump.



If you enter the cue number incorrectly, press  CLEAR to exit this mode.

↪ **USEFUL FACILITY :**
When in CLIP mode



This enables the operator to go to IN / OUT points of CLIPS, instantly !

5.6. Selection of Clip Banks and Playlists

SHIFT + F1 - F9 etc.

This allows access to clip banks 1 through 9 within the clip page (1, 2 or 3).

SHIFT - F1 = BANK 1

SHIFT - F2 = BANK 2, etc. (up to bank 9)

Once in the bank, selection of the F1 – F10 keys will call up the respective clips.

The clip numbering system is as follows:

Clip 147 "1" Denotes the CLIP PAGE number (either 1, 2 or 3).
Selected at the MAIN MENU with F10 key.
"4" Denotes the CLIP BANK (1 to 9)
"7" Denotes the clip number (1 to 10) inside the bank

SHIFT - F10 = PLAYLIST BANK

This allows access to the playlists. Within each CLIP PAGE there are 10 playlists.

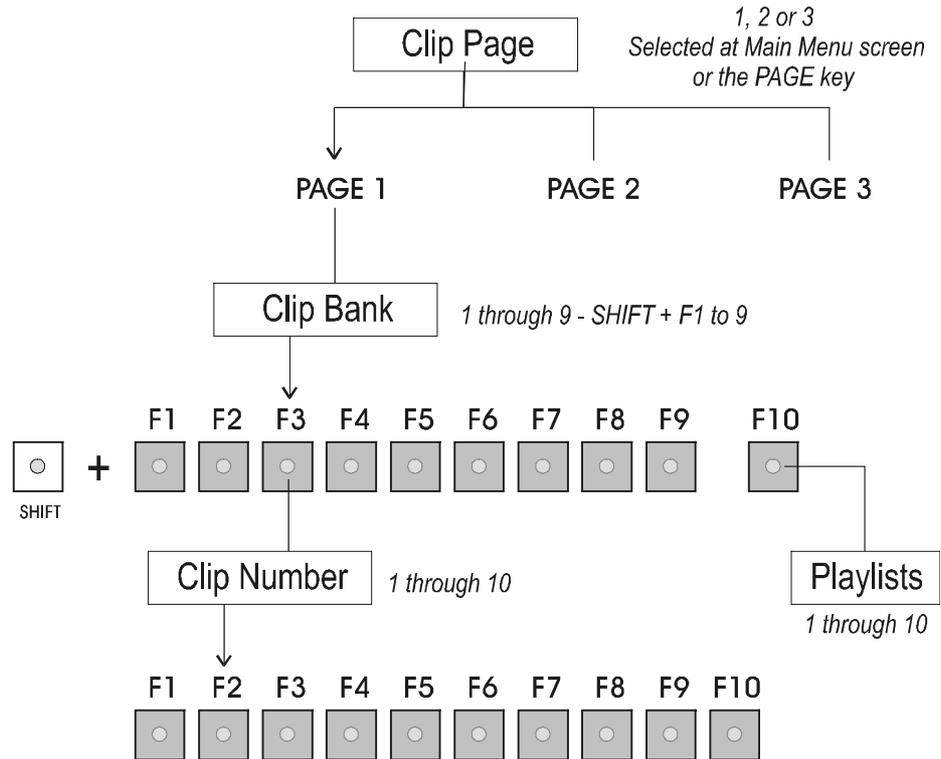
Selecting F1-F10 at this point calls up the respective playlists.

Playlist 21- "2" Denotes the CLIP PAGE
"1" Denotes the playlist number (1 to 10)

5.7. Clip Numbering Hierarchy

The LSM can store up to 270 clips and 30 playlists in its libraries

This flow chart represents the hierarchy of the LSM clip numbering system. As an example, clip number "232" is used:



As a reference, in the lower right hand portion of the remote LCD, just above the menu options, the page number and bank are displayed as follows:

PAGE:BANK: 1: 05

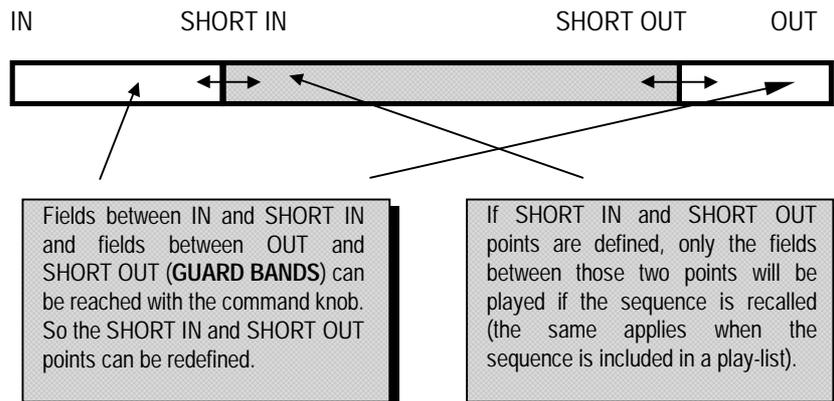
This tells the operator that he is in **Page 1** and **Bank 5**. To change between **Page 1**, **Page 2** and **Page 3**, press the PAGE key or go to the Main Menu (press the MENU key on the remote panel) and then press F10.

6. Clip Management



A clip is defined by SHORT IN and SHORT OUT points. When SHORT IN and SHORT OUT points are set, the system automatically write protects a user definable length of material before and after the SHORT IN/OUT points respectively, these are referred to as the GUARD-BANDS.

