MULTICAM
SOFTWARE

User's Manual
Version 6.01.23 – JUN 2004

EVS
BROADCAST EQUIPMENT

Table of contents

Overview

The aim of this manual is to familiarize the operator with the MULTICAM software for EVS High Definition and Standard Definition LSM-XT, 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 4000 clips on disks and of course to replay all or some of them. A PLAYLIST consists of a list of clips (90 PLAYLISTS can be defined) with video and audio transitions.

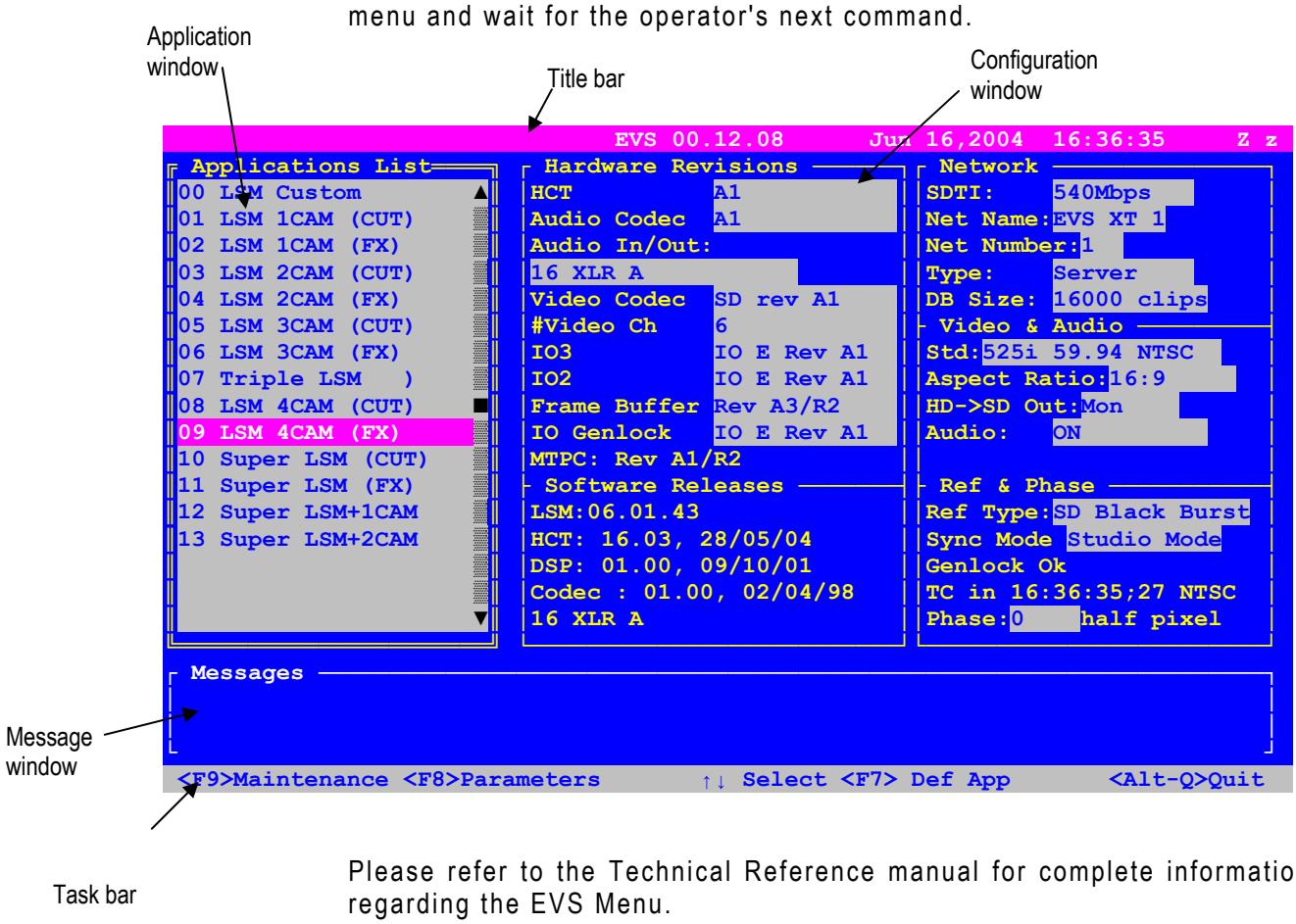
The SPORTNET option networks LSM-XT systems into a fully integrated production environment. Any clip, recorded by any LSM-XT on the network is available instantly for editing and/or play-out to any other operator.

The SPLITSCREEN (horizontal or vertical) option displays simultaneously two synchronized actions side by side on the main program output.
The PAINT option (Telestrator) draws and applies keying on the recorded pictures. Sport actions can be analyzed using different colored circles, arrows and lines.
The TARGET TRACK[1] option follows a target with a highlighted circle, box or ellipse, and can zoom in the selected portion of the recorded pictures.

[1] PAINT and TARGET TRACK options are not available on High Definition XT servers

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, SLSM+1CAM, etc.)
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.

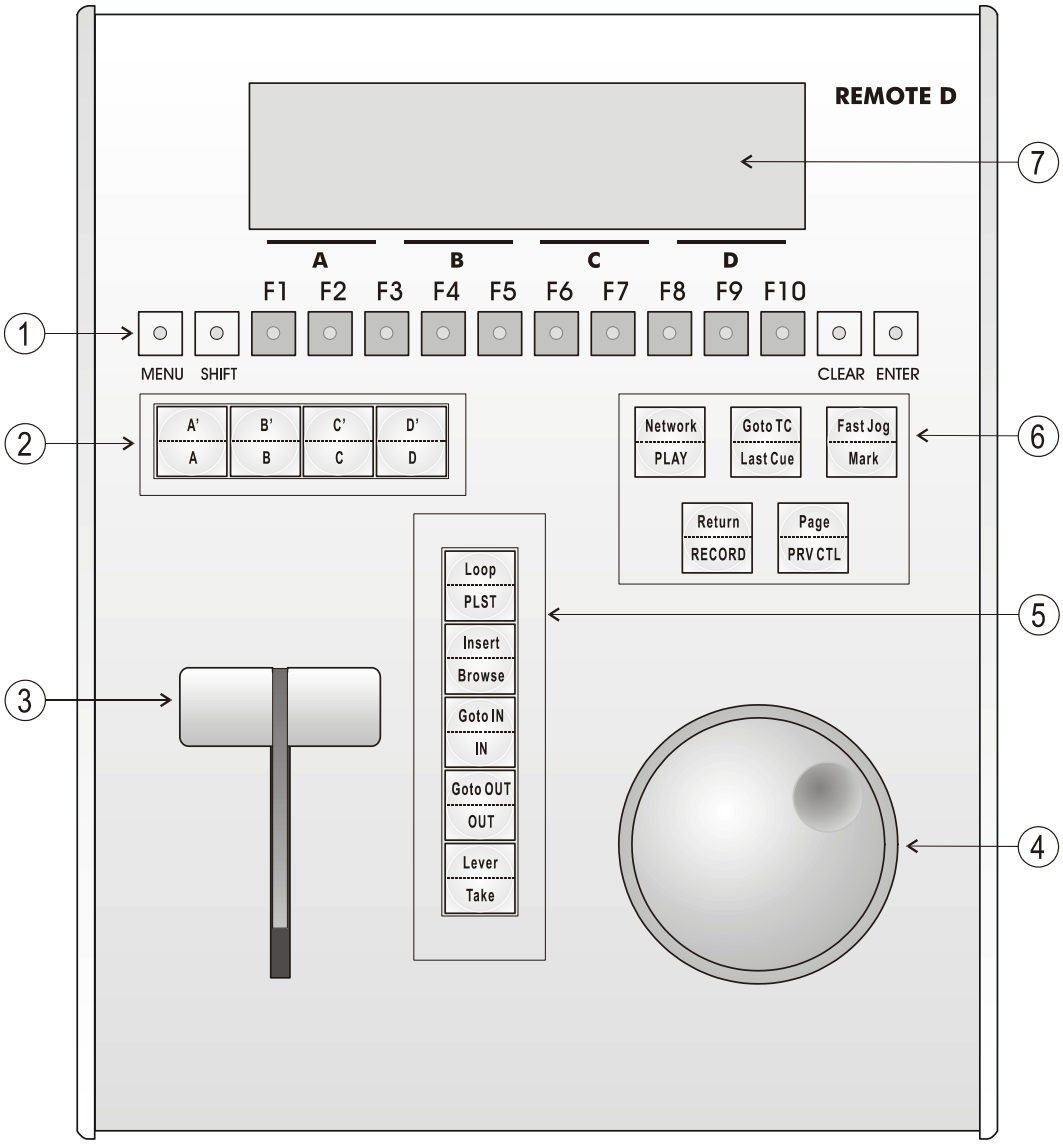


Please refer to the Technical Reference manual for complete information regarding the EVS Menu.

2. Remote Controller

GENERAL LAYOUT

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. LEVER: initiates slow motion and playlist replay

4. JOG DIAL: 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. This option is not available on HD systems and the remote beeps if the operator tries to engage it.
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
GOTO IN	Goes to the defined Mark IN
OUT	Sets Mark OUT at the current position
GOTO OUT	Goes to the defined Mark OUT
TAKE	▪ In PGM+PRV mode: swaps cameras on PGM and PRV monitors ▪ In Multi-PGM mode: toggles between CAM selection and PGM selection modes. ▪ In Playlist Edit mode: inserts the clip loaded on the PRV channel into current playlist.
LEVER	change the lever range to secondary mode (see setup menu for range selection)

6. Operational block 2 :

PLAY	initiates playback
NETWORK	Enters the SportNet menu. (connect to other servers on the network)
LAST CUE	Re-cues machine to previous cue point
GOTO TC	enables timecode entry, with «F» keys
FAST JOG	used with JOG dial for rapid, manual re-cue. This mode is automatically reset after PLAY/LIVE commands.
MARK	re-usable cue points entry, 256 cycling cues
RECORD	initiates "E2E" mode
RETURN	Inside a clip, allows the operator to return to the same picture inside the record train, if it still exists.
PRV CTL	enables/disables the Preview Control mode
PAGE	selects current clip page, from 1 to 10.

7. LCD Display: provides current status of system

LED COLORS

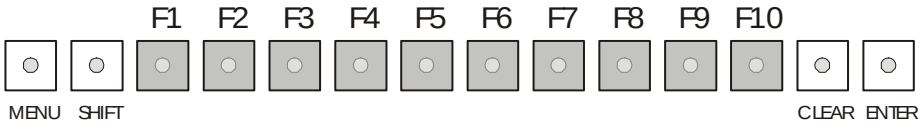
A selected key lights red.
When a key lights green, it means a value in relation with this key exists.

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

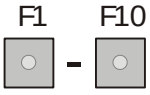


provides access to the Secondary Menu. Also used as CANCEL in some messages when confirmation is required.

Note: SHIFT + MENU returns to MAIN Menu

enables use of the secondary key functions.

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



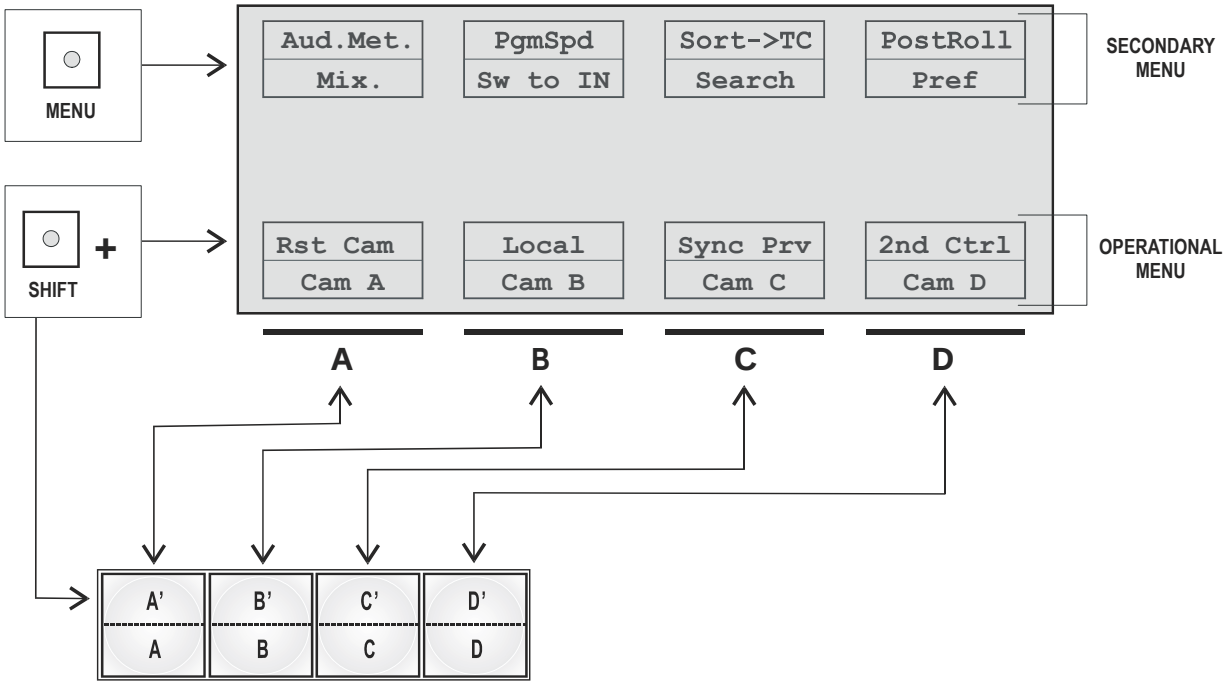
stores / recalls Clips, recall Playlists and enter Timecode information.

