

MULTICAM SOFTWARE

User's Manual

Version 4.0 – JULY 2002



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Overview

The aim of this manual is to familiarize the operator with the SD/HD MULTICAM software and its REMOTE panel so as to learn as quickly and efficiently as possible the basic operations.

The CLIP & PLAYLIST MANAGEMENT functions allow the operator to keep up to 450 clips (multiplied by the number of cameras) on disks and of course to replay all or some of them. A PLAYLIST consists of a list of clips (50 PLAYLISTS can be defined).

The SPORTNET option networks LSM-XT systems into a fully integrated production environment. Any clip, recorded by any LSM-XT on the network is available instantly for editing and/or play-out to any other operator.



The SPLITSCREEN (horizontal or vertical) option displays simultaneously two synchronized actions.

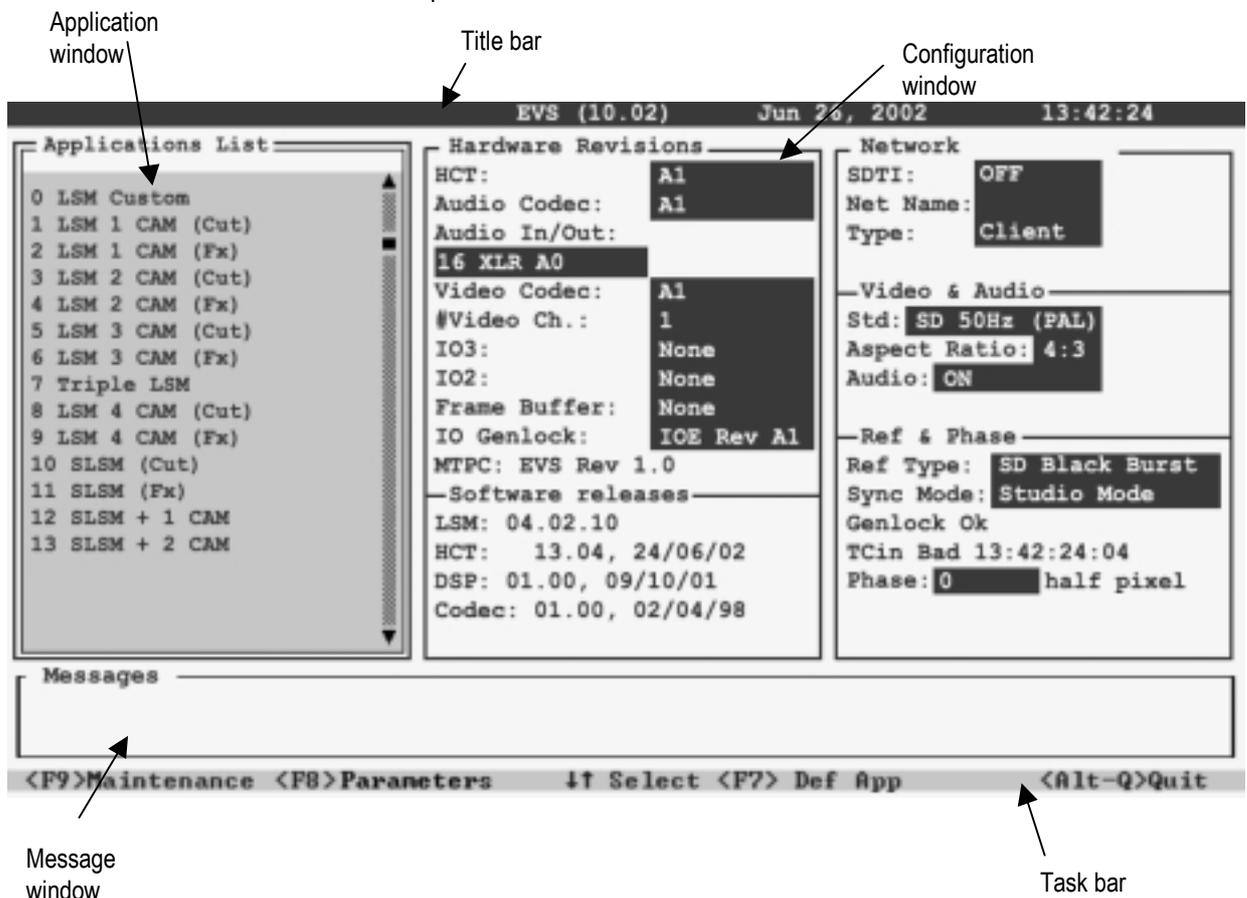
The PAINT option (Telestrator) draws and applies keying on the picture. Sport actions can be analyzed using different colored circles, arrows and lines.

The TARGET TRACK option follows a target with circle, highlight or lens.

1. Software selection

The EVS software is used for configuration and maintenance operations. It is also used to select which configuration to run, since EVS disk recorders have the ability to run various standard and customized configurations. (LSM 1 CAM, LSM 2 CAM, LSM 3 CAM, LSM 4CAM, TRIPLE LSM, SLSM)

When turning on the EVS mainframe, the first step is the PC boot sequence, and then the EVS software is started. If a default application has been previously selected, this application will start automatically after a few seconds if no key is hit. If a default application hasn't been defined or if the space bar is hit, the system will remain in the EVS main menu and wait for the operator's next command.

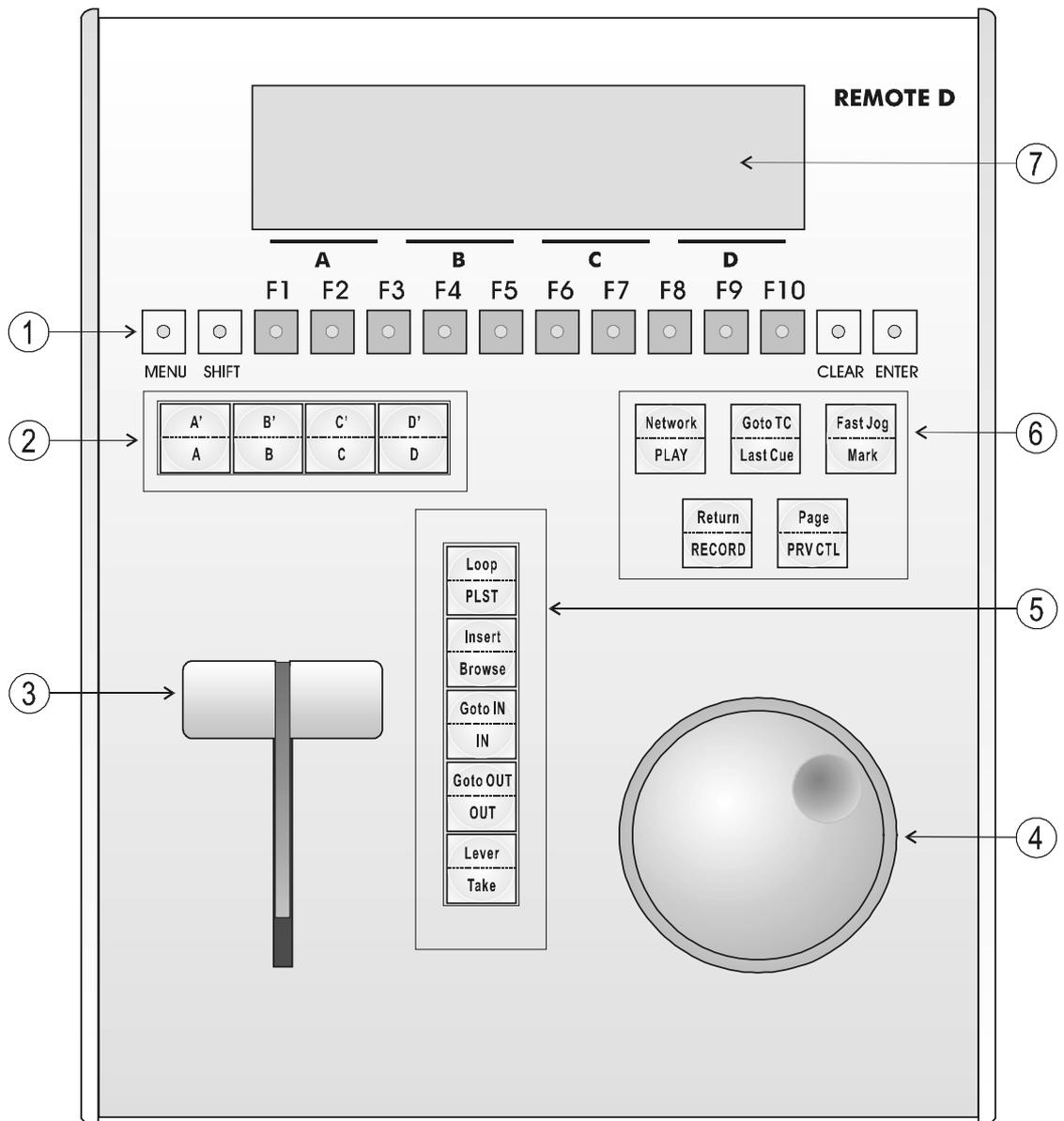


Please refer to the Technical Reference manual for complete information regarding the EVS Menu.

Between the PC boot and the hardware check, the video driver is loaded and the display is automatically switched to B&W video mode, allowing the VGA screen to be displayed on a standard composite video monitor using the VGA↔BNC adapter provided with the unit. If a VGA screen is directly connected to the VGA connector of the mainframe, press simultaneously < **ALT** > and < **Backspace** > on the keyboard to switch back to the VGA mode.

2. Remote Controller

The following diagram shows the REMOTE panel along with a brief description of each area.



Note: The operational buttons have PRIMARY and SECONDARY functions and are divided into upper and lower sections. By pressing the SHIFT button you gain access to the secondary functions

1. **F-Keys & small buttons:** multi-purpose keys
2. **SOFT keys:** with LCD display, enables operator to enter MULTICAM MENU system
3. **SLOMO LEVER:** initiates slow motion and playlist replay
4. **JOG knob:** used to accurately cue disk recorder
5. **Operational block 1:**

| | |
|-----------|--|
| PLST | initiates active PLAYLIST |
| LOOP | This option records the main output (PGM1) to the first input (CAM A) of the MULTICAM |
| BROWSE | to browse through clips, playlists, cue points |
| INSERT | used in playlist management to insert clips into a playlist |
| IN | Sets Mark IN at the current position |
| GO TO IN | Goes to the defined Mark IN |
| OUT | Sets Mark OUT at the current position |
| GO TO OUT | Goes to the defined Mark OUT |
| TAKE | <ul style="list-style-type: none"> ▪ In PGM+PRV mode: swaps cameras on PGM and PRV monitors ▪ In Multi-PGM mode: allows for camera selection. ▪ In Playlist Edit mode: inserts clips into current playlist. |
| LEVER | change the lever range to secondary mode (see setup menu for range selection) |

6. Operational block 2 :

| | |
|-----------------|--|
| PLAY | initiates forward motion |
| Network | Enters the SportNet menu. (remote clips selection) |
| LAST CUE | Re-cues machine to last entered cue |
| GO TO TC | enables timecode entry, with «F» keys |
| Fast JOG | used with JOG dial for rapid manual re-cue of disk recorder. This command is automatically reset after PLAY/LIVE commands. |
| MARK | re-usable cue entry, 256 cycling cues |
| RECORD | initiates "E2E" mode |
| Return | Allows the operator to go back to the position where he was before recalling a clip/playlist. |
| PRV CTL | enables/disables the Preview Control mode |
| Page | selects clip page 1, 2, 3, 4 or 5 |

7. LCD Display: provides current status of system

LED COLORS

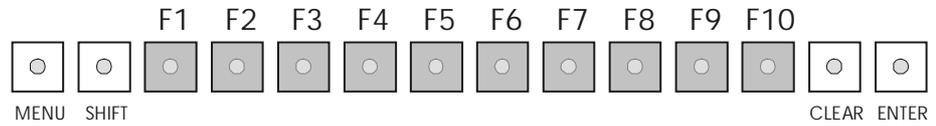
A selected key lights red.

When a key lights green, it means a value in relation with this key exists.

For example: F1 to F0 keys

- Green light means a clip has been stored in relation with the key.
 → Flashing means a clip is being created.
- Red light means the clip associated to the key is playing or is ready to play.
 → Flashing means a clip is being deleted (in network mode)

F-KEYS & SMALL BUTTONS



MENU

provides access to the Secondary Menu

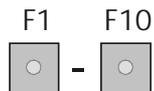
| **Note:** SHIFT + MENU returns to MAIN Menu



SHIFT

enables use of the secondary key functions.

| **Note:** This key remains active even if released, until another key has been hit.



stores / recalls Clips, recall Playlists and enter Timecode information.



CLEAR

is a multi-purpose key used to clear CLIPS or PLAYLISTS, and to clear IN/OUT points

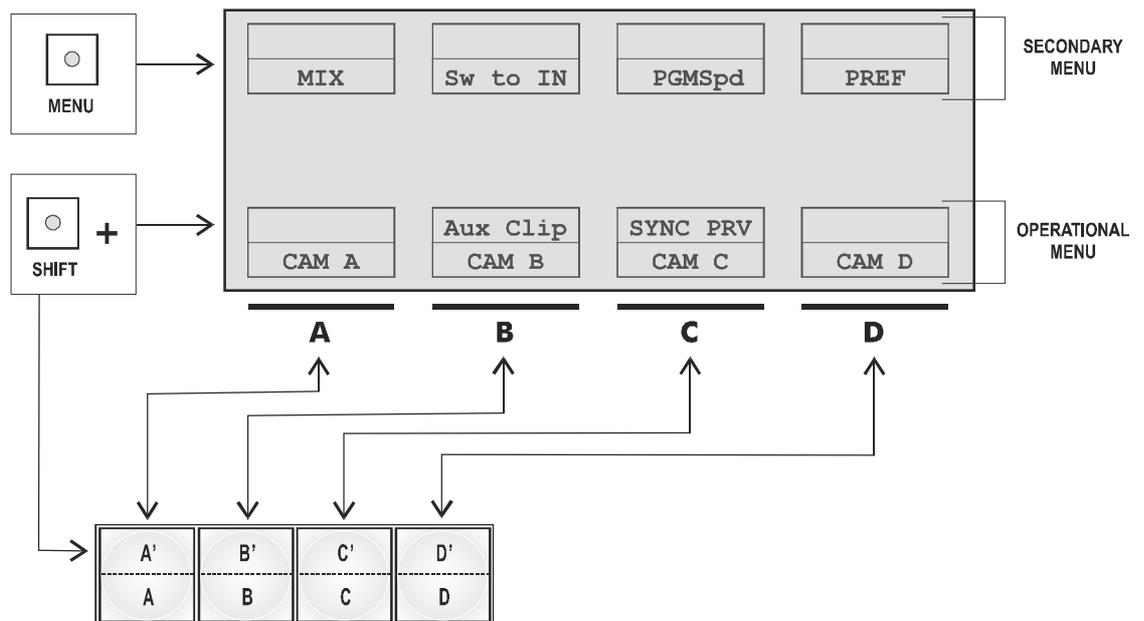


ENTER

is used to ENTER clips into PLAYLIST and to validate other options and messages.