It is possible to trim a clip by redefining SHORT IN and SHORT OUT points.



Comments:

1. IN & OUT points of a clip cannot be replaced by new ones.
2. SHORT IN & SHORT OUT points of a clip can be replaced by new ones.

6.1. Creating a Clip

At the desired IN/OUT points press **IN/OUT**; this can be done «on the fly» or by accurately positioning the material with the JOG knob / PLAY button.

To clear an IN / OUT point: and and

Choose the CLIP BANK where you wish to store the CLIP

+ -

Press the appropriate F1 - F10 button. This button lights green and the clip is now stored.

Important note : Once a clip is stored, it is safe from being overwritten. But this does not mean that it is **SAVED**. If power is turned off, the clips are lost. Clips and playlists are automatically saved when a 'clean' exit of the software (**ALT+Q** and **ENTER** on the keyboard or **F1+ENTER** in the Main Menu of the Remote panel) before turning off the Super LSM. Clips and playlists can also be saved 'manually' by going into the Main Menu (use Menu key) and pressing **F3** on the remote. Since the record must be stopped for a few seconds while saving clips, the operator is prompted to confirm this command with the **ENTER** button. To clear all clips and restore the full capacity of the system, press the **MENU** key to access the Main Menu, select **F2** (clear clips) and confirm with **ENTER** or cancel with **MENU**. You can also exit the Super LSM software, go to the Maintenance Menu and select the "Clear Clips" option.

A total of 270 clips is possible, with 30 playlists as well.

6.2. Clearing a Clip

To clear 1 clip, press the **CLEAR** button and then the **F...** button corresponding to the clip to clear. If the clip is in use, it can not be cleared. When clearing a clip, it is also removed from all playlists where it was present. **Once a clip is cleared, it is impossible to restore it if it is no longer in the record train.**

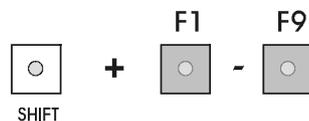
Note: The Clear Key has a time out of 4 seconds. If no clip is selected within 4 seconds, the key stops flashing and the command is cancelled.

Example : to clear clip '124', select Page 1, Bank 2 (Shift + F2), press **CLEAR**, then **F4**

6.3 Recalling a Clip

- Using the Remote

Select the **CLIP PAGE** 1, 2 or 3 (**F10** at the **MAIN MENU** or **PAGE** key).
Select the **BANK** in which the desired **CLIP** is located



Choose the **CLIP** required (**F1** - **F10**).

- Using the VGA Display Clip Screen

The VGA clip screen is accessed by selecting the **F10** key on the keyboard. In this mode, clips can be recalled using the keyboard or the Tablet stylus. The page is set up with 9 columns, displaying each CLIP BANK (1-9). The operator can also select the CLIP PAGE on this screen (Pg. 1, 2 or 3) using + and - keys.

The arrow keys on the keyboard allow movement left and right across the screen (only 3 banks can be seen at one time) or up and down within the bank. Once at the desired clip, hitting ENTER will call the clip on the monitor.

Keyboard Functions:

- *Arrows keys* (←, ↑, ↓, →) Select any clip on your screen
- *Ctrl + ←, →* Select group of 3 banks to display
- *Enter* Select the clip desired and call it to the monitor
- *+ / -* Select between Clip Page 1, 2 or 3
- *F1* Name a clip

6.4 Naming a Clip

Within the clip screen, select the clip to name with the keyboard or the remote panel. Press **F1** on the keyboard and simply type the name on the keyboard. To erase the last character, press **Backspace**. Hit **F1** on the keyboard to validate. The clip is now named. Repeat as needed for all clips. This can be done at any time.

6.5 Modifying IN and OUT Points of a Clip

Select CLIP to be modified.

Position CLIP to new IN or OUT point(s) and remark as required.

Modification is effective immediately.

6.6 Copying a Clip

To copy a clip under a new register, select the original clip, then select an empty register and press ENTER to confirm or MENU to cancel.

With this function, you can have different IN and OUT points for a same original clip / action.

6.7 Chaining Clips manually, with effects

Clips can be chained manually with wipe/dissolve effect. The effect is selected in the Setup Menu (page 1, F1 : Effect Duration and page 3, F5 : Default Effect).

In the SLSM menu, select EFF ON (Shift + D key). *When selecting EFF ON, the record is automatically stopped.*

Play the first clip at the desired speed.

Before the clip is finished, recall the next clip to play. It will automatically start at the same speed, with the selected effect. Recall next clip, etc.

Note : if the next clip is recalled after the current clip is finished (i.e. playback speed is 0), it will also start with 0 speed.

7. Play-list Management

7.1 Making a Playlist

You will see that a PLAYLIST can be made very quickly. The experienced operator can include a CLIP at the end of the PLAYLIST containing material that happened seconds before the PLAYLIST is transmitted.

When the Super LSM is first switched on, the active PLAYLIST will automatically be PLAYLIST 11.

To activate another PLAYLIST, go to PLAYLIST bank (**SHIFT - F10**).

Select PLAYLIST as required (press **F1 - F10**)

PAGE 1 contains Playlists 10 to 19, PAGE 2 contains 20 to 29 and PAGE 3 contains 30 to 39.