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

is used to APPEND clips at the end of the current 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.



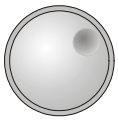
By pressing the SHIFT button you gain access to the secondary functions.

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

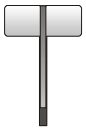


JOG DIAL

The JOG DIAL allows the operator to pass into SEARCH mode and thus to choose exactly the SHORT OUT or SHORT IN image. Move the JOG DIAL clockwise to search forward and move it counter-clockwise to search backwards. One revolution of the JOG DIAL will produce a jump of approximately 35 frames. This number can be multiplied by enabling the FAST mode. The multiplication factor is defined in the SETUP menu.

Note : The JOG DIAL is also used :
- to set parameters in the SETUP menu. Refer to the SETUP menu section for more information.
- To BROWSE inside the clips database, the cue points or the current playlist. Refer to the explanation of the BROWSE function for more details.

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:

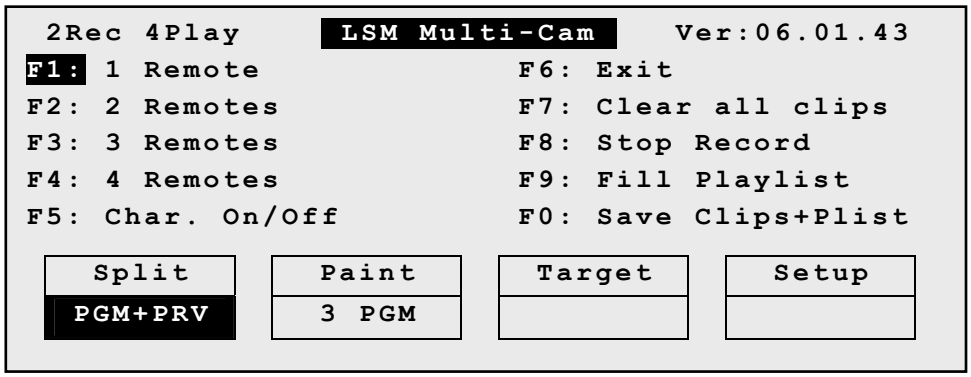
The second range is available to play material from –100% to 100% or from –200 to 200% with a larger step at 0% (see SETUP menu - page 5-F4 for selection)
To gain access to this second speed range, press SHIFT + LEVER from the remote controller.

Note that when SD SUPER MOTION material is loaded on the primary channel, the lever range as a larger, flat step at 33%. With HD SUPER MOTION, the step is at 50%.

The lever is also used to adjust speed, and effects type and duration in Playlist Edit mode.

3. MAIN Menu

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



Note : If 2 channels are available for the 1st remote, the B key will display **2 PGM**. If 3 channels are available, the B key will display **3 PGM**.

From any section of the application, except Playlist mode, 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» keys 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 **F**unction key, and then press ENTER to validate the selection.

F1: 1 Remote

F2: 2 Remotes

If 4 play channels are available, when selecting the 2 Remotes mode, the operator can chose between 2 configurations :

- 2 play channels for each remote. In this configuration, each remote panel can select PGM+PRV or 2PGM mode. Each remote panel can manage video transitions (cut, dissolve, wipe) in PGM+PRV and PLAYLIST modes.
- 3 play channels for the 1st remote and 1 play channel for the second remote. In this configuration, the 1st remote can select PGM+PRV or 3PGM mode and can manage video transitions. The 2nd remote is forced to 1PGM mode and can only handle cut transitions.

F3: 3 Remotes

F4 : 4 Remotes

If desired, the MULTICAM system can be run using 1, 2, 3 or 4 EVS remotes. Depending on the number of play channels available in the current configuration, 1- , 2-, 3- or 4- remote modes will be available from the MAIN menu.

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 returns to the EVS Menu.

Note: This command also runs a Save Clips+Plst process.

F7: Clear all clips Clears all clips. All clips will be lost.
A confirmation of this command is required:
- If some clips are protected, press ENTER 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.

Note: This command is not similar to the "Clear Video Disks" from the maintenance menu. If you wish to refresh completely the server, you need to use "Clear Video Disks" rather than "Clear all clips".

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» at the end of the current playlist. This allows the operator to save all material to tape, as a backup feature after a show is complete. You can select in the SETUP menu which camera angles have to be included in the Fill Playlist function.

If your clips are currently connected to another XT server on the network, the clips from that server will be added to your current playlist.

Make sure the playlist you have selected is an empty one. This function will append the clips at the end of an existing playlist.

F0: Save Clips+ Plist Saves all clips and playlists in all banks. Note that this process is also performed automatically as a background task every minute (or more frequently when creating/modifying clips).

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> and <ENTER> 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 as soon as they are modified.

HOW TO ACCESS THE SET-UP MENU?

Press SHIFT+ MENU key to return to the MAIN menu[1],

Split	Paint	Target	Setup
1PGM+PRV	2/3 PGM		

And then press SETUP (SHIFT + D) to enter the SETUP menu.

The setup is divided in sections : clips, playlists, special effects, audio, control, GPI, etc. When entering the setup, a menu presents these sections. Each section can be accessed directly by pressing the corresponding F_ key. Inside a section, F9 and F10 are used to move to the previous/next page. When the first/last page of a section is reached, the next F9/F10 goes to the last/first page of the previous/next section, so that by starting on the first page and pressing F10, the operator goes through all pages : p.1.1 → p.2.1 → p.2.2 →...

```
LSM Setup Menu                    Main page
[F1]OSD Settings    [F6]EVS Controller
[F2]Record Trains   [F7]RS422 Control
[F3]Clips           [F8]GPI
[F4]Playlist        [F9]Special Effects
[F5]Audio       Clr+[F0]Restore Defaults

[Menu]Quit    [Clr+F_]Default     [F0]PgDn
```

Inside a section, pressing Menu key brings the operator back to the main menu of the setup. On this page, pressing Menu key exits the setup. Pressing **CLEAR** + the corresponding **F**unction key will reset the default value for the selected section (confirmation required). Pressing **CLEAR + F0** will reset the entire setup menu to the default values (confirmation required).

[1] If you are in PLAYLIST mode, press RECORD first to exit this mode, then SHIFT+MENU to go the Main Menu.

HOW TO SELECT AND TO MODIFY PARAMETERS?

Adjustments are made as follows for most parameters :

- Once you've reached the desired page, choose the parameter to be modified by pressing the corresponding **F**unction key & make adjustment by rotating the JOG knob, then press the corresponding **F**unction key again.
- To restore the default value of a parameter, press **CLEAR** and the corresponding **F**unction key.
- To return to the main page of the SETUP menu, press **MENU**

```
OSD Settings                          p.1.1
[F1]Genlock Error Msg : Yes
[F2]Disk Error Msg    : Yes
[F3]Network Error Msg : Yes
[F4]Cue number on OSD : Yes
[F5]Keyword info      : No

[Menu]Quit [Clr+F_]Dft [F9]PgUp [F0]PgDn
```

Genlock Error Msg:
(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

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 "!Dsk" 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 becomes available again and the system is trying to re-connect.
Default: Yes

Cue number on OSD:
(Yes / No)
When set to "Yes", the cue number is displayed on the OSD of the monitoring outputs when a cue point is recalled inside a record train.
Default: Yes

Keyword info :
(No / Yes)
Up to 3 keywords and a ranking can be assigned to every clip. When the "Keyword info" parameter is set to "Yes", these keywords and ranking appears on the OSD of the monitoring outputs when the clip is loaded on its Short IN point. As soon as the operator starts jogging into the clip or initiates a playback, this information is removed from the OSD so that the video content is clearly visible.
Default: No

```
Record Trains                          p.2.1
[F1]Auto make clip for cam A       : Yes
[F2]Auto make clip for cam B       : Yes
[F3]Auto make clip for cam C       : Yes
[F4]Auto make clip for cam D       : Yes
[F5]Auto make clip for cam E       : Yes
[F6]Resync to TC ref
[Menu]Quit [Clr+F_]Dft [F9]PgUp [F0]PgDn
```

Auto 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

Auto 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

Auto 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

Auto 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

Auto Make Clip for CAM E:
(Yes / No)
Make clip on CAM E even if no IN or OUT point has been marked on this one. Default: Yes

Resync to TC ref:
The Multicam application uses an internal table to reference all time code discontinuities detected on the LTC input of the system. This table is used to match a recorded field to its time code, and has a limited number of 1024 entries. When the number of TC discontinuities is too important and the internal TC table is full, a "!TC" warning appears on the OSD of the monitoring outputs and the system switches to the "internal time code mode", i.e. it start implementing its internal time code reference based on the genlock and the last external TC value read before the TC table is

full. This means that any time code discontinuity occurring after the TC table is full is ignored, the system assuming the TC is continuous from that moment on. The operator can clear this internal TC table by calling the "Resync to TC ref" function. Clearing the TC table will delete all reference to previous time code jumps, and synchronize the internal TC to the time code read on the LTC input of the server. From that moment on, the system will assume that the time code was continuous for previously recorded material, and will take into account the new time code discontinuities.

Note that the above explanation is only valid for record trains. For clips, the time code of the first field of the clip is memorized at the creation of the clip, and the timecode is always assumed continuous inside the clip. Clearing the internal TC table will consequently have no effect on the time code of recorded clips.

To call the "Resync to TC ref" function, simply press the F6 key and the function is immediately performed.

```
Record Trains                          p.2.2
[F1]Guardbands             : 05s00fr
[F2]Default clip duration  : 04s00fr
[F3]Mark cue points        : Live
[F4]Preroll                : 02s00fr
[F5]Record trains OUTs     : Play Through
[F6]Internal loop mode     : Video+Audio
[Menu]Quit [Clr+F_]Dft [F9]PgUp [F0]PgDn
```

Guardbands:
(from 00s01fr to 60s00fr)
the amount of «guardband» before and after clips.
Default : 05s00fr

Note: A clip is created immediately when the operator saves it by pressing the F_ key on the remote, and is thus limited by the amount of material recorded at that time. This might create a shorter guardband that indicated in the setup, if the material recorded beyond the OUT point is shorter than the default guardband duration. The only exception is the creation of a clip by marking an IN point but no OUT point. In this case, the clip has a duration defined by the "Default clip duration" parameter of the setup, and the guardband beyond the OUT point has the duration defined by the "guardband" parameter. If the material recorded when the operator presses the F_ key to save the clip using this technique is not long enough, the F_ key will blink an the clip will not be available until the required duration, including the guardband, is recorded.

Default Clip Duration:
(Disable, or 00s01fr to 12s00fr)
sets the duration of clips created with only IN point or only OUT point. When set to "Disable", both IN and OUT points are required to be able to create a clip.
Default: 04s00fr

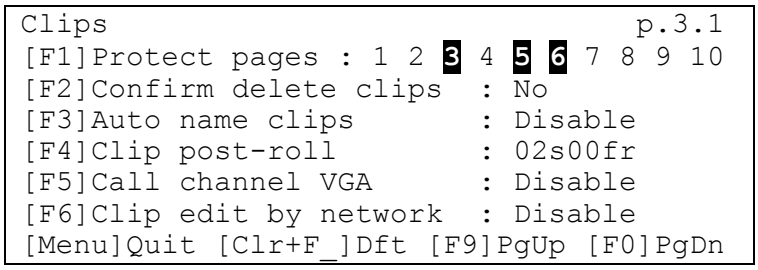
Mark Cue Points:
(Live / Playback)
Live: memorizes cue points based on the time code of the LIVE input.
Playback: memorizes cue points based on the timecode of the field

loaded on the main play channel.
Default: Live

Pre-Roll:
(0s01fr to 5s00fr)
Pre-roll duration used when recalling a cue point.
Default : 0s05fr

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 (if the POSTROLL mode is disabled) or on that picture + the post-roll duration (if the POSTROLL mode is enabled) when replaying that section. If set to "play through" it will still countdown to the OUT point, but will keep playing through this point. In a clip, the Multicam always freezes on the OUT point (or OUT point + post-roll duration when POSTROLL mode is enabled).
Default: Play through

Internal Loop Mode:
(Video + Audio / Video only)
This parameter defines what components of PGM1 output must be recorded back into the server when the LOOP mode is engaged.
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. This can be useful to add music, voice or live sound to an edit for example.
Default: Video+Audio



Protect page:
(No, or select one or more clip pages from 1 to 10)
This function allows users to protect clips stored on selected pages from accidental deletion. These clips are also protected when using the CLEAR ALL CLIPS function from the main menu of the remote panel. Press the F1 key to edit this parameter, then press the F_ key corresponding to the page number you want to protect/unprotect. Protected pages will be highlighted on the LCD and the corresponding F_ key lights red. F_ keys of unprotected pages light green. To validate your selection, press ENTER. The LCD display indicates the progress of the status update for the selected pages. This might take several seconds, depending on the number of clips in the pages that must be updated. In the above example, pages 3, 5 and 6 are protected.
Default: No

Note: When doing a "Clear All Clips" from the main menu of the remote panel, protected clips will not be deleted. When doing a "Clear Video Disks" from EVS Maintenance Menu, all clips are deleted, including protected ones !!