SOFT KEYS

The soft keys have PRIMARY and SECONDARY functions and are divided into upper and lower sections.



By pressing the SHIFT button you gain access to the secondary functions.

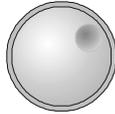
The LCD display is divided in two menus.

To gain access to the secondary menu, press MENU from the remote controller. The secondary menu is used to define settings that do not require regular changes, without having to return to the SETUP menu.

To return to the operational menu, press the MENU key again.

To return to the MAIN menu of the Multicam, press SHIFT + MENU.

TRANSPORT CONTROLS



JOG

The JOG allows the operator to pass into SEARCH mode and thus to choose exactly the SHORT OUT or SHORT IN image. Move the JOG clock-wise to search forward and move it counter clock-wise to search backwards. One revolution of the JOG will produce a jump of approximately 35 frames.

Note : The JOG is also used to set parameters in the SETUP menu. Refer to the SETUP menu section for more information.

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



LEVER

The LEVER is used to start a play or to modify slow motion speed. Its run can be of two different types regarding the lever mode.

Normal run:

In this mode, the LEVER run goes from 0 up to 100%.

Second range:

The second range is available to play material from -100% to 100% or from -200 to 200% with a larger step at 0% (see SETUP menu - page 5-F4 for selection)

To gain access to the secondary speed, press SHIFT + LEVER from the remote controller.

3. MAIN Menu

After the boot sequence of the MULTICAM system, the LCD screen of the Remote Control panel will display the MAIN menu:

| | | | |
|-----------------|----------------------|----------|-------|
| X PLAY X REC | LSM MULTICAM | Vers x.x | |
| F1: 1 Remote | F6: Exit | | |
| F2: 2 Remotes | F7: Clear All clips | | |
| F3: 3 Remotes | F8: Stop Record | | |
| F4: | F9: Fill Playlist | | |
| F5: Char On/Off | F0: Save Clips+Plist | | |
| Split | Paint | Target | SETUP |
| PGM+PRV | 2 PGM | 3 PGM | |

From any section of the application, press SHIFT + MENU on the first remote control panel to return to the MAIN menu.

The MAIN MENU has special function key operations as shown above, as well as the «soft» key options to enter 1PGM, 1PGM+PRV, 2PGM, or 3PGM modes (if available) and to enter the SETUP menu to configure your remote controller or to add special functions to your application.

Select the corresponding Function key, and then press ENTER to validate the selection.

F1: 1 Remote

F2: 2 Remotes

F3: 3 Remotes

If desired, the MULTICAM system can be run using 1, 2 or 3 remotes. Depending on the configuration selected, 1-, 2- or 3- remote modes will be available from the MAIN menu.

F4: not used

F5: Char On/Off: enables or disables the on-screen display (Timecode, Clip ID,...) on the monitoring outputs.

F6: Exit Exits the MULTICAM software and goes back to the EVS Menu.

| **Note:** This command also runs a Save Clip process.

F7: Clear all clips Clears all clips. All clips will be lost. A confirmation of this command is required:

- If no clips are protected, press ENTER to confirm or MENU to cancel.
- If some clips are protected, press ENTER to delete all clips included protected ones, or F5 to delete all clips except protected ones, or MENU to cancel the command
- If the system is connected to the Sportnet, an additional confirmation is required.

F8: Stop Record Stops the record. The REC key will go off and the F8 function key is now used to restart the record.

F9: Fill Playlist This is a «dump» feature which allows all clips to be «dumped» into the selected playlist. This allows the operator to save all material to tape, as a backup feature after a show is complete. *Make sure the playlist you have selected is an empty one. This function will append the clips to an existing playlist.*

F0: Save Clips+ Plist Saves all clips and playlists in all banks.



Important Note: In order to guarantee the validity of data and clips previously saved, it is advised to properly exit the application by pressing <Alt>+ <Q> from the keyboard or <F6> and then <ENTER> from the remote panel.

DO NOT TURN OFF THE SYSTEM WHILE THE APPLICATION IS RUNNING.

4. SETUP Menu



Important Note: Prior to using the MULTICAM, 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 afterwards, those clips and playlists will not change. Thus, it is important to set these parameters first.

The SET-UP menu allows the operator to define parameters regarding some functions. The new parameters are saved when exiting the SETUP menu.

HOW TO ACCESS THE SET-UP MENU?

Press SHIFT+ MENU key to return to the MAIN menu,

| | | | |
|-----------|-------|--------|-------|
| Split | Paint | Target | SETUP |
| 1 PGM+PRV | 2 PGM | 3 PGM | |

And then press SETUP (SHIFT + D) to enter the SETUP menu.
The MULTICAM software has seven menu pages once in the **SETUP** mode.
To select directly the page in the SETUP menu, press SHIFT + F-Key corresponding to the page number.

HOW TO SELECT AND TO MODIFY PARAMETERS?

Adjustments are made as follows:

- Select the MENU page, using F9 (Page Down) / F10 (Page Up) as necessary, or press SHIFT+F-Key.
- Choose the parameter to be modified by pressing the corresponding Function key & make adjustment by rotating the JOG knob.
- To restore the default value of a parameter, press CLEAR and the corresponding Function key.
- To QUIT SETUP mode, press MENU

```
Setup Page 1                Clear+F_Key :Restore Dft
F1 : Effect duration          : 0s10fr
F2 : Wipe Type                : Vert L>R
F3 : Genlock Error msg       : Yes
F4 : Playlist loop           : No
F5 : Preroll                  : 0s10fr
F6 : Paint/Target Trans.     : 0s08fr
Page down (F9) Page up (F10) Quit (Menu)
```

Effect Duration:

(0s00fr to 20s00fr)

sets the duration of transition effect. Used as default value in playlist and when using TAKE button in 1PGM+PRV mode.

Default: 0s05fr

Wipe Type:

Selects vertical wipe effects from Left to Right or from Right to Left.

Default : Vert (L>R)

Genlock error messages:

(Yes / No)

enables or disables the Genlock information on the monitoring output. If Genlock reference is not correct, the !GkV message appears on the monitoring output.

Default : Yes

Playlist Loop:

(Yes/No)

Allows playlist to loop and replay continuously.

Default : No

PreRoll: (0s01fr to 5s00fr)

Pre-roll for automatic cues

Default : 0s05fr

Paint/Target Transition:

(0s01fr to 3s10fr)

Sets the duration of the dissolve effect for the key in Painting and Target Tracking modes.

Default : 0s10fr

| Setup Page 2 | | Clear+F-Key :Restore Dft |
|--|-------------------------|--------------------------|
| F1 | : Fast Jog | : 20x |
| F2 | : Guardbands | : 05s00fr |
| F3 | : Pgm speed | : 050% |
| F4 | : Insert in Playlist | : After |
| F5 | : Default PlstSpeed | : Unk. |
| F6 | : Default clip duration | : 04s00fr |
| Page down (F9) Page up (F10) Quit (Menu) | | |

Fast Jog:

(01 to 20 times)

sets the increment of the jump when in Fast Jog mode.

Default: 20x

Guardbands:

(from 00s01fr to 60s00fr)

the amount of «guard-band» before and after clips.

Default : 05s00fr

Note: When marking clips LIVE, the full guard-band after the out point may not be generated due to the lack of video at the time of creation.

Pgm Spd:

(1 – 100%)

during playback, if PGMspeed has been enabled in the secondary menu of the remote, then rolling a selected clip will roll that clip at this predefined speed.

Default: 050%

Insert in Playlist:

(before/after)

selects the mode for «INSERT» function of playlist.

Default: After

Default Plst Speed:

(from 1% to 100%, unknown)

Default speed used for clips entered into playlist.

Default: Unknown

Default Clip Duration: (00s01fr to 12s00fr)

sets the duration of clips created with only IN point or only OUT point.

Default: 04s00fr

| | |
|--|--------------------------|
| Setup Page 3 | Clear+F-Key :Restore Dft |
| F1 : Make clip for cam A | : Yes |
| F2 : Make clip for cam B | : Yes |
| F3 : Make clip for cam C | : Yes |
| F4 : Make clip for cam D | : Yes |
| F5 : Audio Slow motion | : No |
| F6 : SplitScreen Tracking | : No |
| Page down (F9) Page up (F10) Quit (Menu) | |

Make Clip for CAM A:

(Yes / No)

selects the automatic camera creation. When creating clips, the clip corresponding to the camera on which IN/OUT points have been marked are always saved. It is possible to save automatically the same action on the other cameras.

Default: Yes

Make Clip for CAM B:

(Yes / No)

Make clip on CAM B even if no IN or OUT point has been marked on this one. Default: Yes

Make Clip for CAM C:

(Yes / No)

Make clip on CAM C even if no IN or OUT point has been marked on this one. Default: Yes

Make Clip for CAM D:

(Yes / No)

Make clip on CAM D even if no IN or OUT point has been marked on this one. Default: Yes

Audio Slow Motion:

(Yes/No)

Playback or mute the audio track when playing off-speed (speed different then 100%).

Default: No (off-speed audio is muted)

SplitScreen Tracking:

(Yes/No).

enables or disables the auto-tracking inside the Split Screen effect.

Default: No

| | |
|--|--------------------------|
| Setup Page 4 | Clear+F-Key :Restore Dft |
| F1 : Set color | : Cursor |
| F2 : Color | : White |
| F3 : Custom Y | : 240 |
| F4 : Custom U | : 128 |
| F5 : Custom V | : 128 |
| F6 : PtDev | : Tablet |
| Page down (F9) Page up (F10) Quit (Menu) | |

Set color : (Cursor / Target Border / Wipe / Split)

Applies the default color to a specific tool: to the cursor, to the border of the wipe effect or to the delimiter of the split screen.

Default: Cursor.

Color: (white, black, custom)

defines the color to assign to the cursor/wipe/split.

Default: white

Custom Color :

F3, F4, and F5 are used to set the border color for the split screen, the wipe effect and the cursor

Custom Y : (0 – 360)

Default : 240

Custom U : (0 – 128)

Default : 128

Custom V : (0 – 128)

Default : 128

PTDev: *Pointing Device*

(Tablet / Touch Screen)

Initializes the Tablet or the Touch Screen. If the tablet is not properly calibrated, use this function to re-initialize it.

Default: Tablet

| | |
|--|--------------------------|
| Setup Page 5 | Clear+F-Key :Restore Dft |
| F1 : Mark Cue points | : Live |
| F2 : Load Playlist | : Always |
| F3 : 2nd Lever range | : -100% <-> +100% |
| F4 : Lever engage mode | : Direct |
| F5 : Recall clip toggle | : Off |
| F6 : Record Train OUTs | : Play through |
| Page down (F9) Page up (F10) Quit (Menu) | |

Mark Cue Points:

(Live/Playback)

Live: memorizes cue points based on the LIVE input Timecode.

Playback: memorizes cue based on the output's Timecode.

Default: Live

Load Playlist:

(Always/Conditional)

Always: loads the selected playlist to PGM1 and PRV to PGM2

Conditional: loads playlist on PGM only (no PRV) if only 1 channel is active.

Default: Always

Secondary Lever Range:

The T-Bar lever can be used in normal mode: to play back clips at slow motion speed from 0 to 100%. Or secondary range is available to search material from -100% to 100% or from -200% to 200% speed. To gain access to the secondary speed from the remote controller, press SHIFT + LEVER.

Default: -100% to +100%

Lever Engage mode:

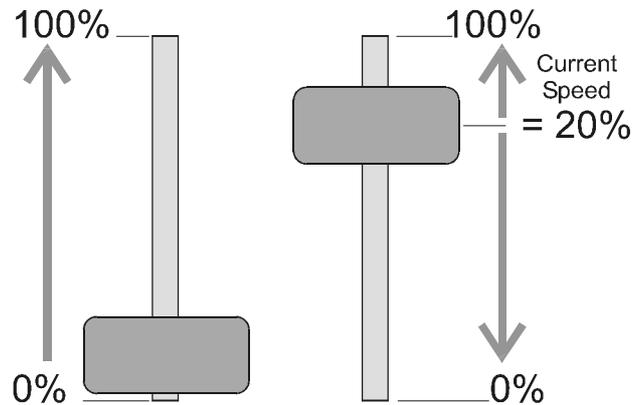
(Direct / Current speed)

The speed variation depends on the position of the T-Bar lever.

Direct mode: the lever will engage directly when moved, resulting in a speed jump to the desired speed determined by the lever arm position.

Current speed mode: the lever will only engage when it reaches the current playback speed, whereas a move of the lever arm in the opposite direction of the current speed will result in a direct speed change.

Default: Direct



Recall clip toggle:

(Enable/Disable)

This option allows the operator to select the camera of a clip through the Function keys. Pressing several time the F key browses to CAM A, CAM B, CAM C or CAM D.

Default: Enable

Record Train OUTs:

(Play through / Freeze)

When this parameter is set to FREEZE, and an OUT point is marked in a record train, the Multicam will countdown to the OUT point and automatically freeze on that picture when replaying that section. If set to "play through" it will still countdown to the OUT point, but will keep playing through this point. The Multicam always freezes on the OUT point in a clip.