Select a Clip Bank (Shift F1.... F9)

Choose first clip for your PLAYLIST, and press **ENTER**. The ID of the clips entered in the PLAYLIST appear on the LCD of the remote panel, as well as on the VGA Playlist screen.

Repeat as necessary until last CLIP is entered.

Note: *Maximum 70 clips can be inserted in the same playlist.*

Useful feature : Pressing Clear - ENTER on the remote panel remove the last entry of the playlist.

When a clip is entered in the playlist, the default speed is **Unk (33 %** if using the PLAY key to start, or lever position if lever is used to start the playlist). The default transition effect (effect at the beginning of the clip) is the one selected by the **Default Effect** in the setup of the remote panel.

- Viewing the VGA Playlist Screen

The VGA playlist screen can be accessed by selecting **F9** on the keyboard. As soon as the first clip is entered inside the playlist, this screen automatically shows up on the VGA monitor.



7.2. Recalling a Playlist

The active PLAYLIST can be selected by pressing



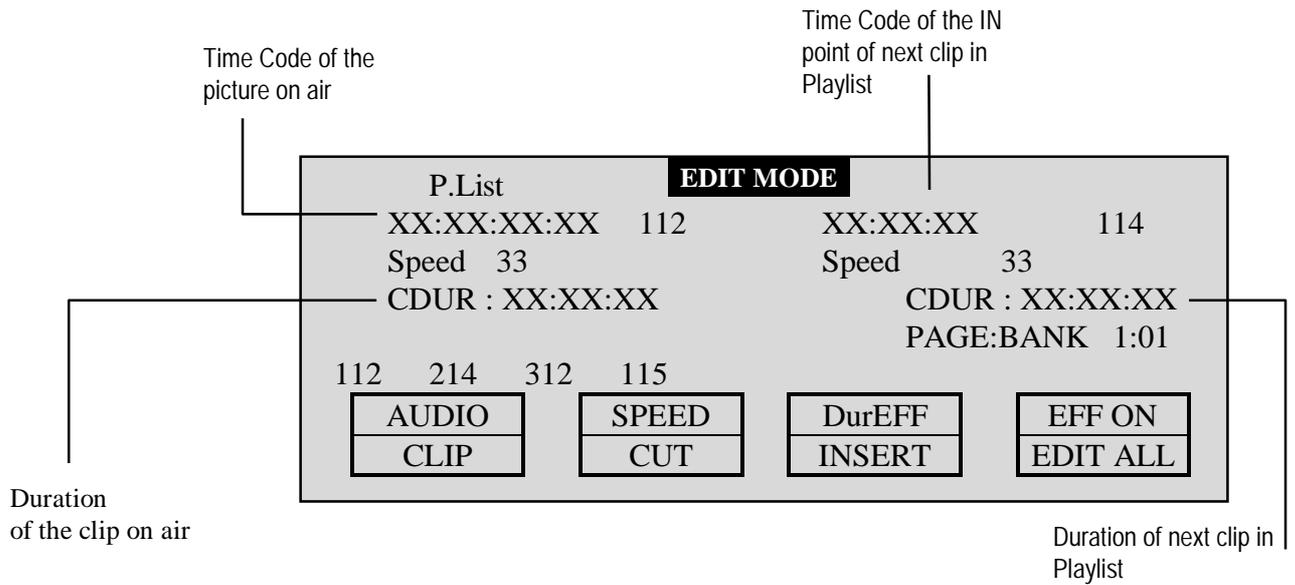
The first time this key is pressed, the *Edit mode* will be entered.

In Edit mode, the Super LSM keeps recording. Here, the operator will see the first frame of the highlighted clip within the playlist appear on the PGM output. Scrolling through the playlist can be done here.

Press  again and the Super LSM will jump back at the first frame of the playlist, if it was not yet the case.

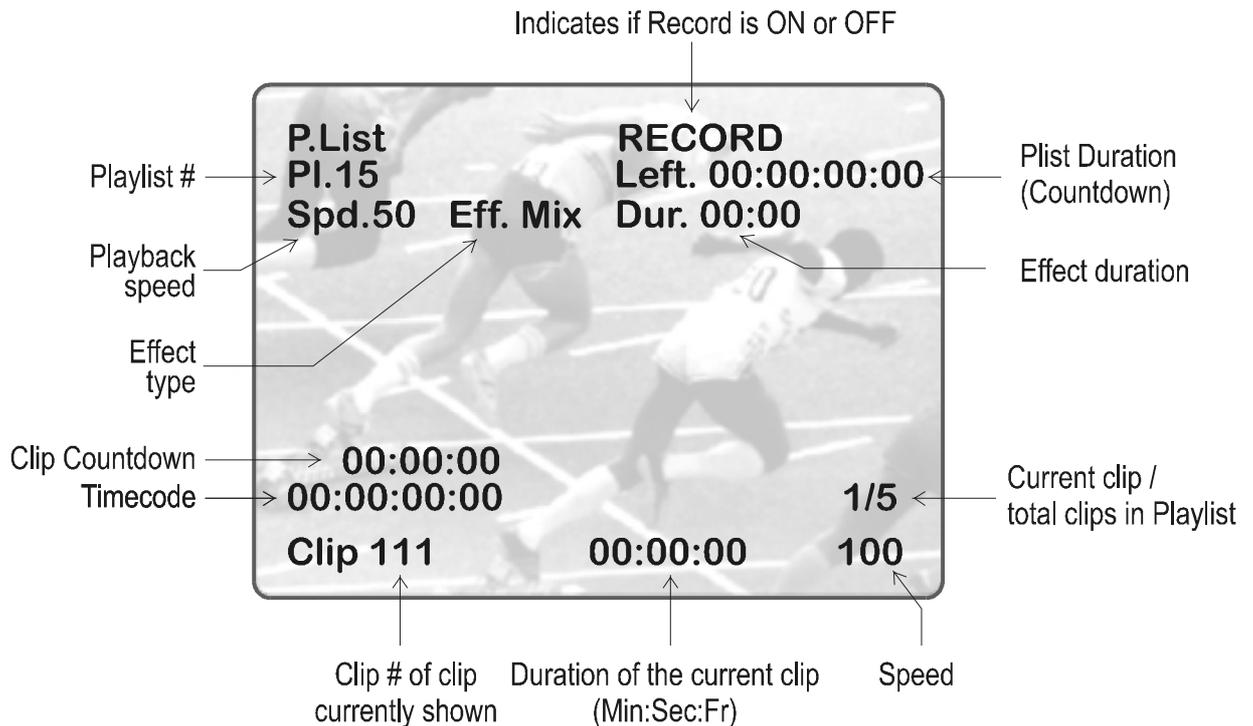
When a playlist is activated, there will be a new menu display that will appear on the LCD of the remote.