Confirm delete clip:
(No / Yes)
No: clips are deleted immediately
Yes: a confirmation is required when deleting clips, either from the remote or from the keyboard.
Default: No

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

Auto name clips:
(Disabled / TC IN / CAM Name)
If this function is enabled, the timecode of the IN point of the clip, or the name of the record channel, will automatically be used to name the clip upon creation.
Default: Disabled.

Clip post-roll:
(00s00fr to 30s00fr)
When the post-roll function is enabled from the secondary clip menu, the clip will play through its OUT point for a duration defined by the post-roll parameter. This is also valid inside record trains if the Record Train OUTs parameter is set to Freeze.
Default: 02s00fr.

Call Channel VGA:
(Disabled / Enabled)
Disable or enable the CALL CH function on the VGA Clip Screen, that allows the operator to select on which PGM channel the clips called from the keyboard/tablet and VGA should be loaded.

Clip Edit by Network:
(Disabled / Enabled)
If this function is enabled, other users on the network can trim, rename, delete, ... your clips, or modify the keywords and ranking assigned to your clips. If disabled, only the local operators can modify or delete clips on the server and edit their metadata.
Default: Disabled.

```
Clips                                  p.3.2
[F1]Keywords file  : Football [F8]Delete
[F2]Keyword Mode   : List
[F3]PUSH Machine   : Peter    #04
[F4]Receive Pg     : 5
[F5]Default Xfile  : Xfile    #3
[F6]Reset Archive Status
[Menu]Quit [Clr+F_]Dft [F9]PgUp [F0]PgDn
```

Keywords File:
(--------, SERVER, or name of keywords files present on the system)
Selects the keywords file to use to assign keywords to clips or to search

the clips database. If set to "--------", no keywords file is selected, and the keywords assignment and related search functions are not available. If set to "SERVER", the keywords file sent by the active network server to all systems on the network will be used. Other file names will appear if keywords files (files with a .KWD extension) have been loaded in the C:\MULTICAM\KWD directory of the system. Keyword files can be imported using the "Import/Export Setup Files" function of the Maintenance Menu of the EVS Menu (refer to the "Technical Reference for XT Server" manuel for details). [F8] key allows the operator to delete the selected file (confirmation required). Details about the keywords file format and keywords-related functions are available further in this manual.
Default: --------

Keyword Mode:
(List, Numeric)
Selects the keyword assignment/search mode on the EVS remote panel. List will display the keywords by groups of 8 on the LCD of the remote panel and the operator can select them with the corresponding F_ key ; Numeric doesn't display the keywords list on the LCD, but allows the operator to enter directly the keyword ID using the F_ keys. The Numeric mode is faster when the operator knows the position of the keywords inside the keywords file, either from memory, using the VGA keyword screens, or using a print of the keywords list.
Default: List

PUSH Receive Page:
(Select one or more clip pages from 1 to 10)
Selects the page of your machine where clips sent to you by other network operators using the PUSH function must be stored. Press the F5 key to edit this parameter, then press the F_ key corresponding to the page number you want to select/unselect. Selected pages will be highlighted on the LCD and the corresponding F_ key lights red. F_ keys of unselected pages light green. To validate your selection, press ENTER.
Default : Page 5

Default Xfile:
(Xfile name and network number)
Defines the Xfile where clips must be sent when using the ARCHIVE function from the EVS remote panel or VGA screens.
Default : -------- #--

Reset Archive Status:
Pressing F6 will resets the archive status of all clips present on the system. Confirmation required. Refer to the description of the ARCHIVE function for details.

```
Playlist                              p.4.1
[F1]Video effect duration : 00s10fr
[F2]Audio effect duration : Lock to Vid.
[F3]Wipe type             : Vert.    L>R
[F4]Default plst speed    : Unk.
[F5]Insert in playlist    : After
[F6]Confirm Ins/Del clips : No
```

```
[Menu]Quit [Clr+F_]Dft [F9]PgUp [F0]PgDn
```

Video Effect Duration:
(0s00fr to 20s00fr)
sets the duration of video transition effect. Used as default value in playlist edit mode. Note that the duration of the video transition when using the TAKE button in 1PGM+PRV mode has its own parameter in another section of the setup menu.
Default: 00s10fr

Audio Effect Duration:
(Lock to video, or 0s00fr to 20s00fr)
This parameter is only used when Split Audio Editing is enabled. It sets the duration of audio transition effect. Used as default value in playlist edit mode. If split audio editing is disabled, the video and audio transitions will always have the same duration, based on the setup for the video transition, whatever the value of the Audio Effect Duration defined in the setup menu. If this parameter is set to "Lock to video", you will not be able to define different durations for the audio and video transition inside a playlist, even if the Split Audio Editing is enabled.
Default: Lock to video

Wipe Type:
(Vert. L>R / Vert. R>L)
Selects vertical wipe effects from Left to Right or from Right to Left.
Default : Vert (L>R)

Default Plst Speed:
(Unknown, then from 0% to 100%)
Default speed used for clips entered into playlist. Unknown means that the speed of the previous clip in the playlist will be used as a reference for the current clip. 0% will force the playlist to pause at the end of the previous clip.
Default: Unknown

Insert in Playlist:
(After / Before)
selects the mode for «INSERT» function of playlist : the new clip will be inserted after or before the current clip in the playlist.
Default: After

Confirm Ins/Del clip:
(No / Yes)
If enabled, a confirmation will be required everytime the operator wants to add a clip to the playlist or remove a clip from the playlist.
Default: No

```
Playlist                              p.4.2
[F1]Split audio editing    : Disable
[F2]Extend split transition: End Cut
[F3]Swap audio tracks      : Auto
[F4]Playlist loop          : No
[F5]Load playlist          : Always
[F6]Playlist auto fill     : All Cam
[Menu]Quit [Clr+F_]Dft [F9]PgUp [F0]PgDn
```

Split Audio :
(Disable / Enable)
This parameter enables or disables the Split Audio Editing option in Playlist mode. Changing this parameter modifies the display on the monitoring outputs and adds special function keys on the LCD screen to define different transition points and durations on the video and audio tracks.
Default: Disable

Note: A specific license code (option 112 : Playlist Mgmt Advanced) is required to enable split audio editing.

Extend split transition:
(Center (on) Cut / End (on) Cut / Start (on) Cut / Ask)
Determines how the transition should be extended when modifying the transition duration on the audio or video track only. This parameter is only useful when performing split audio editing.
- Center Cut : extend equally on both sides of the transition
- End Cut : extend the beginning of the transition to the left so that the end of the transition is unchanged
- Start Cut : extened the end of the transition to the right so that the beginning of the transition is unchanged
- Ask : allows the operator to select any of the above options when editing the duration of the transition

Default : Center Cut

Swap audio tracks:
(Auto / Manual)
This parameter is only useful when performing split audio editing with at least 2 mono audio tracks per video.
- Auto : the audio tracks to swap are automatically selected by the application when inserting a swap point.
- Manual : the operator can define which audio tracks he wants to swap when inserting a swap point.

Refer to the section of the manual about Split Audio Editing for details.
Default : Auto

Playlist Loop:
(Yes / No)
Allows playlist to loop and replay continuously.
Default : No

Load Playlist:
(Always / Conditional)
This parameter is only used in 2PGM or 3PGM mode.
Always: loads the selected playlist to PGM1 and PRV to PGM2
Conditional: loads playlist on the selected PGM only if only 1 channel is active when entering the PLST EDIT mode. Allows to load and play multiple playlists using a single remote panel.
Default: Always

Playlist Auto Fill:
(All Cam / Prim+Sec / Primary / Secondary / Cam A / Cam B / Cam C / Cam D / Cam E / Cam F)

Selects which camera angles will be used when using the Playlist Auto Fill function from the main menu of the remote.
Default : All Cam

```
Audio                                  p.5.1
[F1]Audio slow motion      : No
[F2]Lipsync value(ms)      :   0
[F3]Audio meters on OSD    : Yes
[F4]Audio meters adj.(db)  :   0
[F5]Aux track output : Prv

[Menu]Quit [Clr+F_]Dft [F9]PgUp [F0]PgDn
```

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)

Lipsync value(ms):
(-22 to 17 ms)
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 Channel Parameters option of the EVS Maintenance Menu. Changing the Lipsync value in the SETUP menu will update it in the EVS menu and vice versa.
Default: 0 ms

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

Audio Meters on OSD:
(Yes / No)
Enable/Disable the display of audio meters at the bottom of each monitoring output.
Default: Yes

Audio Meters Adj.(dB):
(-12 to +12 by 2 dB steps)
Adjust the sensitivity of audio meters on the OSD of the monitoring outputs. A positive value means that the meters will be more sensitive.
Default: 0 dB

Aux Track Output:
(Prv / Prv&7-8/15-16)
Defines to which audio outputs the Aux track of the playlist must be assigned.
Prv : the Aux track will use the audio outputs normally assigned to the PRV channel. If no Prv channel is available, the Aux track will not be assigned to any audio output.
Prv&7-8/15-16 : the Aux track will use the audio outputs normally assigned to the PRV channel if there is one, plus all the audio outputs from 7-8/15-16 that have not yet been assigned to another channel. Use this option if you need an aux track without PRV channel available.
Default: Prv

```
Audio                                   p.5.2




[Menu]Quit [Clr+F_]Dft [F9]PgUp [F0]PgDn
```

This page is intentionally left blank and is reserved for future developments

```
EVS Controller                          p.6.1
[F1]Effect duration for Take : 00s05fr
[F2]Fast jog              : 20x
[F3]PGM Speed/Var Max     : 50%
[F4]Lever engage mode     : Direct
[F5]Second lever range    : -100% <-> +100%
[F6]Recall clip Toggle    : Enable
[Menu]Quit [Clr+F_]Dft [F9]PgUp [F0]PgDn
```

Effect Duration for Take:
(00s00fr to 20s00fr)
Defines the duration of the transition when using the TAKE key to chain 2 sequences in PGM+PRV mode.
Default: 00s05fr

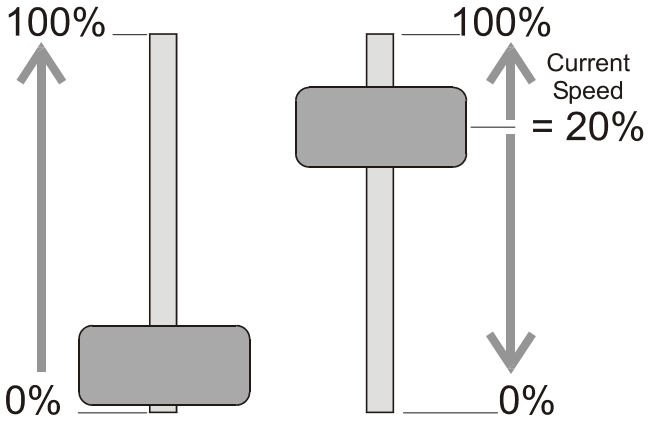
Fast Jog:
(01 to 20 times)
sets the increment of the jump when in Fast Jog mode.
Default: 20x

Pgm Speed/Var Max:
(1 – 100%)
during playback, if PGM Spd or VarMax has been enabled in the secondary menu of the remote, the lever range will be adapted so that :

- the only playback value for any position of the lever other than 0, is the one specified by this parameter in the setup (PGM Spd mode ON),
- or the speed range defined by the lever is limited to the value specified by this parameter (VarMax mode ON).

Default: 050%

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



Second 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%

Recall clip toggle:
(Enable/Disable)
This option allows the operator to select the camera of a clip through the Function keys. Pressing several times the F key browses to CAM A, CAM B, CAM C, CAM D, CAM E and CAM F.
Default: Enable

```
EVS Controller                          p.6.2
[F1]Record key      : Start REC + Live
[F2]Pointing device : Tablet
[F3]VGA & RMT Sync  : No



[Menu]Quit [Clr+F_]Dft [F9]PgUp [F0]PgDn
```

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

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. If using the Touch Screen, this one must always be connected to RS422 port #6 of the XT, and defined as such at page 7.1 of the setup.
Default: Tablet

VGA & RMT Sync :
(No, Yes, Server Nbr)
Select whether and how the current clips machine, page and bank of VGA screens and EVS remote panel must be synchronized.