Default: Play through

```
Setup Page 6          Clear+F-Key :Restore Dft

F2 : 2nd remote      : EVS Remote
F3 : 3rd remote      : EVS Remote

F5 : Disk error msg  : Yes
F6 : Network error msg: Yes
Page down (F9) Page up (F10) Quit (Menu)
```

Second Remote: (on RS422 port 2)

(EVS Remote / SONY Protocol / SONY DD35 Protocol)

This option allows the operator to select the type of controller for the second user.

Default: EVS Remote

Third Remote: (on RS422 port 3)

(EVS Remote / SONY Protocol / SONY DD35 Protocol)

This option allows the operator to select the type of controller for the third user.

Default: EVS Remote

Disk error Msg:

(Yes/No)

This function displays an error message (!Dsk) on the output monitor when a disk is faulty.

Default: Yes

Note: The LSM-XT is equipped with a RAID disk array. This means that the operation can continue seamlessly even with 1 faulty disk. If 1 disk is disconnected during operation, the "IDsk" message appears on all monitoring outputs, and another message appears when the operator shuts down the application, to invite him to replace the disk and rebuild the RAID array.

Refer to the Technical Reference manual for details on the RAID system and its maintenance.

Network error Msg:

(Yes/No)

This function displays an error message (!Net) on the output monitor when the network connection is faulty and another message (?Net) when the network is available for reconnect.

Default: Yes

| | |
|-------------------------------|--------------------------|
| Setup Page 7 | Clear+F-Key :Restore Dft |
| F1 : Confirm delete clip | : Yes |
| F2 : Protect clip from page 5 | : Yes |
| F3 : Lipsync value (ms) | : -40 |
| F5 : Record Key | : StartREC+Live |
| F6 : Loop Mode | : Video+Audio |
| Page up (F10) | Quit (Menu) |

Confirm delete clip:

(No / Yes / Playlist only)

No: clips are deleted immediately

Yes: a confirmation is required when deleting clips, either from the remote or from the keyboard.

Playlist only: a confirmation is required only when the operator attempts to remove a clip from a playlist.

Default: No

Note: This parameter does not apply to the CLEAR ALL CLIPS command (Main Menu) which already has its own confirmation message.

Protect clip from page 5:(Yes / No)

All clips are deleted while selecting the CLEAR ALL CLIPS command or while using the CLEAR button for each clip. This function allows users to protect clips stored on page 5 from accidental deletion.

Default: Yes

Note: Operators still have the ability to clear all clips from EVS menu.

Lipsync value:

(range: -40 to 0 for PAL and -33 to 0 for NTSC)

Lipsync parameter is the delay (in ms) between video and audio signals. A positive value means video is ahead of audio. A negative value means audio ahead of video. This parameter is also available from the V&A Channels Parameters in the EVS menu. Changing the Lipsync value in the SETUP menu will update it in the EVS menu and vice versa.

Default: 0

Note: This adjustment is done during the RECORD process. A new Lipsync value will apply for the next recorded pictures only.

Record Key:

(Live / Start REC+Live)

This parameter changes the function of the RECORD key on the remote.

Start REC+Live: Hitting the RECORD key starts the RECORD process and switches to LIVE mode.

Live: hitting the RECORD key only switches to last recorded picture, but the record is not restarted if it has been previously stopped by the operator.

Default: Start REC+Live

Loop Mode:

(Video + Audio / Video only)

This parameter defines the signals recorded during the LOOP process.

Video + Audio: both video and audio signals of PGM1 are recorded back into CAM A input.

Video only: only the video signal of PGM1 is recorded back into CAM A input. This allows the operator to continue the record of live audio tracks during the LOOP process.

Default: Video+Audio

5. REMOTE PANEL operations

RECORD:

This key lights «red» when the system is recording. Pressing this key brings the system in E/E (“live”) mode, and starts the record if necessary (depending on the settings of the Setup menu)

MARK :

Marks up to 256 cues that can be marked while recording / playing. The cues are always marked on the LIVE or PLAYBACK program depending on the value set in the SETUP menu.

LAST CUE :

Re-cues machine to last entered cue, pressing again will re-cue to the previously marked cue etc.

PLAY :

Initiates forward motion. Can also be used to commence playback of playlists and clips; refer to PLST command. Default playback speed when pressing the PLAY key is 100% for standard pictures and 33% for Super Motion pictures, when PGM SPD is OFF. When PGM SPD is ON, the value defined in the Setup for this parameter is used.

IN :

Defines the «IN» point of a clip. This key lights GREEN if an «in» point exists but is not the image you see and the key illuminates RED if the «on-air» image is at this «in» point. This point can be entered while recording.

OUT:

Defines the «OUT» point of a clip. This operates similarly to the IN button.

| **Note:** The OUT point (field) is always excluded.

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 re-mark 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 GUARDBANDS. Their duration can be set in the SETUP menu under «Guardbands» (page 2 – F2) as required. The duration of the guardband after the OUT point can be reduced according to the quantity of video/audio material available when saving the clip.

JOG KNOB :

Used to accurately cue material.

FAST JOG :

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 from 0 - 100%, and to playback material from -100 to -100% or from -200 to + 200% when Sec Lever range is selected

PLST :

Not active if current playlist is empty. If the current playlist is not empty, pressing PLST once enters the Playlist Edit mode.

Pressing PLST from the Playlist edit mode enter the Playlist diffusion mode.

Pressing PLST from the Playlist diffusion mode re-cues the playlist to its beginning.

Pressing 3 times PLST will always cue up the playlist ready to roll.

To play back a playlist that has been cued, press the PLAY button and it will roll at the preset speeds.

ENTER :

Appends CLIP(s) to the current PLAYLIST, also to confirm saving of CLIPS, and validate various options.

MENU:

Enables operator to gain access to the secondary menu.
SHIFT+MENU gains access to the Main Menu

CLEAR :

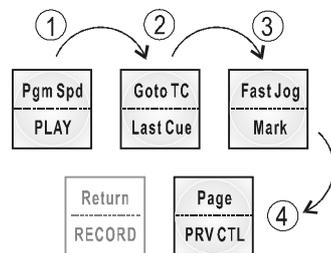
to clear IN / OUT/ PLAYLISTS / CLIPS / CUE points.

Note: To clear 1 CUE point, recall the desired cue point and press CLEAR + MARK CUE key
To clear all cues: when current picture is not a CUE point, press CLEAR + MARK CUE key. A message appears to confirm the command.

**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.

To reboot, press the following key sequence,



Between phase 3 and phase 4, the **RECORD** button will flash GREEN and the **PAGE** button will flash RED. Hitting the **PAGE** button will reboot the system. Hitting the **RECORD** button will return to normal operation.

«Soft Reboot» from the 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 or press **F6** from the Main Menu, and confirm with **ENTER** or cancel with **ESC**. You will exit the MULTICAM software and go back to the EVS Menu.

NETWORK :

This function gives access to the clips of other machines on the network. After the selection of the machine, the way of selecting clips is similar to clips selection on the local LSM system. See SportNet chapter for complete details.

GOTO TC :

This function is used to jump to a particular time code. Use the function keys F1 to F10 to enter the desired time code (6 digits: hh:mm:ss are displayed on the LCD screen of the Remote). After the 6th digit is entered, the MULTICAM will automatically go to the required time code. If the last digits are 0 (zeros), you do not need to enter them. Press ENTER on the remote to validate the entry and reach the desired video.

Confirmation of correct TimeCode entry can be observed on the display of the Remote LCD screen and on the monitoring output. This TimeCode display appears in the center of the LCD display, just above the menu options. If a "Beep " is heard, the field corresponding to the selected TimeCode does not exist on disk any longer.

If you enter the TimeCode incorrectly, press SHIFT+GOTO TC again to exit this mode.

USEFUL FACILITY : When in CLIP mode

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



LOOP : (This function is not available with HD-LSM configuration)

Select this option, the button will flash RED when in this mode, and roll the playlist. The playlist will be recorded onto the disk. (Channel 1 – CAM A). Exit the playlist mode and go back to LIVE record. Simply jog back and you will see the playlist recorded with all its transitions and at the speed they were played. Now it can be stored as one big clip (This can be useful if some of the 50 playlist locations need to be made available).

Note: In network mode, this function is useful to create local copies of remote clips.

SELECTION OF CLIP BANKS AND PLAYLISTS

| |
|-------------------------------------|
| SHIFT + F1 - F9 = CLIPS BANK |
|-------------------------------------|

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

| | | |
|-------------------|----------|------------------------------------|
| 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 547 “5” Denotes the CLIP PAGE number (1,2,3,4 or 5).
“4” Denotes the CLIP BANK (1 to 9)
“7” Denotes the clip number (1 to 10) inside the bank

Note: To identify remote clips, the number of the clip is followed by the number of the machine. i.e.547B/04

| |
|------------------------------------|
| SHIFT - F10 = PLAYLIST BANK |
|------------------------------------|

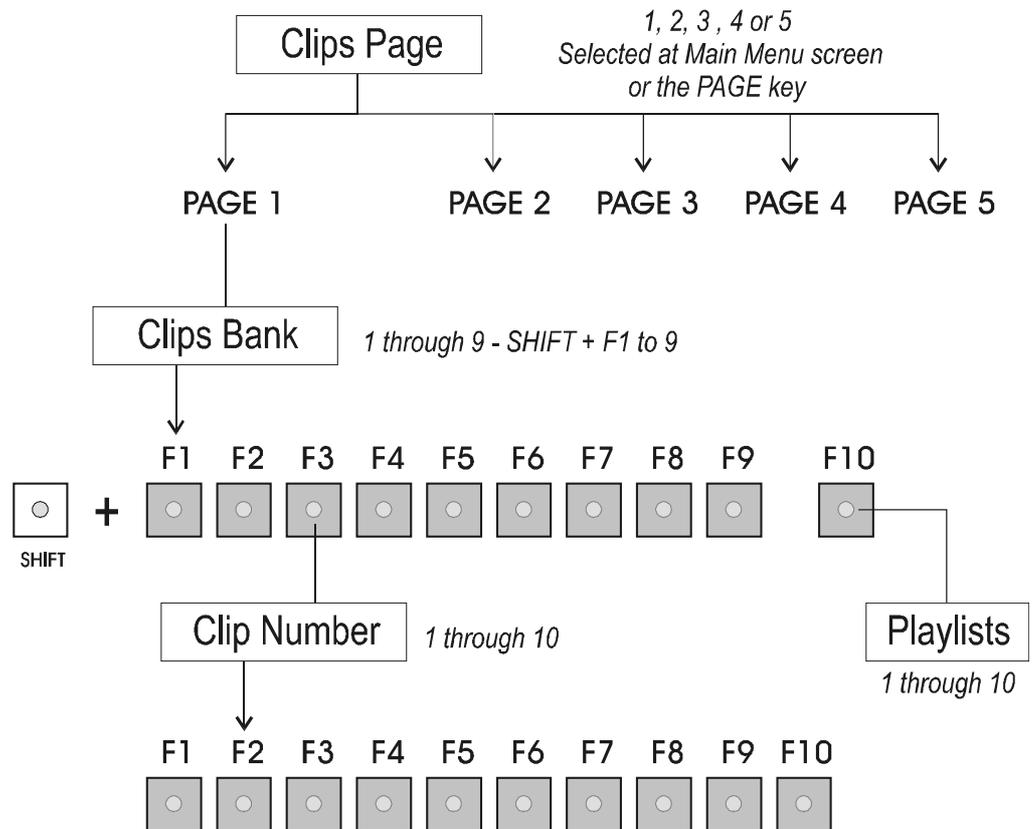
This combination of keys gives access to the playlists' banks. Within each CLIP PAGE there are 10 playlists. Selecting F1-F10 at this point calls up the respective playlists.

| | |
|------------------|---------------------------------------|
| Playlist 51- “5” | Denotes the CLIP PAGE |
| “1” | Denotes the playlist number (1 to 10) |

CLIP NUMBERING HIERARCHY

The MULTICAM can store up to 450 (multiplied by the number of cameras) clips and 50 playlists in its libraries

This flow chart represents the hierarchy of the MULTICAM clip numbering system. As an example, clip number "112" is used:



6. Control Modes

The MULTICAM can be set in three different basic modes, depending on commands used.

LIVE (E2E) MODE

This mode selected at start-up can also be selected by pushing the RECORD key. The MULTICAM 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, in order to define CUE points or clips. Moving the command knob clockwise will force the MULTICAM to search forward, moving the command knob counter clockwise will force it to search backwards. The most important thing to note is that the MULTICAM never stops recording while searching.

PLAYBACK MODE

Moving the LEVER or pressing the PLAY key selects this last mode.

The MULTICAM plays in slow motion the incoming signal delayed, a clip or a playlist, and of course continues to record the incoming signal on disks.

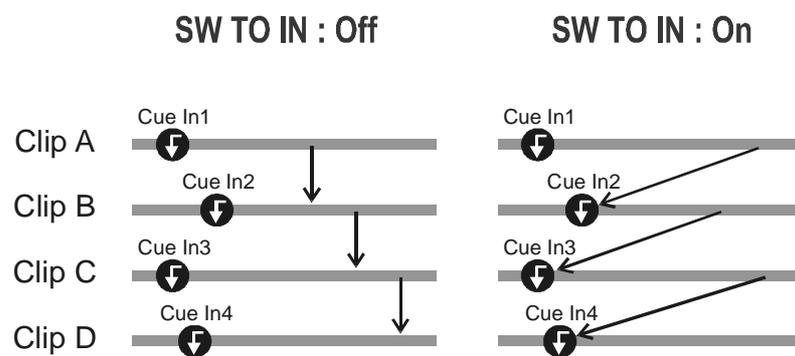
As soon as the lever is moved, the MULTICAM starts playing back from the current picture. The playback speed is defined by the lever position. This is used to start the playback of a normal slow motion, as well as the playback of a clip or a playlist. During playback, the system never stops recording

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

SYNCHRONISATION MODE (SWITCH TO IN)

This mode will allow synchronizing camera jumps if OFF: a request for camera change will produce a jump at the same time code on the requested camera.