7.3. Remote Panel LCD Display



Function	Brief explanation
CLIP	Enter the CLIP mode
CUT	Remove the selected clip from playlist
INSERT	Insert the selected clip inside playlist at current position
EDIT ALL	Edit effect / speed parameters for all clips inside the playlist
AUDIO	Enable / disable the audio for all clips
SPEED	Set the playback speed for selected clip
DUR EFF	Set the duration of effect and the type of transition effect.
EFF ON	Enable the transition effect before playing the playlist. RECORD IS STOPPED

7.4. Monitoring Output Display



7.5. Naming a Playlist

Each of the 20 playlists can be given a name.

When the VGA displays the Playlist screen, Simply press **F1** on the keyboard and type the name. The name will appear in the lower right corner of the VGA screen. When the name is complete, press **F1** to validate

7.6. Editing a Playlist

Once the playlist is activated, selecting the **BROWSE** key allows the operator to use the jog knob to scroll up and down the playlist entries. As each clip is highlighted, the first frame can be seen on the display monitor. To change any of the options, simply highlight the desired clip, then select from the above menu and use the control lever to adjust to desired point. Hit **ENTER** to validate selection.

DurEff (Effect) : Initially this button shows the duration option. This sets the duration time of the transition effect. The default value that initially appears is determined by the value set in the **SETUP** menu. The effect duration will be occurring «into» the selected clip. Selecting this button again gives the **Effect** option. Use this to select the type of transition effect (Mix/Wipe/None) Move the lever to set the type and duration of effect, when **DurEff** or **Effect** is highlighted.

Speed : Select the playback speed of the clip. This can be varied from 0 to the value of Max Speed 2 Play (this parameter can be adjusted in the Setup Menu of the remote Speed panel (page3, F4). To return to «Unk», move the lever

to the lowest position.

Clip : Selecting this allows to select clips and insert them while in playlist mode.

Cut : This allows the operator to quickly edit the playlist by removing the selected clip.

Insert : This allows the operator to quickly insert clips into the playlist. If the **Clip** option is highlighted, recall the desired clip and selecting **Insert** will place that clip into the playlist at the appropriate location.

Edit All : Selecting this, followed by one of the playlist parameter options (speed, effect, duration effect) will allow the operator to edit ALL the clips in the list at one time.

Audio : Enable or disable the audio for all clips in the playlist

Eff ON : Selecting this, **the RECORD is stopped**, enabling the playlist to be played with mixes and wipes. If this option is not selected, the playlist will play with cuts, whatever effects have been defined previously.

Deleting of CLIP from PLAYLIST

While in *Edit mode*, scroll within the playlist to the clip that needs to be deleted. To go quickly through the playlist, the **BROWSE** key can be used. In this case, the first frame of each clip will appear when moving the command knob.

When the CLIP to be removed is located, select **CUT** from the playlist Edit Menu.

Selected CLIP will be removed from PLAYLIST

Inserting of CLIP into PLAYLIST

Using the command knob, as above, scroll to the location for insertion of clip. Recall the clip you want to insert, and press **SHIFT - INSERT** (above the **IN** key) on the remote panel. Depending on what is selected in the SETUP menu, the clip will be inserted **before or after** this highlighted clip.

When you recall the clip, you exit the Playlist mode. To avoid this, clips can be inserted inside a playlist using the **CLIP** mode :

Enter the Playlist mode (press **PLST** key). Select **CLIP** mode (A key) of this edit menu and recall the desired clip by pressing appropriate **F** button, or by selecting it on the clip screen. The first frame of the clip is shown, and the operator can insert it in the playlist at the current location by pressing the **INSERT** function (B key). The system remains in Playlist mode, so that the operator can use the command knob to search inside the updated playlist (including the new clip), adjust in and out points, start play back, etc.

To insert another clip, use **BROWSE** mode and move the command knob to scroll into the playlist to select another location. Recall the desired clip and repeat steps as above.

To go back to the normal *Edit mode*, press the **CLIP** key again.

Rolling a Playlist

IMPORTANT NOTE

To playback the selected playlist with the wipe and mix effects, as defined when creating the playlist, the EFF ON key (Shift + D) must be pressed before starting playback. When this option is selected, the record is automatically stopped !! If EFF ON is not selected, the playlist will play only with cuts.