- "No" : clips machine, page and bank can be selected independently on the VGA screen and on the EVS remote panel ;
- "Yes" : clips machine, page and bank are synchronized between VGA screen and EVS remote panel. Connecting to the clips of a network machine or coming back to the clips of the local machine, or selecting a new page or bank on one side will be automatically reflected on the other ;
- "Server Nbr" : clips pages and banks can be selected independently on VGA and remote, but connecting to the clips of a network machine or coming back to the clips of the local machine on the VGA or remote panel will automatically reflect on the other.

Default : No

```
    Port       Device/Protocol      p.7.1
    RS422 #1   EVS Remote    [F7]ID Type:
[F2]RS422 #2   EVS Remote        ID LSM
[F3]RS422 #3   EVS Remote
[F4]RS422 #4   Sony BVW75
[F5]RS422 #5   Sony BVW75
[F6]RS422 #6   Touch Screen
[Menu]Quit [Clr+F_]Dft [F9]PgUp [F0]PgDn
```

This page is used to define what type of device/controller is connected to each RS422 port of the XT.

RS422 #1:
(EVS Remote)
When working in LSM base configuration, the first RS422 port must always be connected to an EVS remote. No other possible selection

RS422 #2:
(EVS Remote, Sony BVW75, XtenDD35, Odetics, Louth VDCP, EVS AVSP, ---------)
Default : EVS Remote

RS422 #3:
(EVS Remote, Sony BVW75, XtenDD35, Odetics, Louth VDCP, EVS AVSP, ---------)
Default : EVS Remote

RS422 #4:
(EVS Remote, Sony BVW75, XtenDD35, Odetics, Louth VDCP, EVS AVSP, ---------)
Default : Sony BVW75

RS422 #5:
(Sony BVW75, XtenDD35, Odetics, Louth VDCP, EVS AVSP, ---------)
Default : Sony BVW75

RS422 #6:
(Sony BVW75, XtenDD35, Odetics, Louth VDCP, EVS AVSP, Touch Screen, ---------)
Default : Touch Screen

Note:
- It is preferable to assign all EVS remotes to the first RS422 ports. Avoid interleaving protocols and EVS remotes in this list.
- The Touch Screen can only be assigned to RS422 port #6.

ID Type:
(UmID, ID LSM)
Defines the type of clip ID used by RS422 protocols (XtenDD35, Odetics, Louth VDCP, EVS AVSP) to identify clips. ID LSM identifies clips using their page, bank, clip and camera number (ex : 245C) ; UmID is another identifier that is either assigned by the protocol when creating the clip (ex : CLP00001), or defined automatically by the Multicam when the clip is created using the EVS remote panel, or when the protocol doesn't specify this ID. When it is defined by the Multicam, the UmID is a coded ID (ex : 3x2QogRW) that is unique for every clip created on any XT server, and is based on the serial number of the server, and creation date and time of the clip.
Default : UmID

```
Special Control Settings              p.7.2
         Main    RS422     Second. RS422
PGM1:     EVS Remote -- [F5]Sony BVW75 04
PGM2:[F2]EVS Remote -- [F6]Sony BVW75 05
PGM3:[F3]EVS Remote -- [F7]---------- --
PGM4:[F4]EVS Remote -- [F8]---------- --

[Menu]Quit [Clr+F_]Dft [F9]PgUp [F0]PgDn
```

This page is used to define which device/controller can control which PGM channel. For each PGM channel, you must define the main controller, selecting from the list defined on page 7.1.

- In LSM mode, the main controller for PGM1 must always be an EVS remote. This can not be changed by the operator.
- If the main controller is an EVS remote, the RS422 port will be automatically assigned and is not specified by the operator.
- If the main controller is an EVS remote, it is then possible to specify a secondary controller for that channel, that can be either a Sony BVW75, XtenDD35 or Odetics protocol defined on page 7.1. The EVS remote controlling that channel can then decide at any time to pass the control to, or to retrieve the control from the secondary controller.
- Like for page 7.1, all EVS remotes must be the first in the list of Main controllers, without gap. It is not allowed to have a protocol preceding an EVS remote in this list.
- A protocol (other than EVS AVSP protocol) can only be assigned to 1 channel at a time.
- EVS AVSP protocol can be assigned to several channel simultaneously. If you need to assign some channels to an Air Box, you must set the main controller for these channels to EVS AVSP.

Main Controller for PGM1:

(EVS Remote)
When working in LSM base configuration, PGM1 main controller must always be an EVS remote. No other possible selection

Main Controller for PGM2/3/4:
(EVS Remote + list of protocols-RS422 ports defined on page 7.1)
Default : EVS Remote

Secondary Controller for PGM1/2/3/4:
(list of Sony BVW75, XtenDD35 and Odetics protocols defined on page 7.1)
Available only if the main controller for that channel is an EVS remote.
Default for PGM1 : Sony BVW75 on RS422 #4
Default for PGM2 : Sony BVW75 on RS422 #5
Default for PGM3 & 4 : ---------- --

```
GPI In Settings                          p.8.1
GPI#    Channel/Device Port     Function
 1   [F1]PGM1           --   [F5]Play
 2   [F2]PGM2           --   [F6]Play
 3   [F3]PGM3           --   [F7]Play
 4   [F4]PGM4           --   [F8]Play

[Menu]Quit [Clr+F_]Dft [F9]PgUp [F0]PgDn
```

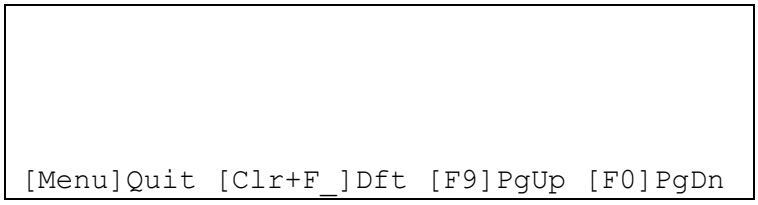
```
GPI In Settings                          p.8.2
GPI#    Channel/Device Port     Function
 5   [F1]RMT1           --   [F5]Play
 6   [F2]RMT1           --   [F6]Next
 7   [F3]RMT1           --   [F7]Skip
 8   [F4]RMT1           --   [F8]Pause

[Menu]Quit [Clr+F_]Dft [F9]PgUp [F0]PgDn
```

These 2 pages define the settings for the GPI inputs of the XT server. For each GPI input, the operator has the possibility to define :

- the channel that the GPI will affect or the device that the GPI is assigned to. A device can be EVS remote #1 or one of the protocols defined in page 7.1 (if some GPI must be used by the Air Box in a mixed configuration LSM+Air Box, or if a GPIs must trigger some actions on a channel controlled by a Sony protocol, etc.). If the operator selects EVS Remote #1, the GPI will trigger the selected action on all channels controlled by that remote.
- the function that the GPI will trigger : Play, Pause, Recue, Previous (recue to previous clip inside the playlist), Next (goto next clip inside the playlist), Skip (skip the next clip in the playlist), -------- (no action is taken). If a GPI is assigned to an AVSP protocol for use with the EVS Air Box or Air Edit application, the function of this GPI will be defined by the Air Box / Air Edit software.

The representations of pages 8.1 and 8.2 of the LCD screen shows the default values for GPI inputs 1 to 8. For the pinout of the GPI connector and wiring instructions, please refer to the XT Technical Reference.

```
GPI Setting                              p.8.3
[F1]GPI delay : Disable
```



GPI Delay:
(Disable / 00s01fr to 02s00fr)
Defines the delay for the XT server to react to the reception of a GPI trigger.
Default : Disable (immediate reaction)

```
Special Effect                          p.9.1
[F1]Paint/Target trans.   : 00s05fr
[F2]Set color for         : Cursor
[F3]Color : White   [F4]Y : 240
                    [F5]U : 128
                    [F6]V : 128
[F7]Split Screen Tracking: No
[Menu]Quit [Clr+F_]Dft [F9]PgUp
```

Paint/Target Transition:
(0s01fr to 5s00fr)
Sets the duration of the dissolve effect for the key in Painting and Target Tracking modes.
Default : 0s05fr

Set color for:
(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

SplitScreen Tracking:
(Yes/No).
enables or disables the auto-tracking inside the Split Screen effect.
Default: No

5. SETUP Screen

The VGA Setup screen contains some parameters from the Setup Menu of the remote that are useful to adjust when working in a mode where no remote panel is used.

HOW TO ACCESS THE SET-UP MENU?

The VGA Setup screen is available by pressing simultaneously SHIFT + F2 on the keyboard with CAPS LOCK disabled. The Setup screen is not accessible if CAPS LOCK is ON.

Some parameters included in the VGA Setup screen are common with those in the Remote Setup Menu. Therefore, a modification in the VGA Setup Screen is reflected immediately in the Remote Setup Menu, and vice-versa.

Only some settings of the Remote Setup Menu are included in the VGA Setup screen. The others have not been included since they are relative to functions that are specific to the EVS remote, and are not useful when this panel is not used (Video Delay and Slave modes).

Some parameters are specific to the VGA Setup Screen, and are not present in the Setup Menu of the EVS remote panel.

Date Format:
(dd/mm/yy)

This parameter can not be adjusted yet. In a future version, it will be used to select the date format between dd/mm/yy (day/month/year) and mm/dd/yy (month/day/year).

Channel Names:
Play and Rec channels can be named (12 characters max.). The name of record channels will be displayed on the OSD of the video monitoring outputs when a record train is loaded, and can also be used to name clips automatically when the "Autoname clip" parameter is set to "CAM name".

To delete a Keywords File from the Setup Screen:
Move the cursor to the Keywords File parameter using the TAB / SHIFT+TAB keys, then press CTRL+DEL, and confirm whether you want to delete the current keywords file from disk, or not.

The Setup screen also provides information about:
- the actual and maximum number of local clips on the server (2048 or 4096, depending on the HCTS board installed in the system);
- the actual and maximum number of clips of the database for the entire network (6000 or 16000 clips, depending on the setting in the EVS Configuration Menu);
- the network speed, network mode and network number as defined in the EVS Configuration Menu ;
- the version of the Multicam software;
- the version of the microcode.

Moving inside the Multicam Setup Screen
Use TAB/Shift+TAB to move from one parameter to the next/previous, and the ←/→ arrow keys to change the value of a parameter.

Saving and Loading Setup Files
20 setup files can be saved on the XT system disk. To save the current setup, press F4 and enter a file name (8 characters max., no spaces or special characters), followed by ENTER.

To load a setup file, press F5, use the ↑/↓ arrow keys to select the desired file, then press ENTER.

To delete a setup file, press F5, use the↑/↓ arrow keys to select the desired file, then press DEL : the setup file is immediately deleted.

Setup files can be imported from/exported to a floppy disk using the "Import/Export Setup Files" in the EVS Maintenance Menu (refer to the description of the Maintenance Menu of the EVS application in the XT Technical Reference for details).

6. 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). The E/E mode is actually playing pictures already recorded by the system, and has a delay of 3 frames compared to the live source, on all audio and video tracks.

MARK :
Marks up to 256 cues that can be marked while recording / playing. The cues are marked on the LIVE or PLAYBACK program depending on the value set in the SETUP menu. When the operator has marked 256 cues, the next one will overwrite the oldest one.

LAST CUE :
Re-cues machine to previous cue point relative to the current time code position, pressing again will re-cue to the previous cue etc. When recalling a cue point, the cue number appears in the upper left corner of the OSD if this option is enabled in the setup menu (page 1.1, F4)

PLAY :
Initiates forward motion. Can also be used to start playback of playlists and clips; refer to PLST command. Default playback speed when pressing the PLAY key is 100% for standard pictures, 33% for Super Motion pictures with a Triple Speed camera (SD), and 50% for Super Motion pictures with a Double Speed camera (HD), when PGM SPD/VAR MAX is OFF. When PGM SPD/VAR MAX 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. In Split Audio mode, this key can be FLASHING GREEN or FLASHING RED. Refer to the Split Audio section of this manual for details.

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

Note: The OUT point (field) is always excluded. When playing a clip, it will freeze on the field preceding the OUT point marked by the operator.

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 and a clip is saved, 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. Starting a PLAY or returning to E2E mode resets the FASTJOG mode.

The JOG dial is active at all times when the system is in PLAY & RECORD. The brake is automatically turned on when starting a playback with the PLAY key or with the lever, or when returning to E2E mode with the RECORD button.

LEVER:
Used to perform slow-motion from 0 - 100%, and to playback material from –100 to –100% or from –200 to + 200% when Secondary Lever range is selected. The lever has a continuous, linear range, except when Super Motion material is loaded on the primary channel. In this case, there is a "flat step" at 33% (SD Super Motion) or 50% (HD Super Motion) to help the operator locating easily the ideal playback speed.

Important note: When playing Super Motion material in slow motion, to obtain the smoothest replay, it is important that the replay speed is exactly the ideal slow motion speed, i.e. 33% for SD Super Motion or 50% for HD Super Motion. If the replay speed is slightly off these ideal values, movements might appear staggered. These ideal speeds can also be called directly by pressing the PLAY button when the current element is Super Motion. The PROGRAM SPEED and VAR MAX modes can also be used to facilitate this (refer to Chapter 8 for a description of these modes).

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.