If ON, a request for a camera change (by pressing CAM A, CAM B CAM C or CAM D in the MULTICAM menu) will lead to a jump to a predefined CUE IN point.



If a CUE IN point has not been previously defined, the MULTICAM acts as in SW to IN OFF mode (even if SW to IN ON is shown) because the system has no reference to jump to.

PREFERENCE MODE (PREF)

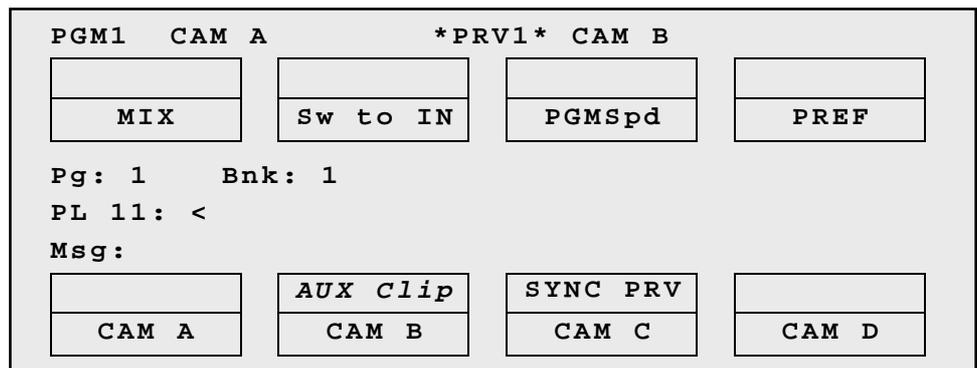
When this option is ON and a clip is recalled, the preferred camera will be displayed on the main output, even if another camera angle was previously loaded on that output.

The preferred camera is the one, which was on PGM output when the clip was first created if the operator had control over the PGM (PRV CTRL mode OFF); otherwise the clip is created from the camera on PRV if PRV CTRL mode was ON. In the Clip screen, the first preferential camera is indicated by a star: 111B* and the second preferential camera is indicated by 2 dashes: 111B=.

When the preference option is disabled, the PGM output stays on the camera currently selected when the clip is called.

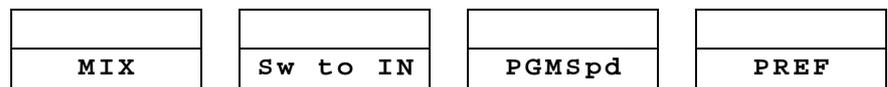
7. PGM-PRV mode

1 PGM+PRV (Press A from MAIN MENU)



This mode allows the operator to make replays with/or without transition effects between all outputs. A string of replays can be put together and played back at the operator's discretion.

The LCD display is divided in two menus controlled by "soft" keys (A,B,C,D). To gain access to the upper menu, press **MENU** from the remote controller.



MIX / WIPE L>R / WIPE R>L / CUT: These options determine the transition effect that will occur between the PGM and PRV pictures. The mix, wipe and cut are on the same location. Pressing this button will browse through these effects, showing the active one on the LCD menu. Please refer to SETUP menu to select the duration of the transition effect.

SW to IN: If enabled (highlighted) a camera change will cause a jump to the corresponding IN point if existing. It will switch in sync in other cases or if SW to IN is OFF.

PGM SPD (Program Speed):

When selected, the PGMSpd button stays highlighted. 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. Selecting PGM SPD again will disable this function. The PLAY key is flashing red while PGM SPD is enabled.

PREF: Selecting this function enables the Preference mode.

To return to the operational menu, press the **MENU** key from the Remote controller.

| | | | |
|-------|-----------------|----------|-------|
| | <i>AUX Clip</i> | SYNC PRV | |
| CAM A | CAM B | CAM C | CAM D |

CAM A/ B /C /D: selects the camera on the PGM output if PRV CTL is OFF and on PRV output if PRV CTL is ON.

AUX CLIP:

The auxiliary audio clip

In Playlist mode, the Aux Clip option allows you to add a new stereo audio track to the original video clips. For example: sport comments, music, jingles, ambiance sound... This additional stereo audio track is available on analogue outputs 7/8 or on digital outputs 15/16. The original audio tracks are still available on outputs 1/2.

The auxiliary audio clip selected is always played back with normal speed (100%), whatever the selected playback speed for the video.

Whatever the start point of the playlist, the auxiliary audio clip will always start playing from its IN point. If the duration of the Aux Clip is longer than the playlist duration, the auxiliary audio clip keeps playing even after the video has stopped. Otherwise, the audio clip ends itself before the end of the playlist, when the audio clip reaches its OUT point.

How to add/remove an auxiliary audio clip to a playlist?

1. Make the Aux Clip button active by selecting a clip from the clip bank
2. Then press the AuxClip button (SHIFT+B): the mention "Aux Clip : Yes" appears on the third line of the Playlist screen (F10)
3. To remove the current Aux clip: press CLEAR + SHIFT + (B) AUX Clip on the remote.

SYNC PRV:

This option allows you to synchronize the PRV with the PGM output at the same Timecode and same speed.

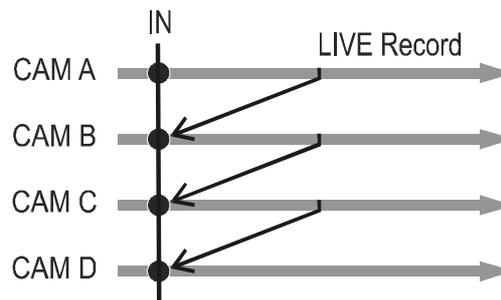
FULL CONTROL AND LEVER CONTROL

Controlling both PGM and PRV is done when **PRV CTL** (direct access key from the remote) is not activated.

Once selecting **PRV CTL** the operator will have control of the PRV with the jog knob and most buttons, while the lever and the Play button will control the PGM output. At this point, selecting clips will call them up on the PRV side.

USEFUL FACILITY:

The combination of the PRV CTRL and the SW to IN functions allows the operator to auto-chain cameras from the same IN point.



When an IN point has been marked, the operator activates the PRV CTL and sets ON the SW to IN option. Then the slow motion of one camera can be started from this IN point. The operator selects another camera in the PRV output and, via the Take button, can auto-chain cameras from the same IN point on the PGM output.

8. Multi PGM mode

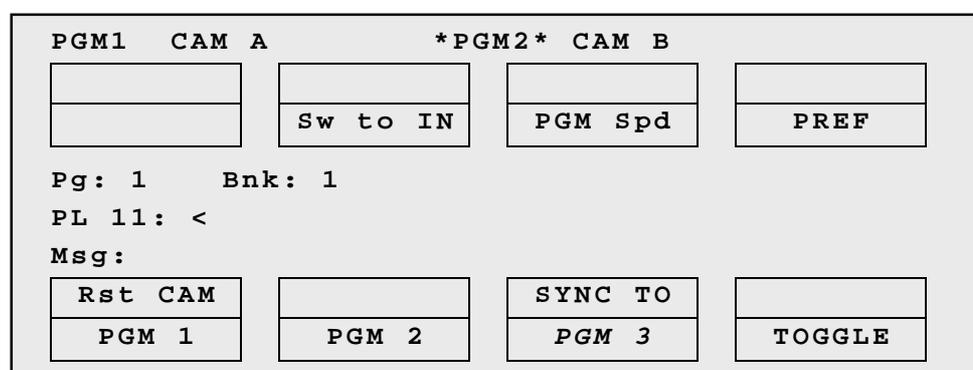
2 PGM (press B form MAIN menu)

3 PGM (press C form MAIN menu)

The MULTICAM has two modes for its basic operation, 1 PRV/PGM mode or Multi PGM mode:

- The **1 PGM/PRV mode**, as described previously, is the more powerful of the two, allowing for interaction between all outputs. Here, a synchronized replay can be rolled between the cameras with either a mix, wipe, or cut between them.
- The **MULTI PGM mode** is more basic, which gives the operator independent control of all outputs.

In this mode, all outputs can be controlled together (such as jogging back to a certain action, with all outputs) or they can be controlled individually (either PGM 1, 2 or 3).



RST CAM:

This function restores the position of cameras on the active channels: CAM A on PGM1, CAM B on PGM2,...

Note: When a clip/playlist is loaded on a channel, switching back to Live mode will recall the record train, which was last used on that output. This avoids too frequent uses of the RST CAM function.

SYNC TO:

This button allows you to synchronize the selected PGM in use with another one. Press this button and then select the PGM to be used as a reference.

TOGGLE / ALL:

Toggle OFF: Selecting an output channel results in control of that channel and disables the control on others.

Toggle ON: Selecting a channel will alternatively enable/disable the control over that channel without changing the control on the others.

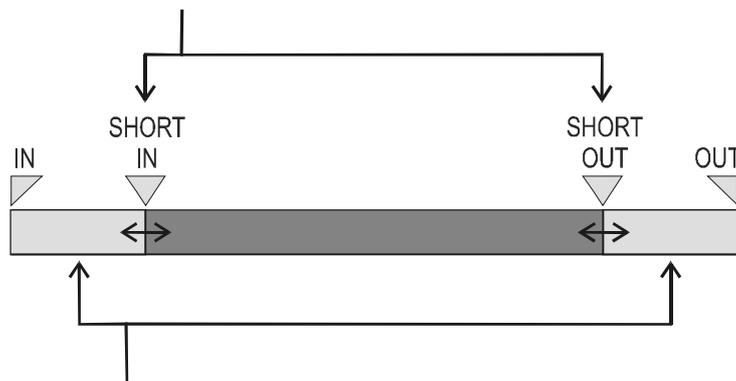
All: Selects control of all channels.

9. 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.

If SHORT IN and SHORT OUT points are defined, only the fields between those two points will be played if the sequence is recalled (the same applies when the sequence is included in a play-list).



Fields between IN and SHORT IN and fields between OUT and SHORT OUT (**GUARD BANDS**) can be reached with the JOG. So the SHORT IN and SHORT OUT points can be redefined.

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.
3. SHORT OUT point is excluded. The clip ends on previous field when playing back.
4. (SHORT) IN & OUT are always on even fields. This is automatic.

HOW TO DEFINE A CLIP?

1. Select the LIVE mode
2. Use the JOG knob to go in search mode and define your SHORT IN or SHORT OUT point.
3. Press the IN key to mark your SHORT IN point of the clip.
4. Search the SHORT OUT point and then press the OUT key to mark it also.

A clip can be created with only IN point or only OUT point. The system will automatically give a duration to the clip according to the default duration defined in the Setup menu.

HOW TO STORE A CLIP?

1. Define a clip by marking IN and OUT point
2. Select the clip page (PAGE 1 contains clips 110 to 199, PAGE 2 contains clip 210 to 299, and so on) by pressing SHIFT + PAGE
3. Then select the BANK where the clip will be stored by pressing SHIFT + F keys. i.e. Bank n°3 press SHIFT + F3
Bank n°7 press SHIFT + F7
4. Now select the location of the clip to store and press the corresponding F key.
i.e. clip n°112 SHIFT + F1 (to select bank n°1) then F2 (to select location n°2).



Important note : The AUTO-SAVE process automatically saves clips (but not Playlists!) at least every minute. However it is recommended to make a SAVE CLIPS/PLST from time to time. **Playlists are NOT included in the AUTO-SAVE process.** Exiting the software (ALT+Q) or doing "Save Clips+Plist" from the main menu will save the clips and playlists.

HOW TO PLAYBACK A CLIP ?

1. Store a clip.
2. Recall the defined clip which will be played, the corresponding F key lights red.

If **PREF** option is **ON** :

The user recalls a clip :the image displayed is the CUE IN point of the camera that was displayed on the primary output when saving the clip. (111B* on clip screen)

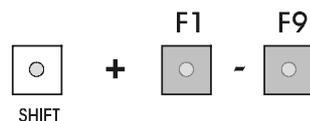
If **PREF** option is **OFF** :

The user recalls a clip : the image displayed is the CUE IN of the active camera. If CAM C is selected before the user recalls the clip, the clip image displayed will be the SHORT IN point of CAM C. When clips are recalled, the image displayed will always be the CUE IN of the selected camera.

3. Move the lever or press the PLAY key to start the playback of this clip in slow motion mode

HOW TO RECALL A CLIP?

1. Select the CLIP PAGE 1, 2, 3, 4 or 5 (PAGE key).
2. Select the BANK in which the desired CLIP is located



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

If all clips are present (from Camera A, B, C and D), they will appear in their respective locations (Channel A, B, C or D). Hitting the Function key again will swap them (if this function is enabled in the SETUP menu) When the operator is controlling only one channel (such as with PrvCtl), the clip will appear at that location only. In the case of a single clip (only an «A», «B», «C» or «D» clip), when in full control of all outputs, the clip recalled will appear on the PGM side.

HOW TO NAME A CLIP?

Within the clip screen or within the playlist screen, choose the clip to name by either using the pen and selecting or positioning the arrow with the keyboard to the desired clip and simply type the name on the keyboard.

- To clear the whole string, press **ESC**.
- Hit **F1** on the keyboard to validate. The clip is now named.
- To erase the last character, press **Backspace**.

Repeat as needed for all clips. This can be done at any time.

HOW TO CLEAR A CLIP?

Choose the appropriate BANK where the CLIP to be erased is stored.

1. Press **CLEAR**, followed by **F1 - F10**, as required.

Note: The clip to be erased cannot be active prior to clearing it. It must be a clip that is not currently activated (the function key must be GREEN).

2. *If the clip is protected or if the CONFIRM DELETE CLIP parameter is set in the SETUP menu, a warning message appears.*

Note: In network mode, if this clip is included in a playlist or is currently used by another operator, the same warning will appear.

3. Press **ENTER** to confirm and the selected CLIP will be erased.

HOW TO COPY A CLIP?

1. Select the original clip
2. Then select an empty location
3. 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.

Note: When a CLIP is copied, the whole CLIP, including the GUARD-BAND is copied and SHORT IN/SHORT OUT points are kept.

Copying clips does not duplicate the original material on the video drives, it simply creates a separate reference to the same video material. This means that the capacity will not diminish when copied are copied.