Pressing the PLAY key starts the playlist from current picture. If no particular speed has been defined for the first clip, the playback speed is 33% (or Pgm Spd value, if Pgm Spd mode is ON). If a speed has been defined for the first clip, this speed is used when hitting the PLAY key.

The playlist can also start by moving the lever. In this case, the speed is defined by the position of the lever.

The operator can adjust the playback speed at any time by moving the lever. This overwrites the preset speed of the current clip, if any. The following clips will also play at the speed set by the lever, even if a particular speed had been previously set.

The playback speed is limited to a value defined by the **Speed Max 2 Play** parameter in the setup menu of the remote panel. The default value is 50%. The operator can adjust this value in the setup menu, but this must be done carefully : if a too high value is used for playback, the picture might freeze shortly during transition effects (Mix / Wipe)

8. Paint Mode

(C from MAIN MENU)

The Paint Mode is a software option. If the license code for this option is not installed on your system, the words 'No Paint option' will appear on the PGM monitoring output when trying to enter this mode, and the function will not be available.

The facilities within this software package can be operated using the graphics tablet, or a touch screen. Selected in the MAIN MENU, the normal pointing device is the tablet, selecting F9 will toggle between tablet / touch screen (only when the touch screen is available).

8.1. Paint Functions

STRAIGHT LINE DRAWING:

Select **L**, you will be prompted to enter beginning and end points. Place the pen at the start point followed by the finish point, pressing lightly both times. When the pen is removed from the tablet a straight line will appear. The system automatically defaults back to regular drawing mode.

CIRCLE DRAWING (Large or small) :

Select either **C** or **c**, you will be prompted to select center of circle. Place the pen on the tablet at the point where the circle is required. The circle will appear.

ARROW:

Select **A**
When you draw on the tablet and remove the pen, a «neat» arrow appears at the end of the line.
This facility remains «on», when no longer required, select A again.

COLOR & DENSITY:

Select **D**. Choose the desired color from the display, then choose the desired thickness.
This will be stored as Br1 or Br2. Thus, two types can be stored.

ERASE:

Selecting **E** allows the pen to be used as an eraser.
This facility remains «on», when no longer required, select E again.

CLEAR:

Selecting **C** allows for clearing of the entire drawing. Once selected, you can choose between 3 options : Clr to clear, DfC to define customized colors or you may ESCape this function without clearing any drawing.

If you select Define Color (DfC), a new screen will appear including a U-V

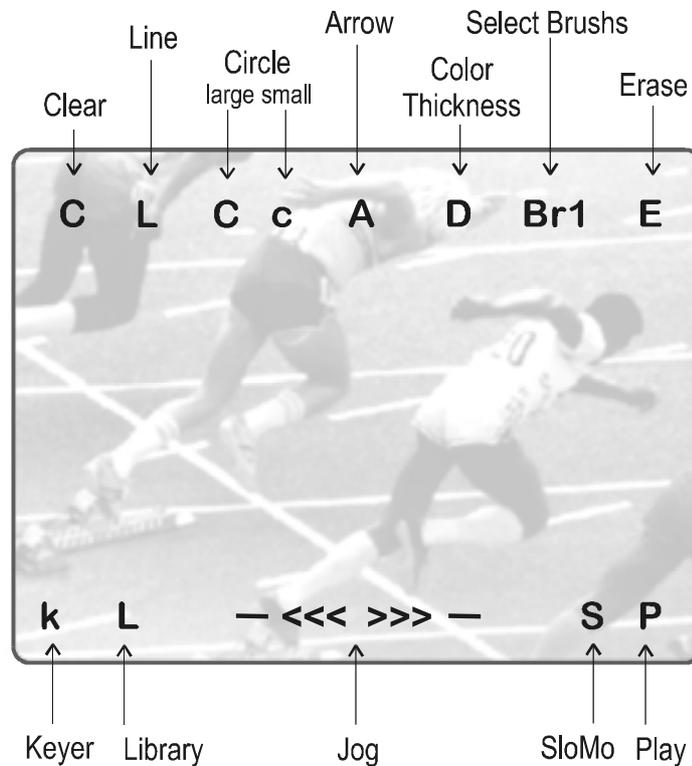
selection area, and a Y level selection area. Select first the color you want to edit on the top of the screen, then select the U-V and Y values by moving the pen on the right location of each selection area. When the adjustment is made, move the pen to an empty zone of the screen.

The value of the colors are stored in a file named PNTG_BR.COL. If you want to restore the default values, you just have to delete this file. You can also copy this file to other LSM units, in order to have the same color settings on all systems.

KEYER:

Can be selected with pen, select K (arrows appear/disappear), or A from menu. This feature will cause the drawing to dissolve on and off.

8.2. Paint Monitoring Output



- | | |
|----------------|--|
| C (clear) | Clears page |
| L | Enables line mode («one-shot») |
| C / c (circle) | Selects large / small circle («one-shot») |
| A | Automatic arrow at end of freehand drawing |
| D | Selects brush color and thickness |
| Br1 / Br2 | Brush 1 or Brush 2 (Set by D) |
| E | Erase unwanted portion of graphic |
| k / >k< | keyer off / on |
| C | marks cue point on picture |
| — — | reverse & forward frame by frame motion |

9. Target Mode

(D from MAIN MENU)

This software enables the following of an action by use of a Circle, emphasizing a certain point. This software enables the user to choose the size, color and thickness of the circle border as well as choosing the darkness of the background for a highlight feature.