BROWSE:
When a clip is loaded on the primary channel, pressing the **BROWSE** key allows the operator to browse inside all local clips of the database by turning the jog knob.
When a cue point exists for the current picture on the primary channel (the **CUE** button lights red), pressing the **BROWSE** key allows the operator to browse through all existing cue points by turning the jog knob.
When the current picture on the primary channel is not a clip nor a cue point, or if the operator is in Playlist mode, pressing the **BROWSE** key allows him to browse inside the clips of the current playlist by turning the jog knob.

INSERT:
To insert a clip before or after (depending on the setup menu) the current position inside the playlist.

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

MENU:
Enables operator to gain access to the secondary menu.
SHIFT+MENU gains access to the Main Menu.
Also used as an ESCAPE key to cancel some options and messages.

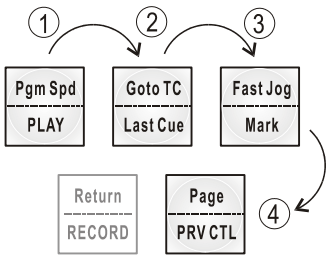
CLEAR :
to clear IN / OUT/ PLAYLISTS / CLIPS / CUE points.

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

Rebooting the system from the EVS 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 that doing this while the Multicam is running will of course force the Multicam application to close abruptly, and up to 1 minute of the material being recorded and not clipped could be lost.

To reboot, press the following key sequence,



Between step 3 and step 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 save all recorded material (record trains, clips, playlists) 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 and/or record trains of other machines on the network. After the selection of the machine, the way of selecting clips and camera angles 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 8th 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 nothing happens after confirming the TC entry with ENTER,

this means that the field corresponding to the selected TimeCode does not exist on disk any longer.
To exit the GOTO TC function at any time, press the MENU key.

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 or HD/SD compatible hardware)
Enables the internal loop mode. Select this option, the button will flash RED when in this mode and "LOOP" will appear on the OSD of the monitoring outputs. When the LOOP mode is activated, the PGM1 output is internally routed to the CAM A input of the server (audio and video, or video only, depending on the "Internal Loop Mode" parameter of the setup menu, p. 2.2 F6).

This is very useful to "consolidate" effects and edits, or adding live sound or music or voice to previously recorded material when only the video is looped back into the server.

Example of use to consolidate a playlist : Load the playlist, activate the LOOP mode and roll the playlist. The playlist will be recorded onto the disks (Channel 1 – CAM A) as a continuous video/audio stream. 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). You can also use this function for any effect that you would like to record as regular video inside the server (split screen, target tracking, painting, etc). Depending on the parameter in the setup menu, both video and audio can be looped back into the system, or only the video track is looped and the system keeps recording the live audio at the same time.

Note: when playing back at 200% in loop mode, then replaying the looped sequence at 50%, you can obtain a "film effect".

RETURN:
Inside a clip, press the **RETURN** key to remain on the same picture, but inside the record train instead of the clip (if that picture still exists in the record train). This is useful when a clip is too tight and you want to use material beyond the current IN or OUT point.

PAGE:
Use this key to select a new clips page. After pressing the **PAGE** key, you must press a **F_** key to select the corresponding page (1 to 10).

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 to 10).

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. If "Recall Clip Toggle" is enabled in the setup menu, pressing several times on the same F_ key will call successively all camera angles of that clip.

The clip numbering system is as follows:

Clip 547 "5" Denotes the CLIP PAGE number (1 to 10).
"4" Denotes the CLIP BANK (1 to 9)
"7" Denotes the clip number (1 to 10) inside the bank

Note: To identify remote clips when using the SportNet SDTI network, the number of the clip is followed by the number of the machine on the network. i.e. Clip 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 corresponding playlist.

Playlist 51 "5" Denotes the CLIP PAGE
"1" Denotes the playlist number (1 to 10)

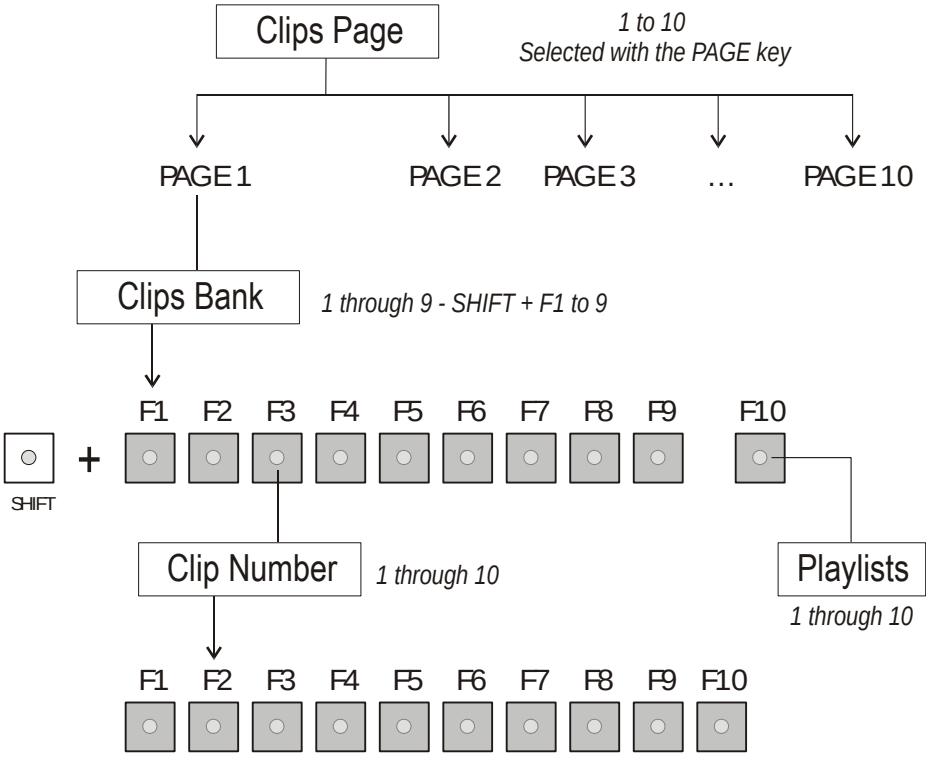
Note:
- The playlist bank of page 10 is not available from the EVS remote, since it is actually reserved for the EVS AVSP protocol (for Air Box and Air Edit).
- To identify remote playlists when using the SportNet SDTI network, the number of the playlist is followed by the number of the machine on the network, i.e. Playlist 51/04

CLIP NUMBERING HIERARCHY

The MULTICAM can store up to 900 (multiplied by the number of cameras) clips and 100 playlists in its libraries

Note: 900 clips with up to 6 camera angles per clip results in 5400 "clip registers" in the memory. But the maximum number of clips on a XT system actually depends on the revision of the HCTS (disk controller) board and is 2048 or 4096. This number is displayed in the upper right window of the VGA Setup Screen (Shift+F2 from the PC keyboard). If you are working with SportNet SDTI network, keep in mind that the total number of clips on the entire network is limited to 6,000 or 16,000, depending on the network settings. This number is displayed in the same area on the VGA Setup Screen.

The following diagram represents the hierarchy of the MULTICAM clip numbering system. As an example, clip number "112" is used:



7. 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 JOG DIAL.
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.

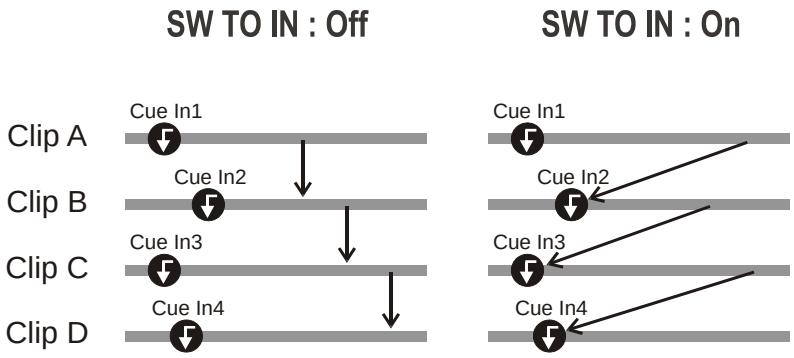
As soon as the lever is moved, the MULTICAM starts playing back from the current picture. The playback speed is defined by the lever position. This is used to start the playback of a normal slow motion, as well as the playback of a clip or a playlist. During playback, the system never stops recording

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)

If OFF: a request for camera change will produce a jump at the same time code on the requested camera. This mode allows synchronous change of camera angle.

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.

DEFINITION OF CONTROLLED AND PRIMARY CHANNELS

Important note: The notions of PRIMARY and CONTROLLED channels are very important and will be constantly referred to in this manual.

Controlled Channel: A channel is "controlled" when the operator can control it with the jog dial. In this case, the words "FULL CTRL" are present on the top of the OSD of the monitoring output of that channel.

Primary Channel: The primary channel is the first controlled channel. It is identified by stars around its name on the OSD of the monitoring output and on the LCD display of the remote panel (ex : *PGM1*).
Examples :

- In 3PGM mode, if the operator controls PGM2 and PGM3, the primary channel is PGM2 ;
- In PGM+PRV mode with PRV CTRL OFF, the primary channel is PGM ;
- In PGM+PRV mode with PRV CTRL ON, the primary channel is PRV.

PREFERENCE MODE (PREF)

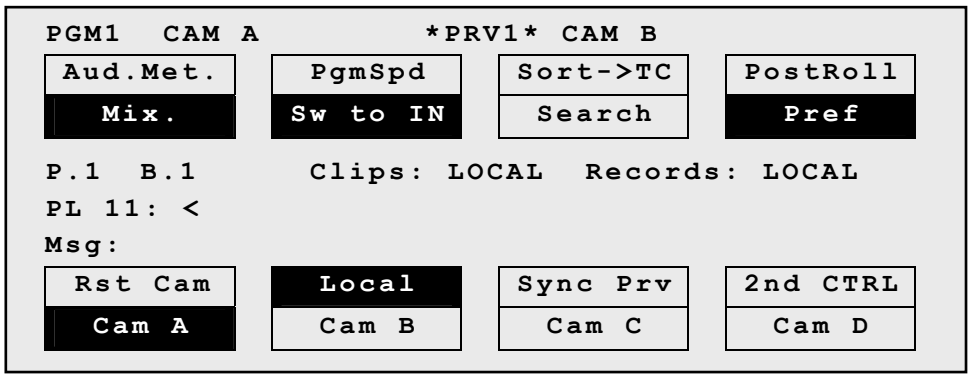
When this option is ON and a clip is recalled, the preferred camera will be displayed on the main output, even if another camera angle was previously loaded on that output.

The preferred camera is the one, which was on the primary output channel when the clip was created. The second preferential camera ("secondary camera") is the one that was loaded on the next channel when the clip was created. 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.

8. PGM-PRV mode

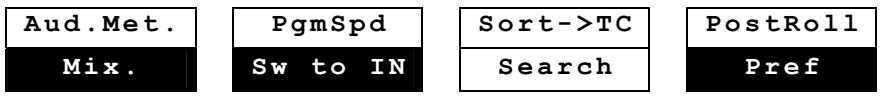
1PGM+PRV (Press A from MAIN MENU)



At lease 2 playback channels must be available to run this configuration.

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 / Wipe U>D / Wipe D>U / 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.

PgmSpd/VarMax: Pressing PgmSpd once enables the PROGRAM SPEED mode, and this function is highlighted on the LCD. Pressing the key once more enables the VAR MAX mode, and this function appears highlighted on the LCD. The PLAY key is flashing red while either of these modes are enabled.

- PROGRAM SPEED mode : in this mode, only two speed values are available from the lever : 0% when the lever is in the lower position, or the speed defined in the setup (p.6.1 F3) for any other position of the lever.
- VAR MAX mode : the speed range defined by the lever is limited between 0% and the speed value defined in the setup (p.6.1 F3).

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 if no IN point exists for the current element, or if SW to IN is OFF.

Pref: Selecting this function enables the Preference mode.

Aud.Met.: Enable/Disable the display of audio meters for all channels using the OSD of the monitoring outputs.

PostRoll: When the POST ROLL mode is enabled, that function is highlighted on the LCD. When playing a clip, it will not stop on the OUT point, but will continue to play through the OUT point by the Post Roll duration defined in the Setup Menu. It will do the same inside a record train if the "Record Train OUTs" parameter is set to "Freeze" in the Setup Menu. When playing a playlist, the Post Roll will apply only to the last clip of the playlist.

Sort->TC: This function allows the operator to search for all clips that contain a particular time code. When calling this function, the time code of the current picture is used as a default selection. The operator can immediately perform the search or he can edit that time code before starting the search. The search is performed on local clips only if confirmed with SHIFT+ENTER or on the entire SportNet SDTI network if confirmed with ENTER. If matching clips are found, the remote will automatically be in BROWSE mode (the BROWSE key is red), allowing the operator to quickly view the frame of each clip corresponding to the requested time code by rotating the jog dial. To be able to jog inside a clip, disable the BROWSE mode by pressing on the BROWSE key and move the jog dial. To return to the BROWSE mode inside the search results, press the BROWSE key again.