HOW TO SHORTEN A CLIP ?

1. Recall the defined clip by pressing the corresponding F key.
2. Move the COMMAND KNOB in order to go into SEARCH mode and define your SHORT IN point.
3. Press the IN key to mark a new SHORT IN point.
4. Move the COMMAND KNOB to define your SHORT OUT point.
5. Press the OUT key to mark a new SHORT OUT point.

6. Recall the defined clip by pressing the corresponding F key. The clip jumps on the new SHORT IN point.

Move the LEVER to go into SLOW mode and play the clip. The SLOW MOTION will stop at the new SHORT OUT point.

GOTO IN AND GOTO OUT

You can use Goto In and Goto Out function to jump immediately onto SHORT IN or SHORT OUT cue respectively.

HOW TO CLEAR ALL CLIPS ?

1. go to the Main Menu (SHIFT + MENU)
2. press the function key F7 on the remote. Press ENTER or CLEAR on the remote panel to confirm/cancel the operation, or F5 to skip protected clips. A message on the video monitor will notice the operator.

Note: The CLEAR ALL CLIPS command is different from the CLEAR CLIPS command available from Maintenance menu in EVS software.
The first command only deletes the clips' protects.
This second command is more radical and definitely erases all video and audio data from disks. Clips stored on page 5 are also deleted.

HOW TO SAVE ALL CLIPS/PLAYLISTS ?

1. go to the Main Menu (SHIFT + MENU)
2. press the function key F0 on the remote to save clips and playlists.



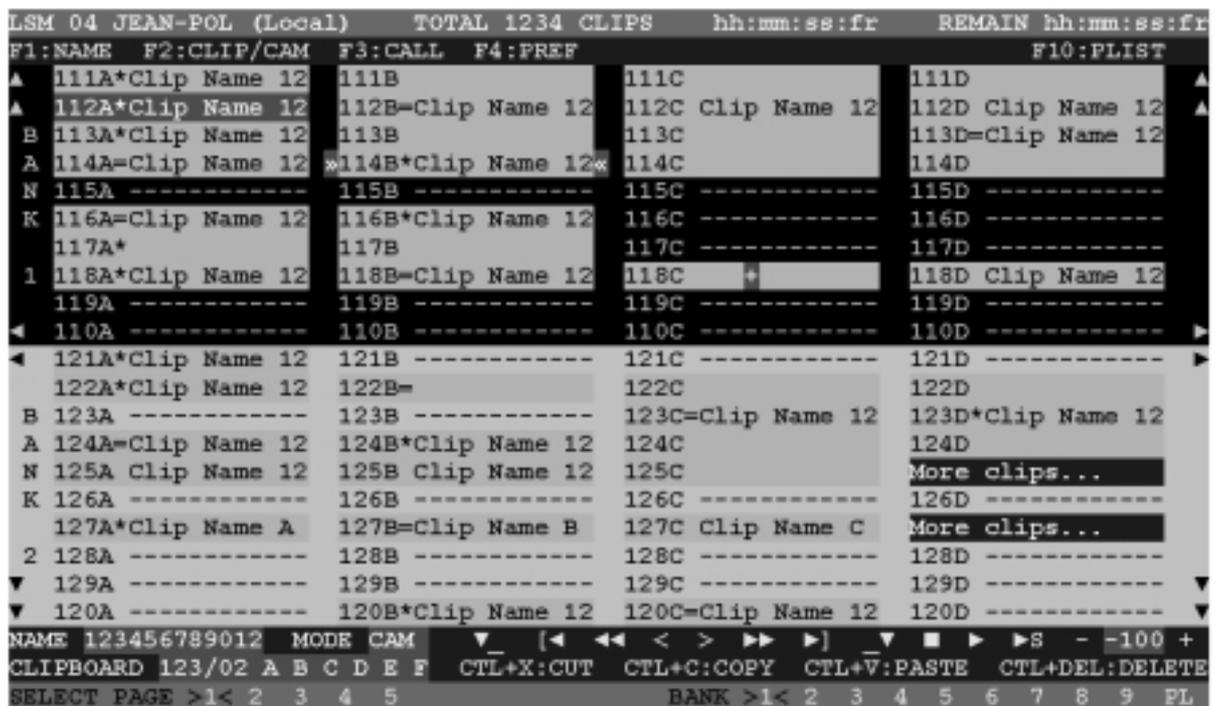
IT IS RECOMMENDED TO SAVE CLIPS & PLAYLISTS REGULARLY.

Using the Clip Screen display.

The VGA clip screen is accessed by selecting the **F9** key on the keyboard. With this screen, clips can be recalled using the pen and tablet or directly from the keyboard.

| **Note:** CTRL + F9 selects the "classic" clip screen.

CLIP SCREEN 1



The operator can also select the CLIP PAGE on this screen. Simply use the pen to select the desired clip. If a clip is present in a certain location, it will be highlighted in CYAN. Once selected, it will become ORANGE.

The keyboard can also be used to operate within the clip screen. The arrow display (>> <<) is used as the guide to illustrate where the «cursor» is currently located. The arrow keys (↑,↓,←,→) on the keyboard allow movements across the screen. Only 2 banks can be viewed at a time. To view other banks, use CTRL + ↑,↓ to scroll vertically between banks and use CTRL + ←,→ or PgUp, PgDn to scroll horizontally between pages. Once at the desired clip, hitting ENTER will call the clip on the main video output controlled by the first remote.

```
LSM 04 JEAN-POL (Local)    TOTAL 1234 CLIPS    hh:mm:ss:fr    REMAIN hh:mm:ss:fr
```

The Title Bar contains the status information:

- Number and name of the LSM currently selected (*)
- Total number of clips (i.e. protects, 1 camera angle is equal to 1 clip in this count)
- Total duration of all clips
- Remaining capacity on the LSM (all record trains together; valid for local LSM only)

(*) **Note:** The word (Local) appears if the local LSM is currently selected on the network. The clips displayed in the clip screen belong to this LSM.

```
F1:NAME    F2:CLIP/CAM    F3:CALL    F4:PREF    F10:PLIST
```

The second line displays the available functions. Each function can be called by the corresponding F_ key of the keyboard, or by clicking with stylus & tablet on the corresponding area on this line.

F1: Name:

1. Within the clip screen, choose the clip to name by either using the pen and selecting or positioning the arrow with the keyboard to the desired clip.
2. Type the desired name on the keyboard. All characters available from the keyboard are accepted, including blanks.
3. Press F1:
 - in CAM mode, only the camera where the cursor is located is named
 - in CLIP mode, all cameras of the clip where the cursor is located are named.

The entry in the Name field is not cleared by pressing F1 and remains for future usage. Press [Backspace] to delete the last character in the Name field, or press [ESC] to clear the whole field.

F2: Clip/Cam:

This function toggles between CLIP mode and CAM mode. In CLIP mode, actions on a clip will use all available cameras for this clip. In CAM mode, actions on a clip will only use the selected camera for this clip. Other functions such as NAME, DELETE, COPY depend on this mode's selection.

F3: Call:

The operator can gain immediate access to a clip by typing its ID number:

1. Type either the 3 or 4 digits of the ID. Ex : 111 or 111A. The entry appears in the Name field.
2. Press F3
 - If only 3 digits are entered, the primary camera is selected
 - If 4 digits are entered, the clip is selected according to the given camera angle.
 - If no clip matches the entry, no selection is done.

| **Note:** [ESC] key can still be used at any time to clear the Name field.

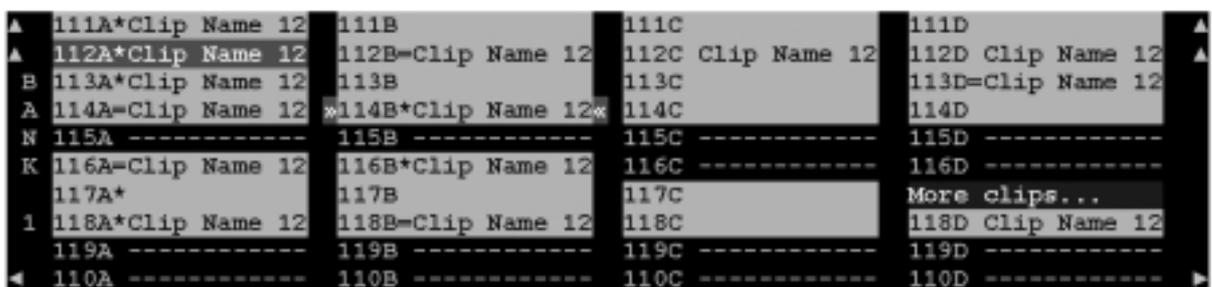
F4: Pref:

This option change the primary camera of a clip.

1. Move the cursor to the desired camera
2. Press F4 on the keyboard or click on the corresponding area on the screen.
 - This camera becomes the new primary camera.
 - If the selected camera is a secondary camera (represented by =), it becomes the primary camera and the previous primary camera becomes the secondary camera.

F10: Playlist:

The Playlist screen can be accessed by selecting F10 on the keyboard.

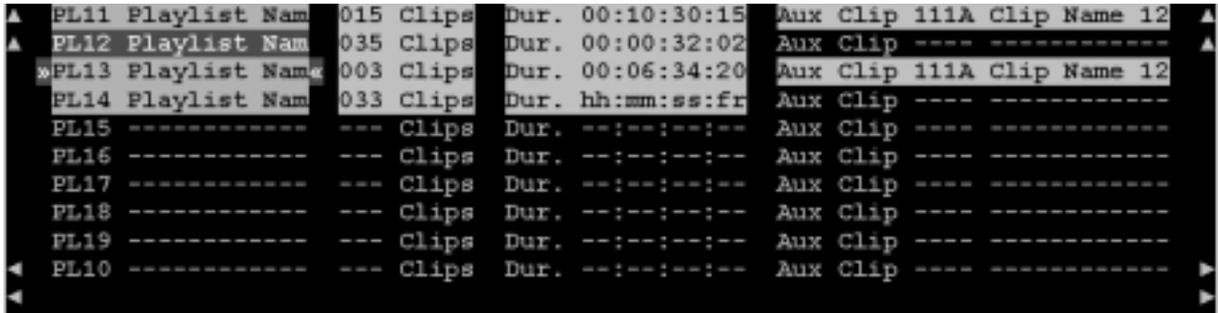


The next area is the Clip Information Area which displays the clips of the selected page and bank(s). Two clips' banks are displayed at a time.

For each clip and camera angle, the following information is available :

- Clip ID. Ex : 111A
- Clip "rank" : primary (* next to the clip ID) ; secondary (= next to the clip ID)
- And Clip name

Into the Clip screen, scroll down to the last bank to display the Playlist information area:



For each playlist the following information is displayed :

- Playlist ID. Ex : PL11
- Playlist name. Ex : Playlist Nam (12 char.)
- Number of available clips in the playlist (unavailable network clips are not taken into account). Ex : 999 clips
- Total playback duration with available clips. Ex : 00:10:34:20
- Aux Clip ID and name of the audio auxilliary clip.



Name capture field : this is the only capture area of the screen. It is used to enter the name to assign to a clip/playlist, or to enter the ID of a clip to recall.

Mode field: indicates if the clip screen is currently in CLIP or CAM mode. In CLIP mode, actions on a clip will use all available cameras for this clip. In CAM mode, actions on a clip will only use the selected camera for this clip. Default value is CAM mode.

Clip control area : is dedicated to play-out control and clip editing.

- Mark IN/OUT (▼ _ / _ ▼) : set MARK IN/OUT at the current position
- Goto IN/OUT ([◀ / ▶]) : jump to the SHORT IN/OUT point.
- Rew/FFw (◀◀ / ▶▶) : rewind/fast forward at 200% speed.
- 1 field back/fwd (< / >) : move 1 field backward/forward and pause
- Pause (■) : pause playback on the current picture
- Play (▶) : play at 100% speed except for super motion clips which are played back at 33% speed.
- PlaySpeed (▶ S) : play back at the speed indicated just next to this command.

- Adjust speed (- / +) : click on these commands to decrease/increase the speed assigned to the PlaySpeed command. Speed range : -200%/+200%. A short click adjusts the speed by 1%. Pressing the button of the stylus and clicking adjust the speed faster. Speed change is immediate.

Functions are called by clicking on the corresponding symbol in this area.

CLIPBOARD 123/02 A B C D E F CTL+X:CUT CTL+C:COPY CTL+V:PASTE CTL+DEL:DELETE

Clipboard area : the green field shows the clip and cameras currently in the clipboard.

This area displays the clip number, the LSM number if the copied clip is a remote clip, and the selected cameras.

The rest of the line summarize the available functions (copy, cut, paste, delete) and their keyboard shortcuts. These functions can also be called by clicking on the corresponding area on this line.

CTL+ X: CUT

1. Move the cursor to the clip to “cut” from the clips screen
 2. Press CTRL + X on the keyboard or click on the corresponding area on the screen.
- In CAM mode, only the camera selected is sent to the clipboard.
 - In CLIP mode, all cameras of the clip are sent to the clipboard.

CTL+C: COPY

1. Move the cursor to the clip to copy
 2. Press CTRL + C on the keyboard or click on the corresponding area on the screen.
- In CAM mode, only the camera selected is saved to the clipboard.
 - In CLIP mode, all cameras of the clip are sent to the clipboard.

CTL+V: PASTE

1. Move the cursor to the location within the clip of the clipboard should be copied.
 2. Press CTRL + V or click to the corresponding area on the screen.
- If only 1 camera is present in the clipboard , this camera is pasted at the current cursor location.
 - If several cameras are present, each camera is pasted at its corresponding location. If one location is already busy, the application does not proceed with the paste of that particular camera.

Note: If the clip board was filled using the CUT function, the original clip(s) is(are) deleted after being pasted to the new location.

CTL+DEL:DELETE

1. Move the cursor to the clip to delete.
 2. Press CTRL + DEL or click on the corresponding area on the clip screen.
- In CAM mode, only the camera selected is deleted
 → In CLIP mode, all cameras of the clip are deleted.

A clip cannot be deleted while it is on air.

Note: When a clip is deleted, all playlists are scanned and that clip is removed from all of them.