The facilities within this software package can be operated using the graphics tablet, or a touch screen. Selected in the MAIN MENU, the normal pointing device is the tablet, selecting F9 will toggle between tablet / touch screen (only when the touch screen is available).

9.1. Target Functions

Creating a Target Track:

Begin by selecting all the appropriate sizes, color, etc. (8 choices for each)

- T: Select the background shade
- E: Select the border thickness
- S: Select the circle size
- C: Select the border color

Select the material that you wish to highlight (this may be a clip, or simply a cued replay)

Position the material at the target start point, place the pen on the tablet. (At this point a circle will appear on the screen)

When the circle is positioned correctly, mark a KEYFRAME by pressing CUE button on the remote control unit or press the lower button on the pen. (The K will now appear in the upper left corner indicating that a keyframe has been marked)

Re-position the material, and mark the next keyframe, and so on.....

When the final keyframe has been marked, the replay can be re-cued.

When the replay is animated, the illustration will appear with a dissolve effect at the first keyframe and disappear, with a dissolve effect, at the last.

Operational notes !

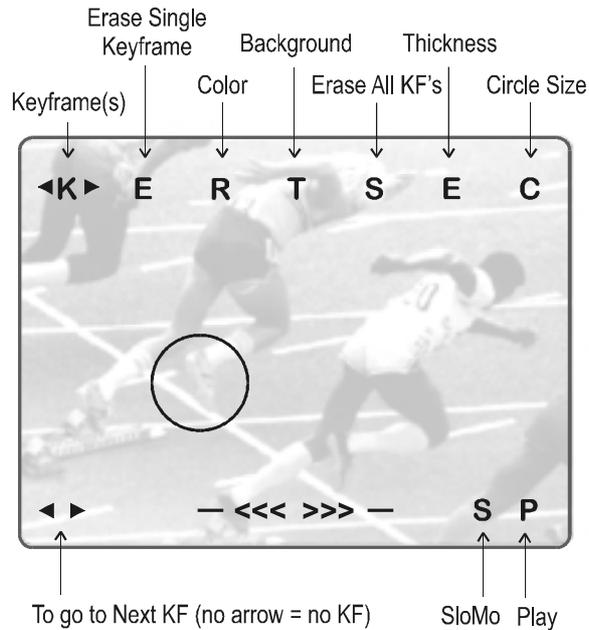
1. The first / last keyframes can be at the IN / OUT points of the clip.

2. If, when a replay is viewed, the action is not accurately followed, stop the replay where the circle has drifted away from the target and use the pen to move the circle to the correct point, marking an additional keyframe. This can be done as many times as necessary.

3. When checking / modifying a track, the **arrows** that appear at the bottom **LEFT** of the screen may be used to select the next marked keyframe.

4. If **ONE** keyframe is to be erased, use the **arrows** to get to the appropriate keyframe and then select **ERASE (E)**. Erasing **ALL** keyframes can be done using **R**.

9.2. Paint Monitoring Output



- T Select the darkness of the background (8 choices)
- S Select the size of the circle (8 choices)
- E Select the border thickness (8 choices)
- C Select the border color (8 choices)
- <K> Indicates keyframe has been marked on frame viewed
- E Erases currently displayed keyframe
- R Erases all keyframes marked
- < > Go to next keyframe (Forward or Backward)
- S start slow-motion (preset SPEED 1)
- P playback

Note : Not all letters will appears when entering the Target mode. For instance, E (Erase) and R (Reset) will only appear after a keyframe is marked.

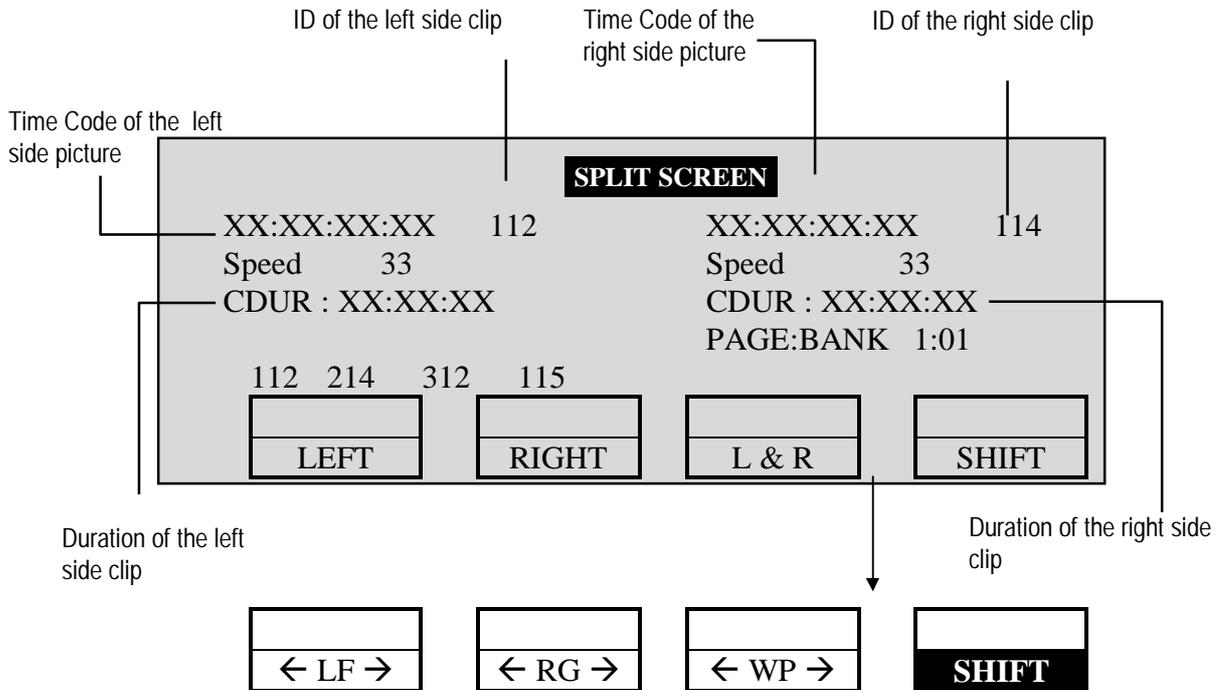
On the remote control display, selecting **A (Motif.)** will cause the target circle to be changed to the LENS function. You will now notice that the circle will magnify the image. This is a great feature for showing, for example, a close call like a foot on a line or a ball in/out of bounds.