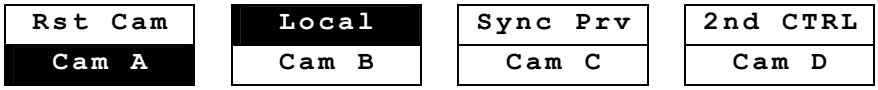
Search results are reset when going by to LIVE mode, or when a new search is performed.

Practical examples :
- You have loaded the picture of an interesting event, and you want to see all clips that contain that same event. Call the SORT->TC function and confirm with ENTER (network search) or SHIFT+ENTER (local search). Move the jog dial and you will see the same event on the same time code from all available camera angles that have been clipped.
- You know the time code of a particular event and you want to see all clips containing that event. Call the SORT->TC function, edit the time code to the desired value and press ENTER or SHIFT+ENTER and you will obtain the same result as above.

Search: This function allows the operator to search the database using keywords and ranking. Refer to the "Keywords Management" section of

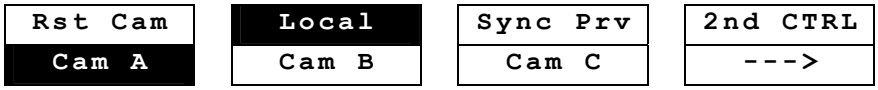
this manual for further details.

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

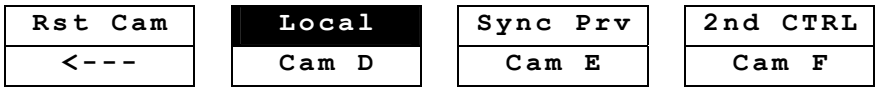


CAM A/ B /C /D: selects the camera on the PGM output if PRV CTL is OFF and on PRV output if PRV CTL is ON.

Note: In 5CAM configuration (5 record and 1 play) or when loading a clip where CAM E or F exists, the operational menu will display :



By pressing the D key (**– – – >**), the operator has access to the D, E and F cameras. The operation menu becomes :



Press the A key (**< – – –**) to return to CAM A, B, C selection.

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

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.

Local: connects clips and trains to the local LSM. This function is highlighted when both clips and records trains are connected to the local LSM and appears only on Master/Server LSM's when they are connected to the SDTI network.

Sync Prv:
This option allows you to synchronize the PRV with the PGM output at the same Timecode and same speed. This function is not available with remote record trains.

2nd CTRL: allows the operator to swap the control of one or several play channels between the EVS remote and a third-party controller using the Sony BVW75 or XtenDD35 protocol. Both controllers receive the status of the channel(s) all the time, but only one controller at a time is able to actually control a channel. The secondary controllers are defined in section 7 of the remote Setup Menu.

Press this function to enter the 2nd CTRL menu, select the channels that you want to pass to the secondary controller by pressing the

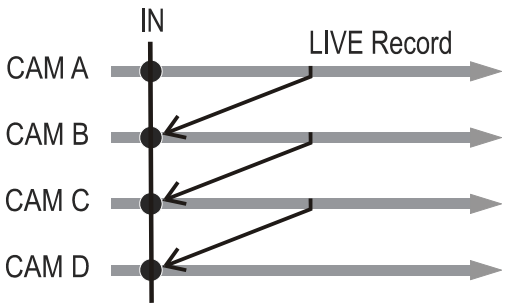
corresponding A or B key, then press D (DONE) to validate your selection. Do the same to bring the control of a channel back to the EVS remote.

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 PRW output and, via the Take button, can auto-chain cameras from the same IN point on the PGM output.

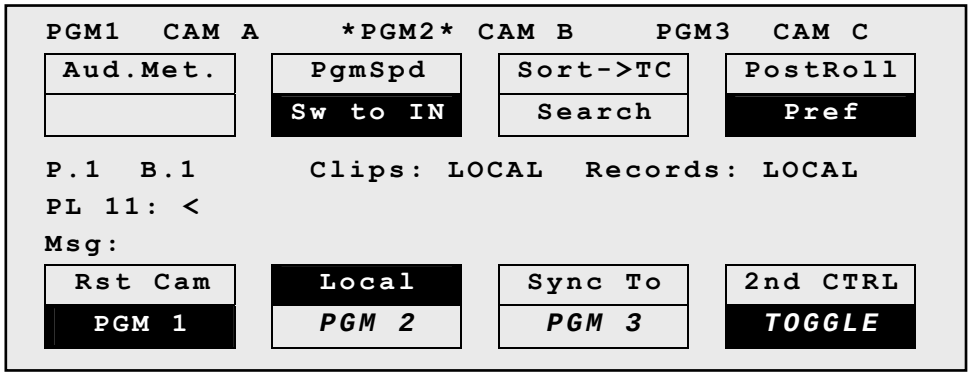
9. Multi PGM mode

1/2/3 PGM modes (press A or B from MAIN menu)

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

- The **1PGM+PRV mode**, as described previously, is the more powerful of the two, allowing for interaction between all outputs. Here, synchronized replays can be rolled and chained 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).



The secondary menu can be called by pressing the MENU key and is similar to the 1PGM+PRV mode, except that the A function is empty since it is not possible to create a transition between the channels in this mode. Please refer to Chapter 8 for description of the other functions of the secondary menu.

The functions available from the primary menu in Multi PGM mode are :

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. This function is not available with network trains.

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.

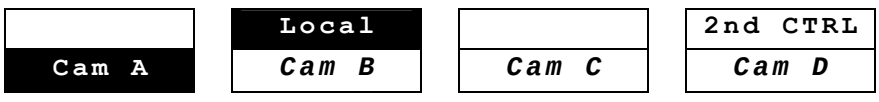
Note: The TOGGLE function is only available in 3PGM mode.

2nd CTRL: allows the operator to swap the control of one or several play channels between the EVS remote and a third-party controller using the Sony BVW75 or XtenDD35 protocol. Both controllers receive the status of the channel(s) all the time, but only one controller at a time is able to actually control a channel. The secondary controllers are defined in section 7 of the remote Setup Menu.

Press this function to enter the 2nd CTRL menu, select the channels that you want to pass to the secondary controller by pressing the corresponding A, B or C key, then press D (DONE) to validate your selection. Do the same to bring the control of a channel back to the EVS remote.

Selecting a camera on a channel: select first the channel where you want to change the current camera. You can notice that the TAKE key at the bottom of the remote lights RED. If you press the TAKE key now, it lights GREEN and the menu on the LCD display changes to let you select the desired camera. To return to the PGM selection menu, press the TAKE key again.

Note: The 1PGM mode is a simplified version of the 2 or 3PGM modes. The operational menu has less functions :



Also, the user does not need to select a channel to enable or disable the secondary controller. Since there is only 1 channel available in this mode, the operator just has to press SHIFT + D to swap the control between the secondary controller and the EVS remote.

Playlist Conditional Mode: This mode is only available in 2PGM and 3PGM modes. It allows the operator to load and control several playlists simultaneously from the same remote panel, or to load a playlist on one channel while performing other operations on the other channel(s). To use this mode, the "Load Playlist" parameter of the setup menu must be set to "Conditional" (p.4.2 F5).

To use this mode, select one channel (for example PGM1), and press the PLST key once, twice or three times to enter the PLST EDIT or the PLST DIFF mode (refer to the "Playlist Management" section of this manual for details about these modes). You can notice that the TAKE key button lights GREEN. Pressing the TAKE key will allow the operator to return to the PGM selection menu, and select another PGM channel where he can start a replay, load a clip or another playlist, etc.

In this mode, if the operator selects a PGM channel where a playlist is loaded and presses the TAKE key, he will enter again the PLST EDIT or PLST DIFF mode.

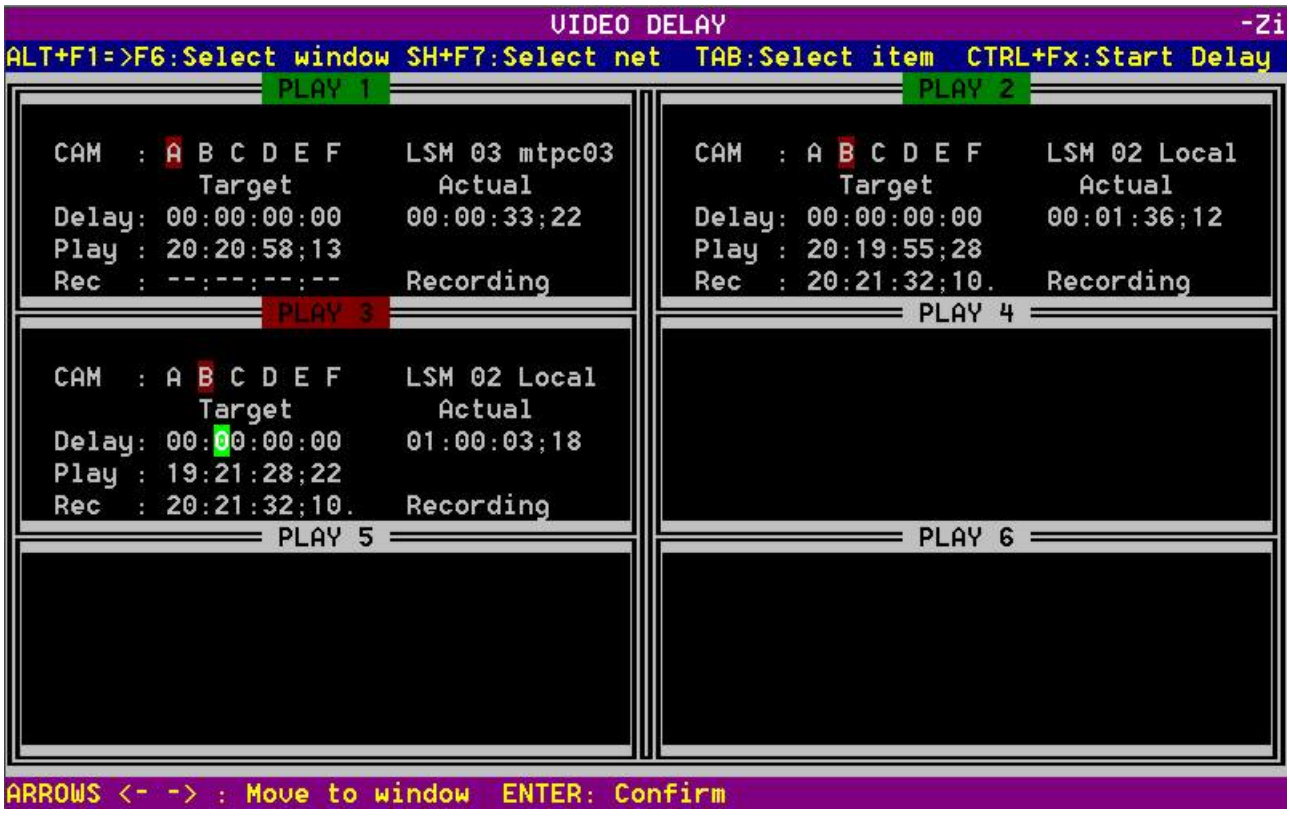
When playlists are loaded on all channels currently controlled by the operator in MULTI PGM mode, the TAKE key lights RED. If the TAKE key is pressed, the remote will enter a specific PLST DIFF mode, where the operator can control several playlists simultaneously, and browse them or roll them in sync. NEXT and SKIP functions are also available and will apply on all controlled playlists. The TAKE button will not light RED if one of the controlled channel does not contain a playlist.

Practical example : the operator builds a playlist with FILLS and another playlist with KEYS. He sets the "Playlist Load" parameter to "Conditional" in the setup menu, then enters the 2PGM mode, selects the FILLS playlist as current playlist, presses A to gain control on PGM1, presses PLST two or three times to enter the PLST DIFF mode and cue up the FILLS playlist to its 1st clip. Then he presses the TAKE key to return to the PGM selection menu, selects the KEYS playlist as current playlist, presses B to gain control on PGM2, presses PLST two or three times to enter the PLST DIFF mode and cue up the KEYS playlist to its 1st clip. Then he presses the TAKE key to return to the PGM selection menu, presses D to gain control on both PGM channels, then presses TAKE to enter the PLST DIFF menu. He will see on the LCD screen the content of both playlists side by side, and can browse them or play them in SYNC at any speed, and perform SKIP and NEXT commands as needed.

10. Video Delay

When the Multicam software has been configured with a base configuration = Video Delay in the Channel Parameters menu, the Delay Screen will appear automatically when the application is started. In this case, all play channels will be available from the Delay screen.

If the Multicam is running a base configuration different than Video Delay, this screen can be called manually from the Clip Screen, Playlist Screen or Network Screen by pressing **SHIFT+F7** on the keyboard. In this case, only the play channels assigned to user #1 (i.e. the 1st EVS remote panel if the base configuration is LSM or maXS, or the 1st protocol if the base configuration is a slave mode).



For each play channel, the operator can adjust :

- the video and audio source (camera angle, and source server if several units are connected on an SDTI network);
- the desired delay in hh:mm:ss:fr.