Page and Bank selection area : click on the selected page/banks.

CLIP SCREEN 2

Press CTRL + F9 to select the Clip Screen 2.

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. Use the pen to select the desired clip. If a clip is present in a certain location, it will be highlighted in BLUE. Once selected, it will become RED.

| CLIP MANAGEMENT | | Num | Name | Can | Can | Can | Can | Num | Name | Can | Can | Can | Can |
|--|-------------------|-----|-----------|-----|-----|-----|-----|-------|-------|-----|-----|-----|-----|
| F1: Name F2: F3: F4: F5: F6: F7: F8: CLEAR | Page 1 | 111 | CLIP01 | A | B | C | D | 121 | ----- | A | B | C | D |
| | Page 2 | 112 | CLIP02 | A | B | C | D | 122 | ----- | A | B | C | D |
| | Page 3 | 113 | CLIP03 | A | B | C | D | 123 | ----- | A | B | C | D |
| | Page 4 | 114 | | A | B | C | D | 124 | ----- | A | B | C | D |
| | Page 5 | 115 | GOAL | A | B | C | D | 125 | ----- | A | B | C | D |
| | Bank: [1-4] [2-5] | 116 | INTERVIEW | A | B | C | D | 126 | ----- | A | B | C | D |
| | [3-6] [4-7] | 117 | | A | B | C | D | 127 | ----- | A | B | C | D |
| | [5-8] [6-9] | 118 | | A | B | C | D | 128 | ----- | A | B | C | D |
| Name: CLIP37 | 119 | | A | B | C | D | 129 | ----- | A | B | C | D | |
| | 120 | | A | B | C | D | 130 | ----- | A | B | C | D | |
| | 131 | | A | B | C | D | 141 | ----- | A | B | C | D | |
| | 132 | | A | B | C | D | 142 | ----- | A | B | C | D | |
| | 133 | | A | B | C | D | 143 | ----- | A | B | C | D | |
| | 134 | | A | B | C | D | 144 | ----- | A | B | C | D | |
| | 135 | | A | B | C | D | 145 | ----- | A | B | C | D | |
| | 136 | | A | B | C | D | 146 | ----- | A | B | C | D | |
| | 137 | | A | B | C | D | 147 | ----- | A | B | C | D | |
| | 138 | | A | B | C | D | 148 | ----- | A | B | C | D | |
| | 139 | | A | B | C | D | 149 | ----- | A | B | C | D | |
| | 140 | | A | B | C | D | 140 | ----- | A | B | C | D | |

Msg. :

The keyboard can also be used to maneuver within the clip screen. The arrow display (> <) is used as the guide to illustrate where the «cursor» is currently located. The arrow keys on the keyboard allow movement left and right across the screen (only 2 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.

You can gain immediate access to a clip by typing its ID number on the keyboard. For example, when you type "119", the MULTICAM will detect that this is the format of a clip ID and the corresponding clip is recalled automatically.

The numbers at the bottom are used with the pen to select which 2 banks will be displayed on the screen. Again, the current view will be designated by the RED highlight around the number. Here it would be [1-2]. The Clip Page can be selected here with the pen as well.

The CLEAR option on this page allows the operator to delete a clip. This is useful for removing a clip if, for example, both an «A» and «B» were made when only «A» was desired. Select CLEAR, then use the pen to select the clip you wish to delete.

When on this screen, the keyboard can also be used to manipulate the clip selection:

KEYBOARD FUNCTIONS:

Arrows keys (←, ↑, ↓, →) : Selects any clip on your screen.

Enter : Selects the clip desired (><) and call it to the monitor

Page up / Page down : Selects Clip Page 1, 2, 3, 4 or 5

Ctrl ← / Ctrl → : Modifies the displayed banks
([1-2], [2-3], [3-4] [4-5], [5-6], [6-7], [7-8], [8-9])

F1 : Names a clip

Del and then Enter : Clears the selected clip

10. Playlist Management

HOW TO MAKE 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 an action that happened seconds before the PLAYLIST is played on air.

1. Choose the first clip for your PLAYLIST
2. then press **ENTER** on the remote
3. Repeat as necessary until last CLIP is entered.

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

HOW TO SELECT A PLAYLIST?

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 5 contains Playlists 50 to 59

VIEWING THE VGA PLAYLIST SCREEN

Selecting F10 on the keyboard can access the VGA playlist screen.

| EVS BROADCAST SPORT EDIT Vers.: MULTICAM | | | | | | | | | | | | | | | |
|--|---------|--------------------|-------------|----------|-----|-------------------|-------|---------------|-------|----------|--|---------|--|---------|--|
| F1: NmClip | | F2: NmPlst | | F3:**** | | F4:**** | | F5:**** | | F6:**** | | F7:**** | | F8:**** | |
| Playlist N° 12 | | Name: Totolist | | | | | | AuxClip: 101A | | | | | | | |
| N° Clip | Name | Time | Duration | Spd | Fx | Vid. | Split | FxAud | Cur. | Dur. | | | | | |
| 1 | 145B/02 | abcdefghijkl | 14:18:24:18 | 00:04:18 | 100 | M | 00:05 | 00:00 | 00:05 | 00:04:18 | | | | | |
| 2 | 235A | clipfoot | 15:10:22:02 | 01:17:21 | 50 | M | 00:05 | 00:00 | 00:05 | 02:35:17 | | | | | |
| 3 | 111B/05 | helmut515 | 15:10:22:02 | 01:24:06 | 50 | M | 00:05 | 00:00 | 00:05 | 02:48:12 | | | | | |
| 4 | 220C | abos | 15:07:11:10 | 00:04:18 | 100 | M | 00:05 | 00:00 | 00:05 | 00:09:15 | | | | | |
| .. | | | | | .. | . | | | | | | | | | |
| .. | | | | | .. | . | | | | | | | | | |
| .. | | | | | .. | . | | | | | | | | | |
| .. | | | | | .. | . | | | | | | | | | |
| .. | | | | | .. | . | | | | | | | | | |
| .. | | | | | .. | . | | | | | | | | | |
| Nb. Clip(s): 4 | | Remaining 01:05:05 | | | | Duration 02:15:15 | | | | | | | | | |

HOW TO RECALL A PLAYLIST?

The active PLAYLIST can be selected by pressing **PLST**

The first time this is pressed, the Playlist Edit mode will be entered. Here, the operator will see the first frame of the highlighted clip within the playlist appear on the PGM and PRV outputs. At the start, full control will be of the PGM side; scrolling through the playlist can be done here.

Press **PLST** again and the Playlist diffusion mode is entered: the first frame of the clip following the one on the PGM will be displayed on the PRV side. This allows the operator to play only part of the playlist, starting from current position.

A third selection of the **PLST** button cues the playlist to the beginning, displaying the first clip on the PGM side and the following clip on the PRV.

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

Editing the Playlist in Playlist diffusion mode is not possible. Press the **EDIT** function (D button) or move the jog knob to return to the Playlist Edition mode and perform the editing

HOW TO BROWSE QUICKLY THROUGH A PLAYLIST?

When the operator is not in playlist nor in clip mode, pressing the BROWSE key on the remote panel automatically enters the current playlist in Browse mode. In this mode, the operator can quickly jump to the first field of each clip inside the playlist by moving the jog knob. To return to the normal Playlist Edit mode, press the BROWSE key again.

The operator can of course also activate the Browse mode directly from the Playlist Edit mode.

HOW TO NAME A PLAYLIST?

Each of the 50 playlists can be named. On the playlist screen, you will notice that F2 shows «NmPlst».

Simply type the name on the keyboard. The name will appear in the lower right corner of the VGA screen, next to the "Name" label. When the name is complete, press F2 to validate. The name of the playlist is shown in the center of the 3rd line of the VGA screen and as well as on the Remote's LCD during playlist playback.

HOW TO ROLL A PLAYLIST?

| | | |
|---------|---------------|-----------------------|
| PL11 | LSM 04 Albert | LOC LEFT: 00:00:02:22 |
| 111A | Clipname0123 | 00:00:29 Unk W00:10 |
| 112B/03 | Clipname4567 | 00:53:29 Unk M00:10 |
| 112B | Clipname8910 | 00:53:29 Unk M00:10 |

| | | | |
|--|------|------|------|
| | | | |
| | NEXT | SKIP | EDIT |

Once the playlist is cued and ready to roll, the above menu is displayed on the remote LCD. This menu gives the operator the ability to manipulate the playlist while it is playing.

Next: While the playlist is rolling on air, selecting this will start the transition of the next clip with the transition effect listed on the playlist. This can be used if a clip is running too long and it is necessary to shorten up the playing time.

Skip: While the playlist is rolling, the next clip in the sequence is always displayed on the PRV screen. This function allows the operator to discard clips before they reach the air. The clip that will be «skipped» is that which is seen on the PRV screen (This does not remove the clip from the playlist, it simply allows it to be skipped during playback.).

Edit: Selecting this function will get the operator back to the «Edit» mode of the playlist.

To roll the playlist using the pre-defined speed of each clip, use the PLAY key to start it. As soon as the lever is used to start the playback or during playback, all pre-set speeds are canceled and playback speed is set by the lever position only.

HOW TO EDIT 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.

| | | | | |
|-------------|---------------------|-----------------------|------------|---------------|
| PL11 | LSM01 Paola | LOC LEFT: 00:00:02:22 | | |
| 111A/04 | Clipname0123 | 00:00:29 | Unk | W00:10 |
| 112B | Clipname4567 | 00:53:29 | Unk | W00:10 |
| 112B/02 | Clipname8910 | 00:53:29 | Unk | W00:10 |

| | | | |
|---------------|--------------|---------------|-----------------|
| | | EFFECT | EDIT ALL |
| INSERT | SPEED | EF DUR | DELETE |

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 a function from the above menu and use the control lever to adjust to the desired value.

INSERT: This allows the operator to insert a clip into the playlist. The same operation can be achieved using the TAKE key.

SPEED: Select the playback speed of the clip with the Lever then press ENTER to validate. Values are 'Unknown' and from 1 to 100%.

EF DUR: This sets the duration of the transition effect. The default value that initially appears is determined by the value set in the SETUP menu. The effect duration will affect the transition at the beginning of the selected clip. Use the Lever to adjust the value, then press ENTER to confirm.

EFFECT: Use this to select the type of transition effect (Mix/Wipe/Cut) Move the lever to set the type of effect, when **Effect** is highlighted. Press **ENTER** to validate.

EDIT ALL: Selecting this, followed by one of the playlist parameter option (speed, effect, effect duration) will allow the operator to **EDIT ALL** clips in the list at one time.

DELETE: This allows the operator to quickly edit a playlist by removing the selected clip. The clip that has been «cut» can then be inserted into another location. This clip is displayed on the second PRV output. To insert it at another position in the playlist, simply go to that position using the jog knob and press the **INSERT** key (or **TAKE**)

HOW TO DELETE CLIPS FROM A PLAYLIST?

While in **EDIT** mode, scroll within the playlist to the clip that needs to be deleted.

If the **BROWSE** mode is active, the first frame will appear on the display as each clip is scrolled through.

When the clip to be removed is located, select **DELETE** from the playlist Edit Menu. The selected clip will be removed from the playlist.

In Playlist mode the **Clear** button removes the last clip at the end of a playlist. This command is confirmed by **Enter**.

HOW TO INSERT CLIPS INTO A PLAYLIST?

Using the normal Playlist Edit or the **BROWSE** modes, as above, scroll to the location where the clip must be inserted. Call the selected clip, it appears on the PRV output. Press **INSERT** or **TAKE** to insert it in the playlist at the position shown on PGM output.

If no PRV output is available, the clip will appear on the PGM output. Use the **INSERT** key (**SHIFT+BROWSE**) to insert the clip into the playlist then press **PLST** to return to the playlist at the current position.

Note: Depending on what is selected in the **SETUP** menu, the clip will be inserted **before** or **after** this selected position.

HOW TO TRIM CLIPS INTO A PLAYLIST?

Every clip inside a playlist can be trimmed independantly of all other instances of the same clip number.

1. Browse to the desired clip in the playlist
2. Re-mark a new SHORT IN or SHORT OUT, or if the clip duration is too short, clear the IN or OUT point by selecting CLEAR and then the desired IN or OUT point.

| **Note:** Clearing restores the existing IN or OUT point to the clips guardbands limit.