Selecting *Motif.* again will switch back to highlight mode. Keep in mind, when making these selections, the software will take a few seconds to make the change.

10. Split Screen

To enter the Split Screen mode, press the **MENU** key on the remote panel to access the Main Menu, and press the **SPLIT** key (B). The LCD display and the monitoring output will display new information.

10.1. Remote Panel LCD Display



Press the **SHIFT** key (D) to switch between normal and special commands

Function	Brief explanation
LEFT	To control the left part of the monitor
RIGHT	To control the right part of the monitor
L & R	To control both sides together
SHIFT	Access / Exit special commands
< LF >	To center the left picture
< RG >	To center the right picture
< WP >	To move the separation line

Press **LEFT** key to take control of the left side of the screen, and recall the desired clip for this side. Use the command knob to search inside the clip until the desired picture is reached.

Press **RIGHT** key to take control of the right side of the screen, and repeat the same operation with the clip you want to display on the right side.

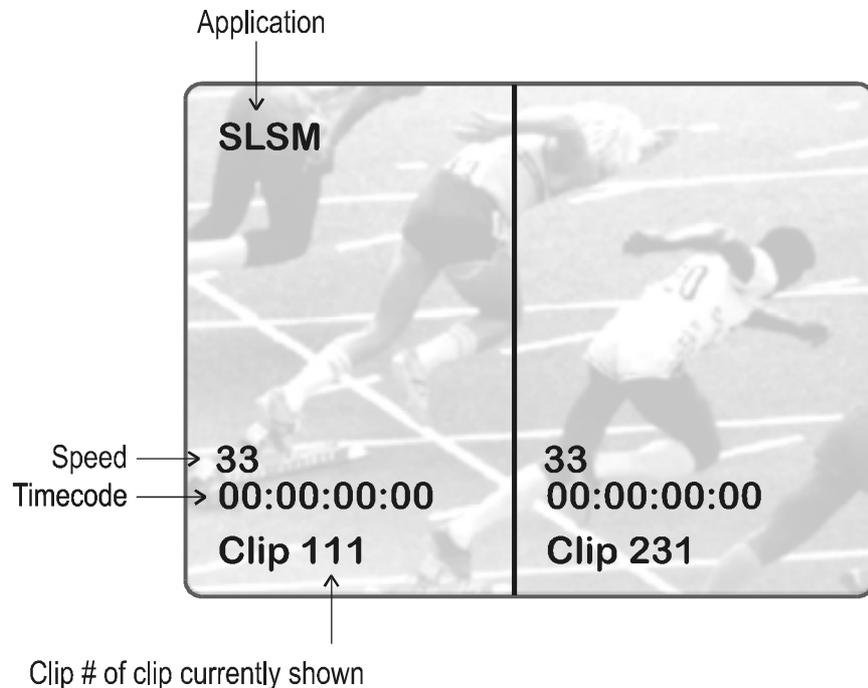
You can also shift horizontally the left and right pictures, so that the interesting action is in the center of the picture. Press **SHIFT** key (D) to enter this mode. The menu will change, as shown above.

Press **< LF >** key, and move the command knob to center the left side picture. Press **< RG >** and do the same operation for the right side picture.

Pressing **< WP >** key allows to move the separation line.

To exit the SHIFT mode, press the **SHIFT** key (D) again.

10.2. Monitoring Output Display



Note that when playing back a split screen sequence, the playback speed is limited to the value defined by **Speed Max 2 Play** parameter in the setup menu of the remote panel. The default value is 50%. The operator can modify this value, but this should be done carefully. If a too high speed is used when playing back a split screen, the picture might freeze shortly.

10.3. Auto Drive Mode

The Auto Drive mode allows to adjust the horizontal position of a sequence to make sure it is as close as possible to the center of the left/right part of the screen. This feature can be enabled/disabled by the SPLIT AUTO DRIVE parameter in the setup menu of the remote panel (Page 4, F1 in this menu).

To use the Auto Drive, the first step is to track the object that must be kept in the center of the frame. This is done by using the TARGET TRACK mode, marking keyframes to determine the trajectory of the object. Refer to the TARGET TRACK chapter of this manual for more details.