For each play channel, the operator can view :

- the actual delay in hh:mm:ss:fr;
- the time code of the on-air picture
- the time code of the incoming picture on the associated record channel;
- the status of the associated record channel (Recording / Idle)

To configure the video delay parameters of a play channel:

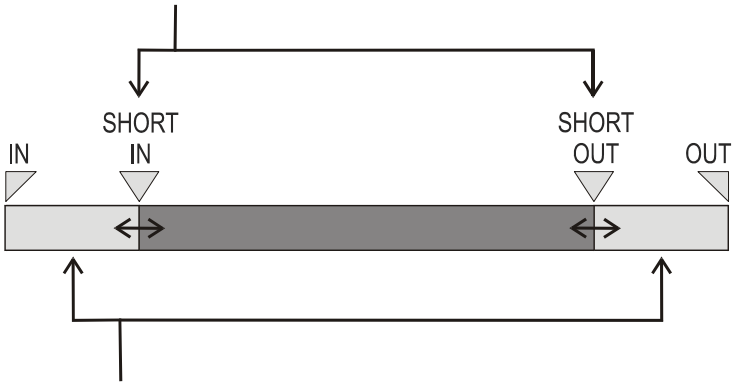
- Select the play channel to configure by pressing **ALT**+ the corresponding **F**_ key on the PC keyboard (ex : **ALT+F1** for PGM1, **ALT+F2** for PGM2/PRV, etc)
- If you want to use another server on the SDTI network as a source, press **SHIFT+F7** on the PC keyboard to call up the network list. Use the **arrow keys** to select a server, and press **ENTER** to validate.
- Select the camera angle : use the **left / right arrow keys**, or the **TAB** key to move the green cursor on the desired camera, the press **ENTER**. The new camera angle is loaded on the channel.
- Set the new value for the delay : use the **left / right arrow keys**, or the **TAB** key to move the green cursor over the TARGET DELAY field, and enter the desired delay value in hh:mm:ss:fr. Press **CTRL** + the corresponding **F**_ key on the PC keyboard to activate the new delay on the selected channel (ex : **CTRL + F1** start the new delay on PGM1). If the duration of the record train is lower than the target delay, the channel will pause on the first recorded picture until the record train is long enough for the desired delay. In this case, the message "WAIT" is displayed on the OSD of that channel.

11. 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 freezes on previous field when playing back (with POST ROLL disabled).
4. (SHORT) IN & OUT are always on even fields. This is automatic.
5. The guardband beyond the SHORT OUT point is created with the material available when the operator saves the clip by pressing the selected **F**_ key. Therefore, this guardband can sometimes be shorter than the value defined in the Setup Menu.

Using the EVS Remote Panel.

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 for the desired SHORT OUT point and then press the OUT key to mark it.

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?

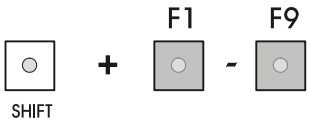
1. Define a clip by marking IN and/or OUT points.
2. Select the clip page (PAGE 1 contains clips 110 to 199, PAGE 2 contains clip 210 to 299, and so on) by pressing SHIFT + PAGE
3. Then select the BANK where the clip will be stored by pressing SHIFT + F_ keys. i.e. Bank n°3 press SHIFT + F3
   Bank n°7 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 and playlists at least every minute. **With Multicam 5.03.25 or higher, playlists are included in the AUTO-SAVE process**. Exiting the software (ALT+Q) or doing "Save Clips+Plist" from the main menu will also save the clips and playlists.

HOW TO RECALL A CLIP?

1. Select the CLIP PAGE 1, 2, 3, ... to 10 (PAGE key).

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



3. Choose the desired CLIP (**F1 - F10)**.

If **PREF** is ON, the preferred camera angle of the clip will appear on the primary channel, the secondary camera angle on the next controlled channel, then the other camera angles on the next channels in alphabetical order. Ex : if the preferred camera angle for clip 124 is camera C, when loading the clip, 124C is loaded on the primary channel, whatever the camera present on that channel before loading the clip.

If **PREF** is OFF, when recalling the clip, the camera angle will be the same as the one who was already present on each controlled channel. If that camera angle does not exist, the first available camera angle of the clip will be used. Ex : if camera B is the current camera on the primary channel, when calling clip 124, it is 124B that appears on the primary channel, even if it is not the preferred camera angle.

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 clip containing a single camera angle (only an «A», «B», «C» or «D» clip), when in full control of all outputs, the clip recalled will appear on the primary channel.

If "Recall Clip Toggle" is enabled in the Setup Menu, pressing several times the **F_** key will always recall the first frame of the clip, but showing the next camera angle every time the **F_** key is pressed.

HOW TO PLAYBACK A CLIP ?

1. Store a clip.
2. Recall the defined clip which will be played, the corresponding F key lights red.
3. Move the lever or press the PLAY key to start the playback of this clip in slow motion mode

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. Attention : in most cases, no confirmation is required and the clip will be instantly deleted.

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).

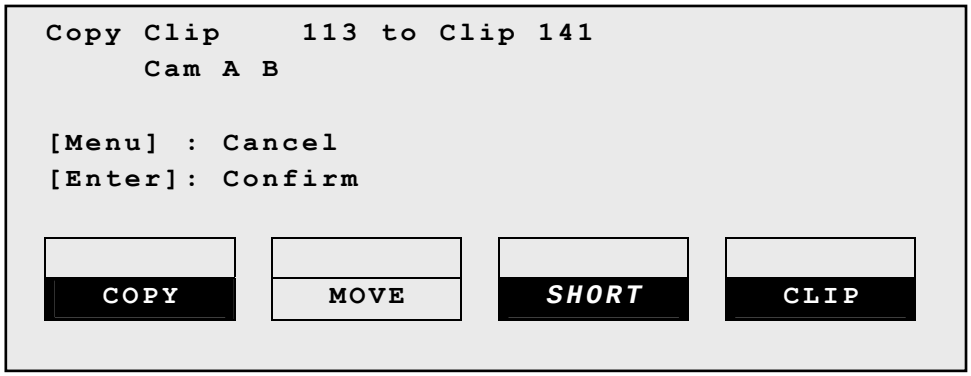
2. If the clip is protected or if the CONFIRM DELETE CLIP parameter is set in the SETUP menu, a warning message appears.

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 / MOVE A CLIP FROM THE REMOTE PANEL ?

1. Select the original clip
2. Then select an empty location on the same machine
3. A new menu appears on the LCD display of the remote panel, with the corresponding message on the OSD of the monitoring outputs :



4. Select the COPY or MOVE function by pressing the A or B key. The corresponding function will be highlighted on the LCD and the message on the OSD will be updated accordingly.
5. Select the CLIP or CAM mode with the D key.
   a. CLIP mode : all camera angles of the clips will be copied/moved.
   b. CAM mode : only the camera angles of the clip loaded on the controlled channels will be copied/moved.
6. For a NETWORK COPY ONLY, select the SHORT/LONG mode with the C key. This option is not available for a LOCAL COPY or for a MOVE.
   a. SHORT mode : only the material between the SHORT IN and SHORT OUT points of the original clip, augmented by the duration of the guardbands defined on the destination system, will be copied.
   b. LONG mode : the entire original clip, including its guardbands, will be copied to the destination system. Copying a clip on the same machine as the original, or moving a clip, is always done in LONG mode.
7. Press ENTER to confirm, or MENU to cancel.

When creating a new copy of a clip, this new clip is totally independent from the original, meaning that it can be trimmed, named, deleted, etc. without affecting the original.

Important note : When moving a clip using the MOVE function, the reference to this clip in playlists will automatically be updated. This is very useful when an operator wishes to re-organize his clips across different pages and banks, since playlists will not be affected. If he copies the clips and then delete the originals instead of using the MOVE function, the reference to the original clips will be removed from the playlists when deleting these clips.

Notes:
- Copying clips on the same server 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 decrease when making copies of clips on the same machine. It also means that deleted copies of clips will not increase the available capacity of the server, as long as 1 instance of the clip remains.
- When copying clips across the network, the capacity of the server where the clip(s) is (are) copied will be reduced by the duration of the clip(s).
- The default settings for the COPY/MOVE menu are : COPY, SHORT, CLIP. If the operator changes these settings, the new settings will be re-used the next time this menu is called. The default settings will be automatically restored when starting a new Multicam session.

HOW TO SHORTEN A CLIP ?

1. Recall the desired clip by pressing the corresponding F_ key.
2. Move the jog dial to browse the clip and reach to the desired SHORT IN point.
3. Press the IN key to mark a new SHORT IN point. The new SHORT IN point is instantly saved.
4. Move the jog dial to reach the desired SHORT OUT point.
5. Press the OUT key to mark a new SHORT OUT point. The new SHORT OUT point is instantly saved.
6. Recall the defined clip by pressing the corresponding F_ key. The clip will cue up on the new SHORT IN point.

Move the LEVER or press the PLAY key to play the clip. The replay will stop at the new SHORT OUT point (or after the SHORT OUT point if the POST ROLL mode is enabled).

GOTO IN AND GOTO OUT

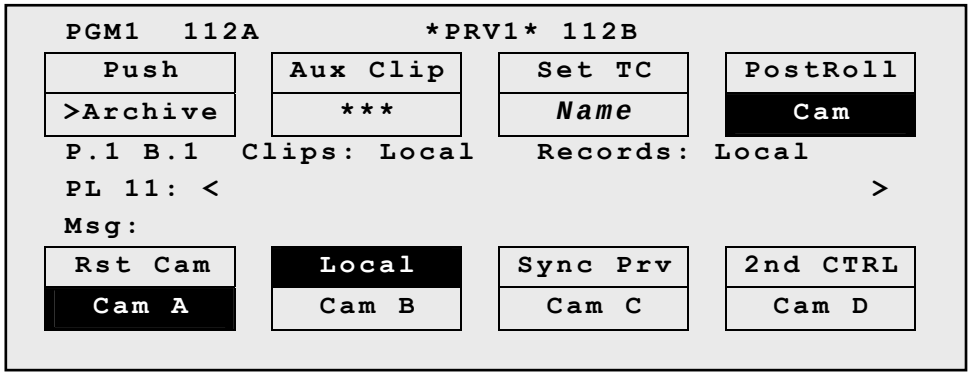
You can use Goto IN and Goto OUT functions to jump immediately onto SHORT IN or SHORT OUT points respectively.

HOW TO RESTRIPE THE TIME CODE OF A CLIP ?

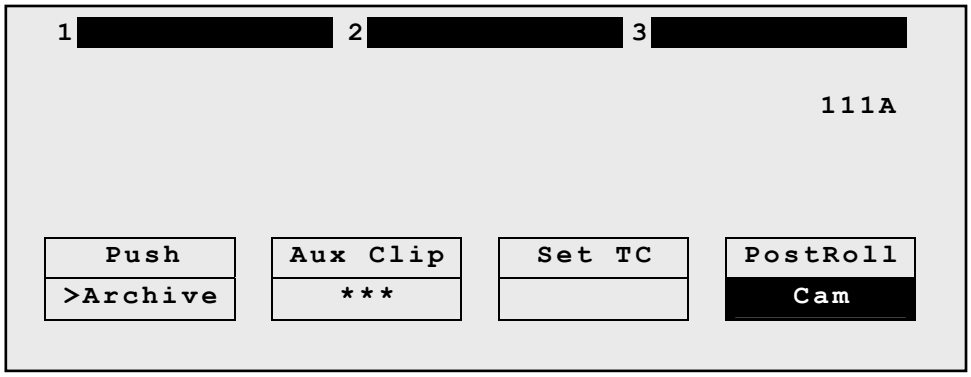
1. recall the clip by pressing the corresponding F_ key;
2. move the jog dial to reach the picture where you want to define a new time code;
3. press the MENU key to access the secondary menu;
4. press SHIFT + C to call the SET TC function and enter the new time code for the current picture. In 59.94Hz modes (NTSC), the operator can also select between DROP FRAME and NON DROP FRAME modes by pressing SHIFT+MENU.
5. Press the D key to select CAM or CLIP mode. In CAM mode, only the timecode of the camera angle loaded on the primary channel will be changed. In CLIP mode, the time code of all camera angles of the clip will be changed.
6. Press ENTER to confirm, or MENU to cancel.
7. The entire clip is updated according to the new time code value so that the time code remains continuous inside the whole clip.

SECONDARY MENU IN CLIP MODE

In Clip Mode, the secondary menu of the remote panel is different from the Record Train mode :

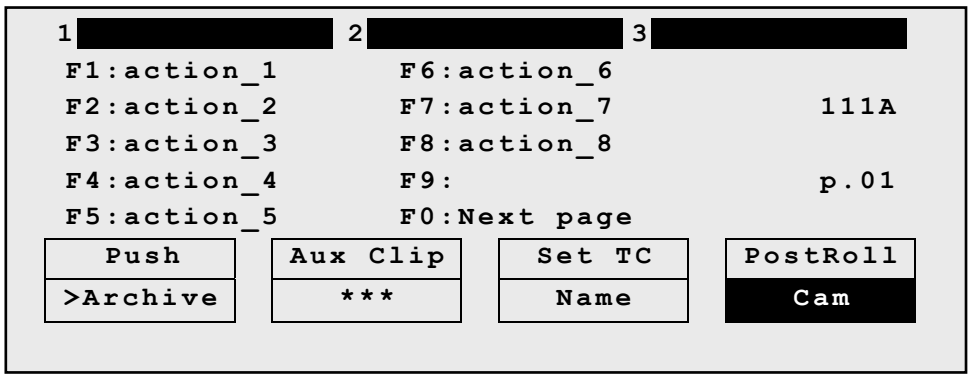


Press MENU to access the secondary menu. If no keyword file is selected in the setup, the LCD display will be :



In this mode of the secondary menu, clips can still be directly recalled using the F1-F10 keys of the remote panel.