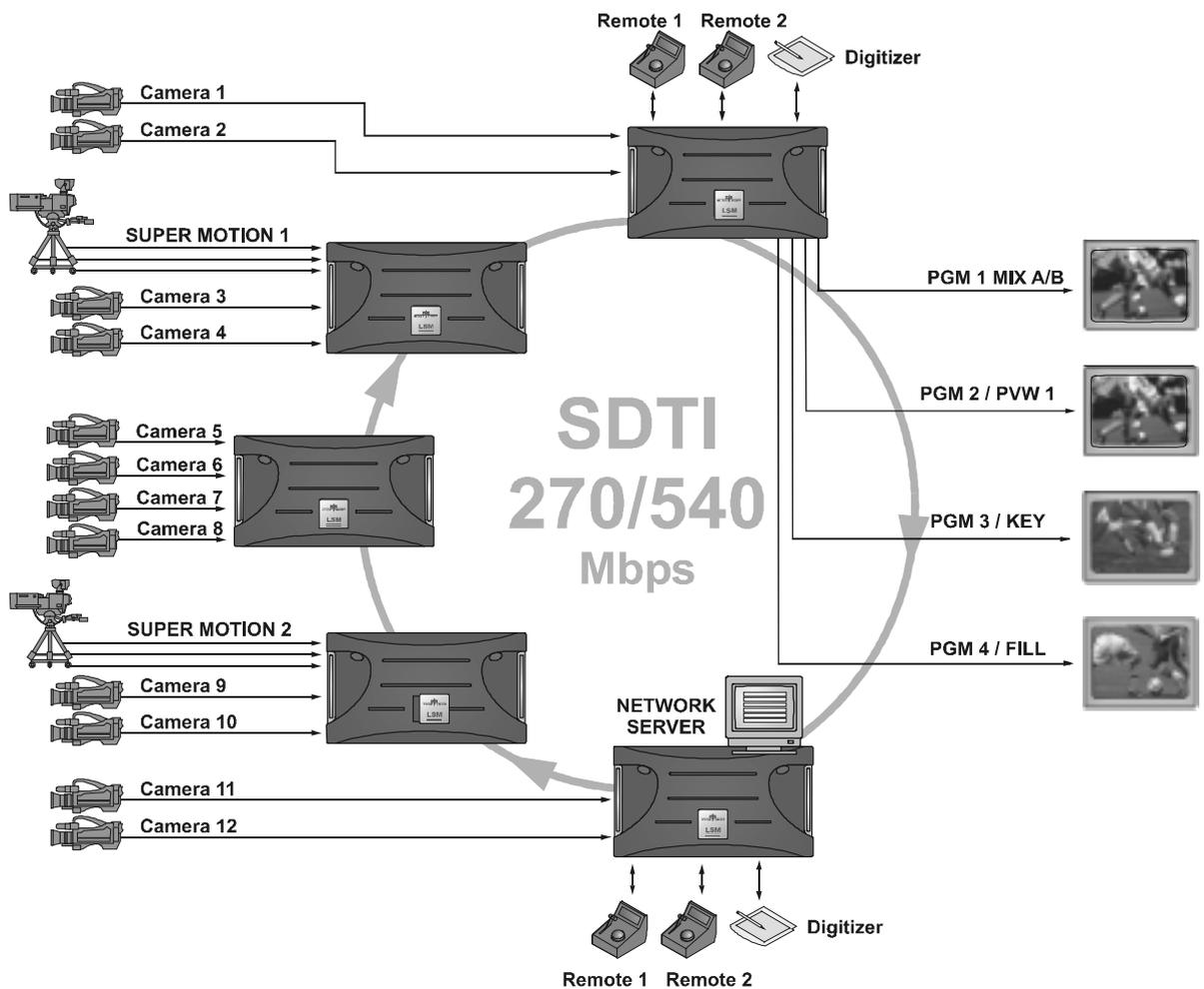
11. Sportnet

Overview

The Sportnet network is composed by several LSM-XT systems all connected with a 75-Ohm coaxial cable (BNC).

The exchange between systems is operated through the SDTI interface at 270 or 540 Mbps.

The Sportnet requires a network server dedicated to the management of the Database shared among all LSM-XTs. This is assigned to one of the LSM-XT systems on the network.



Minimal Hardware & Software configuration

Only LSM-XT with internal audio Codec and SDTI option can be connected to the Sportnet network. Previous systems (HCT2, HCT4 and HCTS) are not compatible with Sportnet.

The minimal software configuration is:

- EVS version 10.05 or higher,
- Compatible Multicam version (4.02.19 or higher)
- the Sportnet option.

EVS menu configuration

The configuration of the different LSM-XTs connected to the Sportnet is done via the EVS Menu.

Press <F9> to open the Maintenance menu, then select "Configuration" and press ENTER to access to the Network area.

Set the following parameters:

SDTI:

(off / 270Mbps / 540Mbps)

Enables the SDTI option and select the bandwidth of the network.



Note 1: The bandwidth must be identical on all LSM-XTs connected to the Sportnet. If one system is configured with a different bandwidth, it will block the entire network.



Note 2: The Disk Block Size parameter and the video standard must be the same on all LSM-XTs

Net Name:

The Net name defines the machine name on the network. This name is user-defined but cannot exceed 8 characters. Entering a Network Name is not mandatory because a network number is automatically given to the system, but it is recommended to easily identify all LSMs connected to Sportnet.

Type:

(Client / Master / Server)

Defines the type of system. One and only one LSM-XT on the network must be set to SERVER type. If no server is defined, Sportnet will not be activated. If more than one server is defined, only the first one will be able to connect and conflicts may occur.

Other LSM-XTs on the network can be set either to MASTER type if they need to access clips from other LSMs, or to CLIENT type if their clips must be available on the network but they don't need to call clips from other LSMs.

Connecting to Sportnet

When entering the Multicam application (or pressing the CONNECT key in the Network menu), the system looks for the EVS sportnet server and displays the following message:

```
Connecting Machine_Name to SportNet :  
Looking for EVS SportNet Server. Please Wait...  
Press MENU to work in stand-alone mode.
```

If the operator press the MENU button, the system requires a confirmation to start the Stand-alone mode:

```
Are you sure you want to work in stand-alone mode ?  
MENU=CANCEL - ENTER=YES
```

If the Server is found on the network, the system displays the following message:

```
Connection to SporNet OK
```

During operations, the SDTI network might become unavailable:

If the server is intantionnaly shut down, all other LSM-XTs will automatically switch to the stand-alone mode and the message **!Net** appears on all monitoring outputs. This message changes to **?Net** when the network connection is recovered Then the operator can go back to the network menu and re-connect to the Sportnet.

If the server is unavailable for another reason (cable disconnected for example) a message will suggest the operator to switch to stand-alone

mode. A 15-second countdown is also displayed. The operator can switch to stand-alone mode immediately by pressing the ENTER key. If he doesn't and the network is still down after 15 seconds, the LSM switches automatically to stand-alone mode at the end of the countdown.

Note: This countdown provides a short interval to fix the problem without requiring a full reconnection process to be done on all LSM-XTs. It is useful if a cable is shortly disconnected and then re-connected.

Disconnecting

When exiting the Multicam application the system checks if other systems are still connected to your LSM-XT, then the following message appears:

```
Other users are connected to your LSM
on SportNet network. Are you really sure that
you want to close the Multicam application ?
MENU=CANCEL - ENTER=YES
```

Pressing MENU cancels the command and returns to the application. Press ENTER to exit the Multicam application.

Selecting a LSM on Sportnet

Selecting the NETWORK key (Shift + Play on the remote) displays the Network menu:

```
Select a LSM on SPORTNET                               Page 1/4

F1  MACHINE1                                           F6  MACHINE6
F2  PIERRE                                             F7  MACHINE7
F3  PAUL                                               F8  MACHINE8
F4  JACQUES                                            F9  MACHINE9
F5  ANDRE (LOCAL)                                     F0  MACHINE0

LOCAL  Connect  PREVIOUS  NEXT
```

The LCD screen of the Remote displays the complete list of available systems on the Network. The list is organized by the order of connection

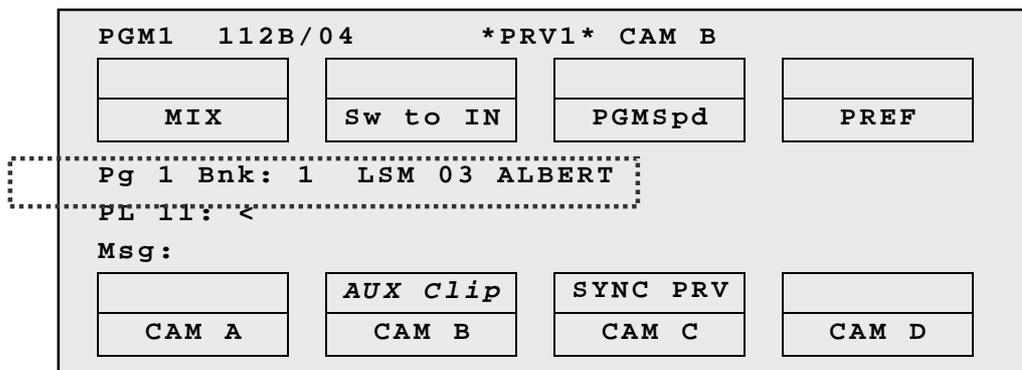
to the network. Up to 4 pages are available to display up to 31 LSM-XTs.

The PREVIOUS and NEXT keys appear only when more than 10 machines are connected to the network.

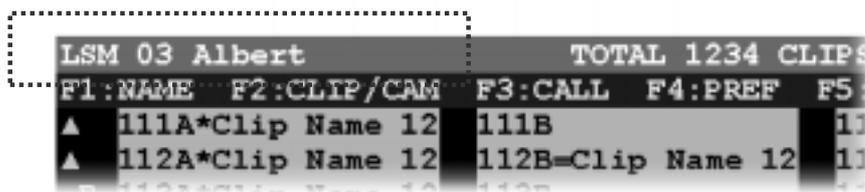
The local system is identified with the (LOCAL) sign after the name of the system. The LOCAL key gives direct access to the LOCAL mode and is highlighted when LOCAL mode is activated.

The CONNECT key allows the operator to connect to the Network when operating.

Select the Function key corresponding to the remote system, then the LCD display returns to the normal mode:



The name of the remote system is now displayed after the Page and Bank information and in the Title bar of the Clip Screen.



Operating with Sportnet

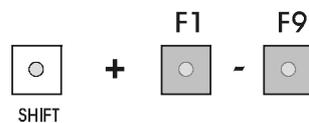
After the selection of remote system, the operation with remote clips is similar to the operations on LOCAL system.

HOW TO RECALL/PLAY BACK A REMOTE CLIP?

1. Select the REMOTE LSM via the Network Menu.
2. Select the CLIP PAGE 1, 2, 3, 4 or 5 (PAGE key).

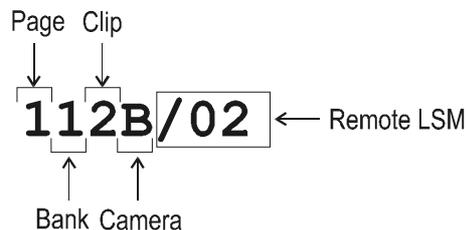
Note: When selecting a LSM-XT, it will automatically reconnect to the page and bank that was last used.

3. Select the BANK in which the desired CLIP is located



4. Choose the CLIP required (F1 - F10).
If all clips are present (from Camera A, B, C and D), they will appear in their respective locations (Channel A, B, C or D).

The label of a remote clip is different in order to identify it easily among other clips:



HOW TO NAME A REMOTE CLIP?

1. Select the REMOTE LSM via the Network Menu.
 2. Go to the clip screen on the VGA, all banks of remote system are now displayed.
 3. Select the clip to name.
 4. Type the desired name on the keyboard.
 5. Press F1 to name the remote clip.
- in CAM mode, only the camera where the cursor is located is named
→ in CLIP mode, all cameras of the clip where the cursor is located are named.

HOW TO MODIFY IN/OUT POINTS OF A REMOTE CLIP?

1. Recall the defined clip from the Remote LSM-XT.
 2. Move the COMMAND KNOB to search the new SHORT IN point.
 3. Press the IN key to mark a new.
 4. Move the COMMAND KNOB to search the new SHORT OUT point.
 5. Press the OUT key.
 6. Recall the defined clip by pressing the corresponding F key.
- This modification is applied to the remote clip and is available for all systems on the network.

HOW TO INSERT REMOTE CLIPS INTO A PLAYLIST?

1. Select the REMOTE LSM via the Network menu.
2. Then select a remote clip in the banks. The corresponding F-key lights red.
3. Press ENTER on the Remote.
4. Repeat the 3 first points as necessary until last clip is entered.

in Playlist mode, the remote display gives all needed information regarding this playlist and this information is updated each time a clip is stored in the playlist.

| | | | | | |
|---------|--------------|-----------|-------------|--------|--|
| PL11 | LSM01 Paola | LOC LEFT: | 00:00:58:22 | | |
| 152A/03 | Clip 0112 | 00:01:20 | Unk | W00:10 | |
| 111A/04 | Clip Foot | 00:10:25 | Unk | W00:10 | |
| 112B | Clipname4567 | 00:04:29 | Unk | W00:10 | |
| 112B/02 | Clip 0113 | 00:01:10 | Unk | W00:10 | |
| 552C/08 | noname01234 | 00:02:50 | Unk | W00:10 | |

| | | | |
|--------|-----------|--------|----------|
| | CLEARUNAV | EFFECT | EDIT ALL |
| INSERT | SPEED | DUR EF | DELETE |

HOW TO ROLL A PLAYLIST WITH REMOTE CLIPS?

1. Once the playlist is cued and ready to roll, select the playlist from the Playlist bank.
2. Press the PLST key on the remote panel.
3. Move the lever to start the playback or press the PLAY key.



Note: While the playlist is rolling on air, a remote clip might be unavailable due to a network problem or simply if the remote LSM has left the network.. In this case, the clip is marked as 'NOT AVAILABLE' on the playlist screen and is skipped when the playlist is rolling. If a clip is made available again, it will re-appear automatically and be played at the right position in the playlist.

Unavailable clips are shown on the VGA monitor but not on the LCD of the remote.

The operator can decide to definitively remove the unavailable clips from the current playlist by using the CLEARUNAV function (Shift +B) in Playlist Edit mode.

12. Paint Mode

Note: The Paint Mode is a software option.
This option is not available in HD configuration.

The facilities within this software package can be operated using the tablet and the stylus, or a touch screen. Selected in the SETUP, the normal pointing device is the tablet, selecting F6 - page 4 will toggle between tablet / touch screen (only when the touch screen is available).

The use of the LOOP function allows the operator to create a clip with the paint feature. Rolling a clip while in the LOOP mode, in Painting, and dissolving paint image on/off allows for a very powerful feature.

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 freehand drawing mode.

CIRCLE DRAWING (LARGE OR SMALL):

Select either C or c, you will be prompted to select the position of the center of the circle.

Place the pen on the tablet at the point where the center of the circle must be located. The circle will appear. The system automatically defaults back to freehand drawing mode.

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** depending on which one is currently selected when entering the 'D' option. 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 to disable it and return to previous active drawing mode.

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 an 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 CLEAR function is also available from the remote (Shift + B) No confirmation is required.