When the tracking is completed in the desired clips, enter the SPLIT SCREEN mode and recall these clips on the left and right side of the screen. IF SPLIT AUTO DRIVE is enabled AND IF keyframes have been marked inside selected clips, the word 'DRIVEN' will appear on the corresponding side of the monitoring output. At playback, the picture will be shifted horizontally to keep the tracked object in the center of its frame.

To disable the AUTO DRIVE without leaving the Split Screen mode, press

CLEAR+LEFT (disable Auto Drive on left side) or CLEAR+RIGHT (disable Auto Drive on right side).

11. Philips LDK23HS Camera : Standard and EVS Modes

The LDK23HS super motion camera provides three standard SDI outputs in parallel with a sequence of field 1,4,7,..., field 2,5,8.,field 3,6,9.. There are two ways of adding synchronization to the three signals.

The standard mode is straightforward implementing the CCIR656 standard. This means that the sync of phase 2 is delayed 312 lines with respect to the frame syncs of phases 1 and 3. In this standard mode the standard 50/60Hz output can provide a combination of these three phases, when Combined function = ON; all phases will participate with the same amount.

The other mode is used in the EVS Super Live Slow Motion disk recorder and therefore so called the EVS mode. This mode is applying the same sync to all three phases. This implies that in phase2 the even field is coded as odd and vice versa. Since the vertical blanking periods are different the original odd field has to be delayed one line to fit into the CCIR656 format. In this EVS mode the standard 50/60Hz output can provide a combination of these three phase, when Combined function = ON, in a different form because the phase 2 will be only for around 15% participating in the combined picture. Phase 1 and phase 3 both are responsible for more than 42% each. If you are not satisfied with the quality of the combined picture, you can select Combined function = OFF and only 1 phase will be used to generate the 50/60 Hz output.

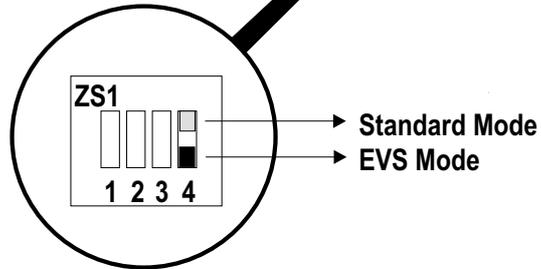
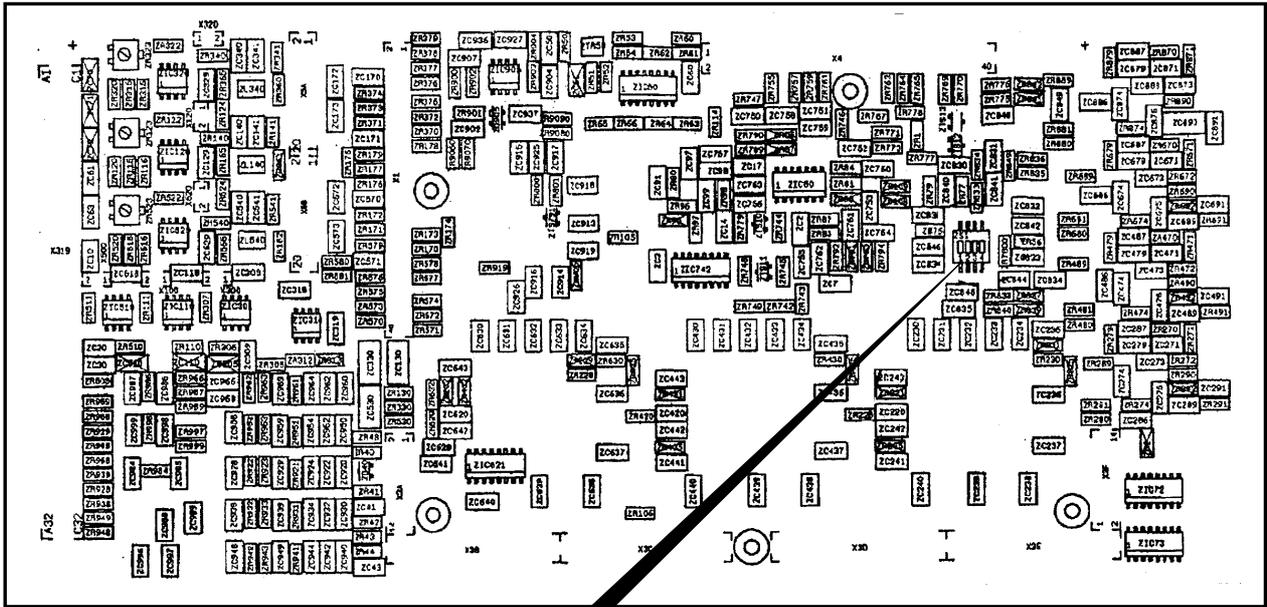
The selection of the interfacing mode must be done on the DVP-board in the LDK4058 Camera Processing Unit. DIP-Switch ZS1 position 4 must be set ON for Standard mode and OFF for the EVS mode. The DIP-Switch is located on the back side of the board.

The EVS Super Live Slow Motion (software release 5.13 or higher) is software configurable and can operate in both modes. Default mode for SLSM is EVS mode so that the SLSM can work with any model of Super Motion camera (Philips LDK23HS, Panasonic AQ2000 and Sony BVP9000). If you wish to change to the standard mode, a parameter must be added to the command line that starts the SLSM software :

SLSM4.EXE /p

Should you need to modify this setting, please contact an EVS representative for a detailed procedure.

LDK23HS DVP-Board Back Side View





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