KEYER:

Can be selected with the pen, click on **K** (arrows appear/disappear), or press SHIFT + A from remote control menu. This feature will cause the drawing to dissolve on and off using the dissolve duration defined in the SETUP (F6 - Page 1)

LOOP:

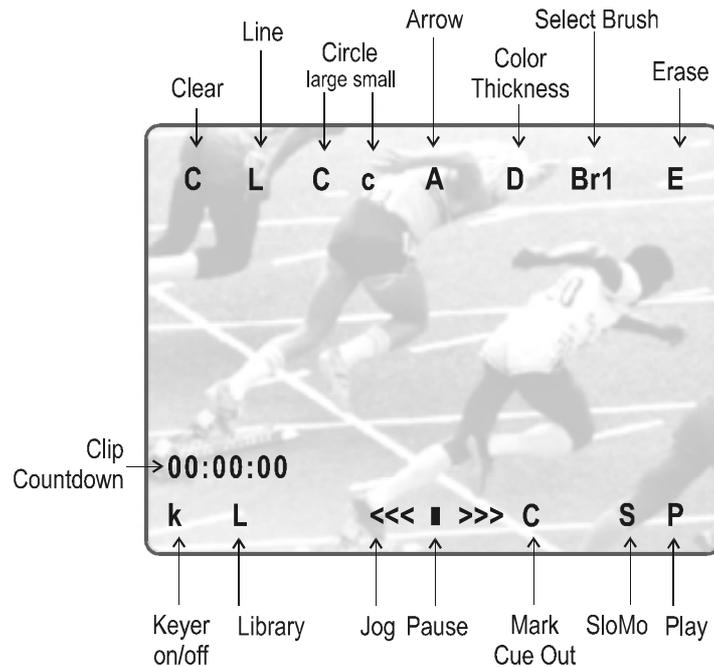
Loop mode is used to loop the video program output of the LSM into the first video input. This feature allows the operator to create sophisticated effects in successive steps. Press shift + PLST to enable this mode

Notes:

1. Video and Audio, or video only can be looped (see SETUP page 7 – F6) This allows recording a new audio track while playing back video material, (for ex. to add a comment to a highlighted package)

2. When LOOP mode is enabled, the LSM does not record CAM A any more. As soon as the LOOP mode is disabled, the LSM records the CAM A again.

Paint Mode Monitor Display



| | |
|-----------------------|---|
| C (clear) | Clears screen |
| 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 | Toggles between Brush1 and Brush2 |
| E | Erases unwanted portion of graphic |
| k / >k< | keyer off / on |
| L | calls the Library module where drawing, logos, ... can be saved. |
| C | marks CUE OUT point on current clip |
| S | plays back the clip at slow motion speed. The speed of slow motion is predefined in the PGM Speed item from the Setup Menu (Page2 – F3) |
| P | plays back the current clip at normal speed |

The clip countdown displays the field time. This means that the countdown matches the slow motion speed.

Note: Selecting the "C" (clear) from the monitor enters the Clear menu and the DFC menu.
DFC menu allows you to select the brush color from a YUV color palette

If working in network mode, painting can be performed on remote clips as well as on local clips.

13. Target Mode

Note: The Target Mode is a software option.
This option is not available in HD configuration.

This software enables the following of an action by use of a Circle, focusing the attention on certain details. The user can choose the size, color and thickness of the circle border as well as the darkness of the background for a highlight feature. The addition of the LOOP function allows the operator to store this effect as a clip.

The facilities within this software package can be operated using the tablet and the stylus, or a touch screen. Selected in the SETUP, the normal pointing device is the tablet, selecting F6 – page 4 will toggle between tablet / touch screen (only when the touch screen is available).

Creating a Target Track:

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

T: Select the background shade (Transparency level)
E: Select the border thickness (Edge)
S: Select the circle size (Size)
C: Select the border color (Color)

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

Position the material on the field corresponding to the target start point and 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 the button of the stylus,
- or by clicking on the **M** sign on the monitoring screen

(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.

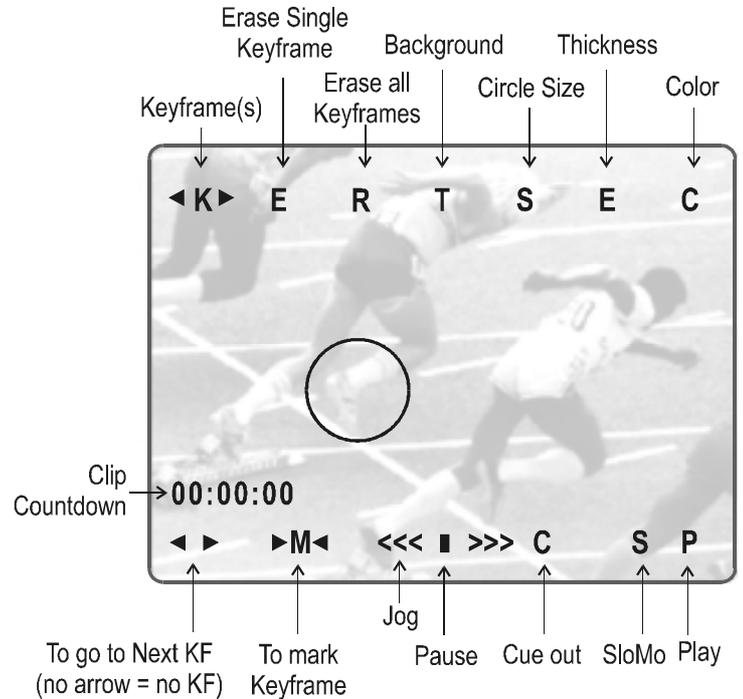
Run through the material in LOOP mode and the effect can now be retrieved and stored as a new clip with the target tracking.

(This can be repeated several times to include multiple circles - Refer to LOOP explanation on chapter 5)

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/previous 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 RESET (R).
5. If working in network mode, target tracking can be performed on remote clips as well as local clips.

Target Mode Monitor Display



| | |
|-----------------------------------|--|
| 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 a keyframe has been marked on current field. |
| E | Erases currently displayed keyframe |
| R | Erases all keyframes in the current clip. |
| < > (bottom left) | Go to next keyframe (Forward or Backward) |
| M | allows you to mark a keyframe directly from the touch screen or from the tablet. If this option is active, touching a point on the screen automatically creates the keyframe. This option becomes inactive after each keyframe creation. |
| C | marks CUE OUT point on current field |
| S | starts slow-motion (preset in Prgm Spd) |
| P | plays back the current clip |
| <<< >>> | searches the material (clip or live recorded). A single click with the stylus move one frame forward or one frame back |

On the remote control display, selecting the soft key **A** (ZOOM) on the remote 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.

Note: The dissolve effect is not available when using the ZOOM effect. The **T**, **S**, **E** and **C** parameters are not available either in ZOOM mode.

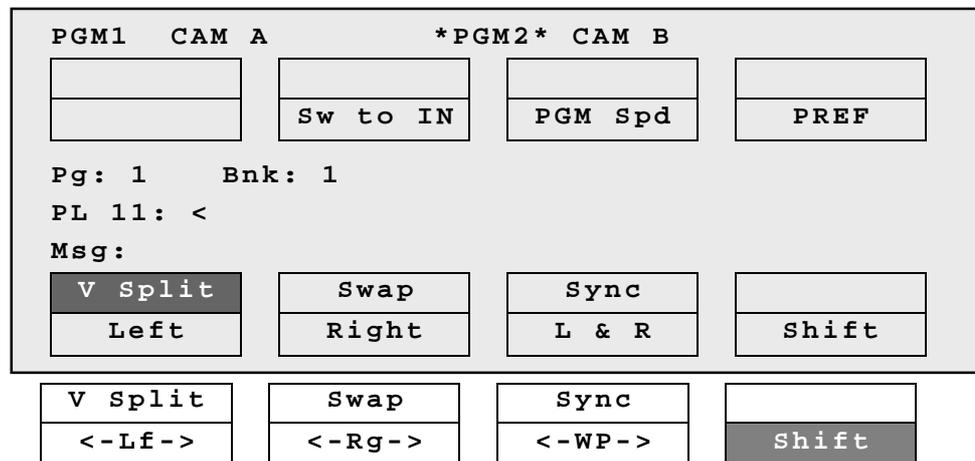
Selecting ZOOM again will switch back to highlight mode. Keep in mind, when making these selections, the software will take a few seconds to make the change.

14. Split Screen mode

Note: The Split Screen Mode is a software option.

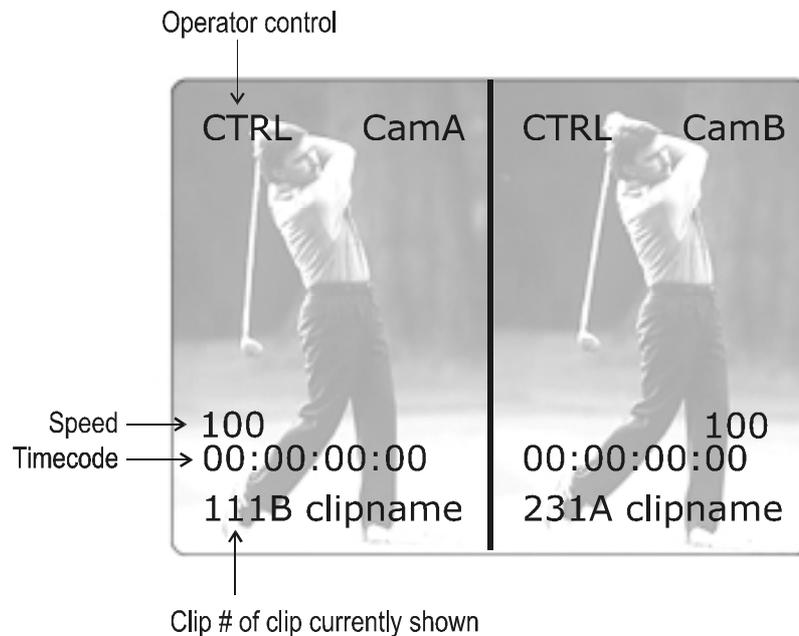
The split mode allows a simple split screen effect on PGM 1. This mode operates very similar to the 2PGM mode, except that the two outputs are now Left and Right parts of the screen (vertical split screen) or Top and Bottom part of the screen (horizontal split screen). The Split mode also allows for DVE-like adjustment of the video within the split effect, for optimum positioning of the material.

VERTICAL SPLIT



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

| | |
|-------------------|--|
| 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 centre the left picture |
| ← RG → | To centre the right picture |
| ← WP → | To move the separation line |
| V SPLIT / H SPLIT | Toggles between horizontal and vertical Split screen menus |
| SWAP | To swap sources from both sides |
| SYNC | To synchronize the selected PGM with the other one. Press this button and then select the PGM to be used as a reference. |



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 clips on both sides, so that the action is in the center of the picture.

Press **SHIFT** key (D) to enter this mode. The menu will change, as shown above.

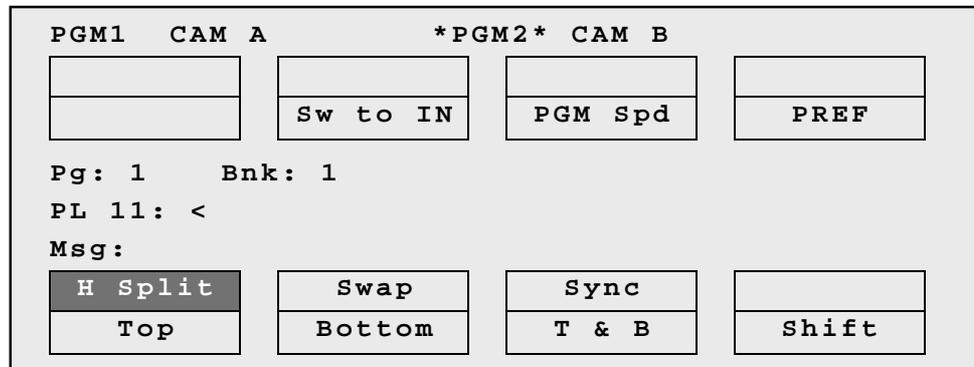
Press **← LF →** key, and move the command knob to center the left side picture.

Press **← RG →** and do the same operation for the right side picture.
 To restore the default positions, press **CLEAR + ← LF →, ← RG →**.

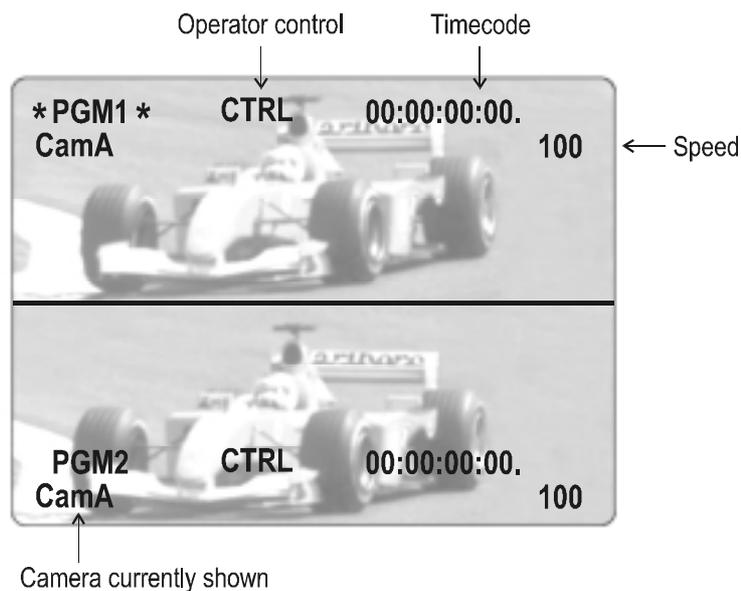
Pressing **← WP →** key allows moving the border. To restore the default position of the border, press **CLEAR + ← WP →**.
 To exit the **SHIFT** mode, press the **SHIFT** key (D) again.

If working in network mode, split screen can be performed on remote clips as well as on local clips.

HORIZONTAL SPLIT



Press the **SHIFT** key (D) to switch between normal and special commands.
 All commands are similar to the Horizontal SplitScreen commands.



AUTO-TRACKING MODE

The Auto-tracking 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.

To use the Auto-tracking, the first step is to track the object that must be kept in the center of the frame. Using the TARGET TRACK mode the keyframes are marked to determine the path 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 keyframes have been marked inside selected clips, the word 'TRACKED' 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 temporarily the AUTO-TRACKING without leaving the Split Screen mode, press CLEAR+LEFT (disable Auto-tracking on left side) or CLEAR+RIGHT (disable Auto-tracking on right side).



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