If a keyword file is selected in the setup, the LCD display will be :



In this mode of the secondary menu, the F1-F10 keys are used for keyword assignment, and thus can no longer be used to recall clips. For a description of the keyword-related functions, please refer to the "Keyword Management" section of this manual.

The ID of the current clip appears on the end of line 3 of the LCD display.

Push: allows the operator to easily send a copy of a clip to another machine on the network. If a default PUSH machine is defined in the setup, the clip will be automatically sent to that machine. If no default PUSH machine is defined, the list of machines available on the network will appear. As soon as the operator selects one of them, the clip is pushed. In both cases, a message appears for a few seconds on the LCD to confirm that the clip is being pushed and indicating the clip location where it will be stored on the receiving machine. If the Receive Page(s) defined on the destination machine is (are) full, the operator who tries pushing the clip is notified. While this message is being displayed, the operator can press the MENU key at any time to return to the normal menu. Depending on the CAM/CLIP mode selected by the D key, only the camera angles loaded on the controlled channels are pushed (CAM mode), or all camera angles of the clip are pushed at once (CLIP mode).

>Archive: allows the operator to flag a clip to place it in the archive queue of the Xfile[1] defined in the setup menu (p.3.3 F1). This function is blinking when the clip is flagged for archiving, but has not yet been archived. It is permanently highlighted when the archiving of the clip is completed. Depending on the mode selected with the D key (CLIP/CAM), the >ARCHIVE flag is assigned only to the camera angles of the clip loaded on the controlled channels (CAM mode), or to all camera angles of the clip (CLIP mode).

Aux Clip: allows to assign a clip as auxiliary audio clip to the current playlist. Press CLEAR + Aux Clip (CLEAR + SHIFT+B) to remove the current auxiliary clip. Refer to the "Playlist Management" chapter of this manual for further details.

*****:** allows to assign a ranking to the current clip. Pressing several times this key will scroll through the different values : 0 (***, not highlighted), *******, ******, *****. Depending on the mode selected with the D key (CLIP/CAM), this ranking is assigned only to the camera angles of the clip loaded on the controlled channels (CAM mode), or to all camera angles of the clip (CLIP mode). If the "Keyword Info" parameter of the setup menu is set to "Yes", the ranking will appear on the OSD of the monitoring outputs when cueing up the clip.

Set TC: allows the operator to restripe the time code of a clip. This function is explained in details further in this chapter. Pressing SHIFT+C again will call the SORT->TC function. Depending on the mode selected with the D key (CLIP/CAM), the new time code value is assigned only to the camera angle of the clip loaded on the primary channel (CAM mode), or to all camera angles of the clip (CLIP mode).

Sort->TC: this function is "hidden" behind the SET TC function. Press SHIFT+C again in SET TC mode to call it. It allows the operator to search the database for all clips containing a specific time code. This function is explained in details in Chapter 8 (PGM+PRV mode) of this manual.

Name: this function is only available if a keyword file is selected in the

[1] The EVS Xfile is a 2U device with 2 removable hard drives, that can be connected to the SportNet SDTI network. Clips can be archived to/restored from the removable medias.

setup menu. It is used to name a clip based on available keywords. Refer to the "Keyword Management" chapter of this manual for details. When the NAME function is selected, pressing SHIFT+C again will call the SEARCH function.

Search: this function is "hidden" behind the NAME function. Press SHIFT+C again in NAME mode to call it. It allows the operator to search the database for clips based on keywords and ranking. Please refer to the "Keyword Management" chapter of this manual for details.

PostRoll: enables/disables the POST ROLL mode. This mode is explained in details in Chapter 8 (PGM+PRV mode) of this manual.

Clip/Cam: pressing the D key will toggle between CAM and CLIP modes on the remote. Please note that this mode on the remote and on the VGA screens are never synchronized. In CAM mode, the PUSH, >ARCHIVE, ranking assignment, keyword assignment, and NAME functions will apply only to the camera angles of the clip loaded on the controlled channels. In CLIP mode, these functions will apply on all camera angles of the clip.

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. Clips stored in protected pages as defined in the setup will not be deleted by this operation. A message on the video monitor will notify the operator when the operation is complete.

Important note : The CLEAR ALL CLIPS command is different from the CLEAR VIDEO DISKS command available from Maintenance Menu in EVS software.
The first command only deletes the clips' protects.
The CLEAR VIDEO DISKS command from EVS' Maintenance Menu is more radical and definitely erases all video and audio data from disks. Clips stored in protected pages are also deleted.

HOW TO SAVE ALL CLIPS/PLAYLISTS ?

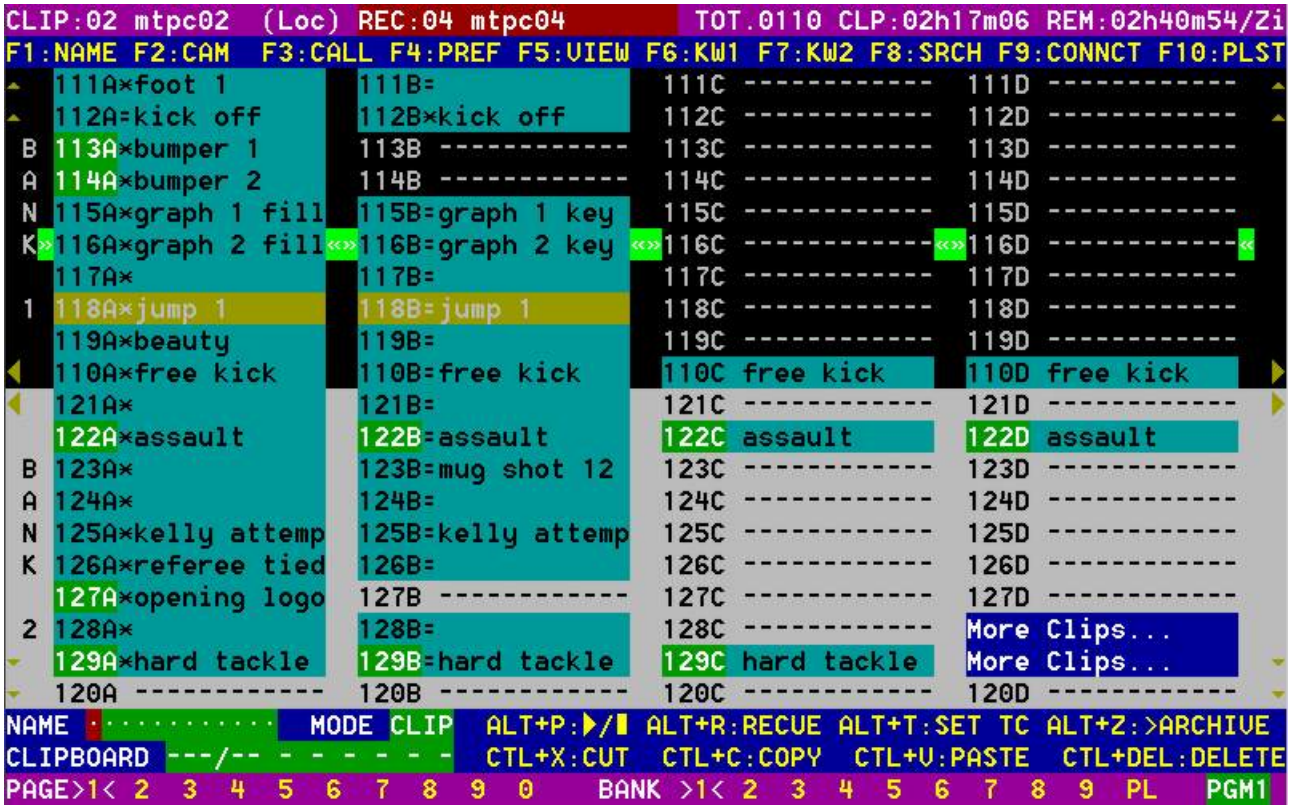
1. go to the Main Menu (SHIFT + MENU)
2. press the function key **F0** on the remote to save clips and playlists.

Using the Clip Screen.

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.

Important notes : The action performed on a channel from the Clip Screen is concurrent to any other controller that might be assigned to that channel : EVS remote panel or external protocol. A command sent from the Clip Screen to a channel will overwrite whatever the channel was doing at that time.

CLIP SCREEN – STANDARD VIEW



The navigation through the Clip Screen, and the various functions available on this screen, can be performed using the tablet and stylus, or the keyboard shortcuts.

SELECTING A CLIP WITH TABLET AND STYLUS

To select a different page or bank using the stylus, click on the desired page/bank number on the bottom line of the screen. The operator can also move to the adjacent page/bank by clicking on the red arrows on the tip, bottom and sides of the screen :

- left/right arrow : go to previous/next page
- up/down arrow : go to previous/next bank

If a clip is present in a certain location, it will be highlighted in BLUE.

Once selected, it will be highlighted in ORANGE.

To cue up a clip on the primary channel controlled by the first remote, or on the VGA Call Channel defined in the setup, simply click[1] on it with the stylus. If the channel where the clip is supposed to be loaded is in PLST EDIT mode with a PRV channel attached, the clip will automatically cue up on the PRV channel.

SELECTING A CLIP WITH THE KEYBOARD

The keyboard can also be used to operate within the clip screen. The green arrows surrounding a clip shows the current cursor position. The arrow keys (↑,↓,←,→) on the keyboard are used to move across the screen. Only 2 banks can be viewed at a time.

To view other banks, use ALT + ↑,↓ to scroll vertically between banks and use ALT + ←,→ or PgDn, PgUp to scroll horizontally between pages.

Once the cursor located on the desired clip, press ENTER to cue up the clip on the primary channel controlled by the first remote, or on the VGA Call Channel defined in the setup. If the channel where the clip is supposed to be loaded is in PLST EDIT mode with a PRV channel attached, the clip will automatically cue up on the PRV channel.

THE TITLE BAR

The Title Bar contains the status information:

- Number and name of the server currently selected for CLIPS and for RECORD TRAINS (*). The name is blinking RED if it is a network machine.
- Total number of clips (i.e. protects, 1 camera angle counting for 1 clip in this count)
- Total duration of all clips
- Remaining capacity on the server (all record trains together; valid for local server only)

(*) Note: The abbreviated word "(Loc.)" appears next to the name if the local machine is currently selected for clips and/or for record trains. The clips displayed in the clip screen belong to this machine.

THE FUNCTION BAR

The second line displays the available functions. Each function can be called by the corresponding F_ key of the keyboard, or by clicking with

[1] "Clicking" with the stylus, means pressing lightly the tip of the stylus onto the tablet.
[3] The EVS Xfile is a 2U device with 2 removable hard drives, that can be connected to the SportNet SDTI network. Clips can be archived to/restored from the removable medias.

stylus & tablet on the corresponding area on this line.

F1:Name

This function is used to name a clip.

1. Within the clip screen, choose the clip to name either by clicking on it with the stylus or by positioning the green arrows around the desired clip with the keyboard.
2. Type in the desired name with 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.

Note: To be able to name or rename clips on a network machine, the "Clip Edit by Network" parameter in the setup of the remote machine must be set to "Yes" (VGA Setup Screen) or "Enabled" (Setup Menu on the EVS remote panel). If you are unable to name a network clip, please first check this parameter on the remote machine.

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, SET TC, >ARCHIVE depend on this mode's selection.

F3:Call

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

To call a clip belonging to the machine you are currently connected to (indicated on the left side of the Title Bar) :

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.

To call a clip belonging to another machine than the one you are currently connected to :

1. Type either the first 3 or 4 digits of the ID, followed by a "/" and the network number of the machine. Ex : 111/03 or 111A/03. To call a local clip, no matter what machine you are connected to, type 00 as network number. Ex : 111/00 or 111A/00.
2. Press **F3**.

F4:Pref

This option changes the primary camera of a clip.

1. Move the cursor to the desired camera
2. Press **F4** on the keyboard or click with the stylus on the corresponding area in the Function Bar.

→ This camera becomes the new primary camera.

→ If the selected camera is a secondary camera (indicated by "="), it becomes the primary camera and the previous primary camera becomes the secondary camera.

F5:View

This option changes the standard display to the extended display and vice versa. See "Extended View" section.

F6:KW1

Calls the On-Air Keyword Screen. Refer to the "Keyword Management" chapter for details.

F7:KW2

Calls the Off-Air Keyword Screen. Refer to the "Keyword Management" chapter for details.

SHIFT+F7:Delay

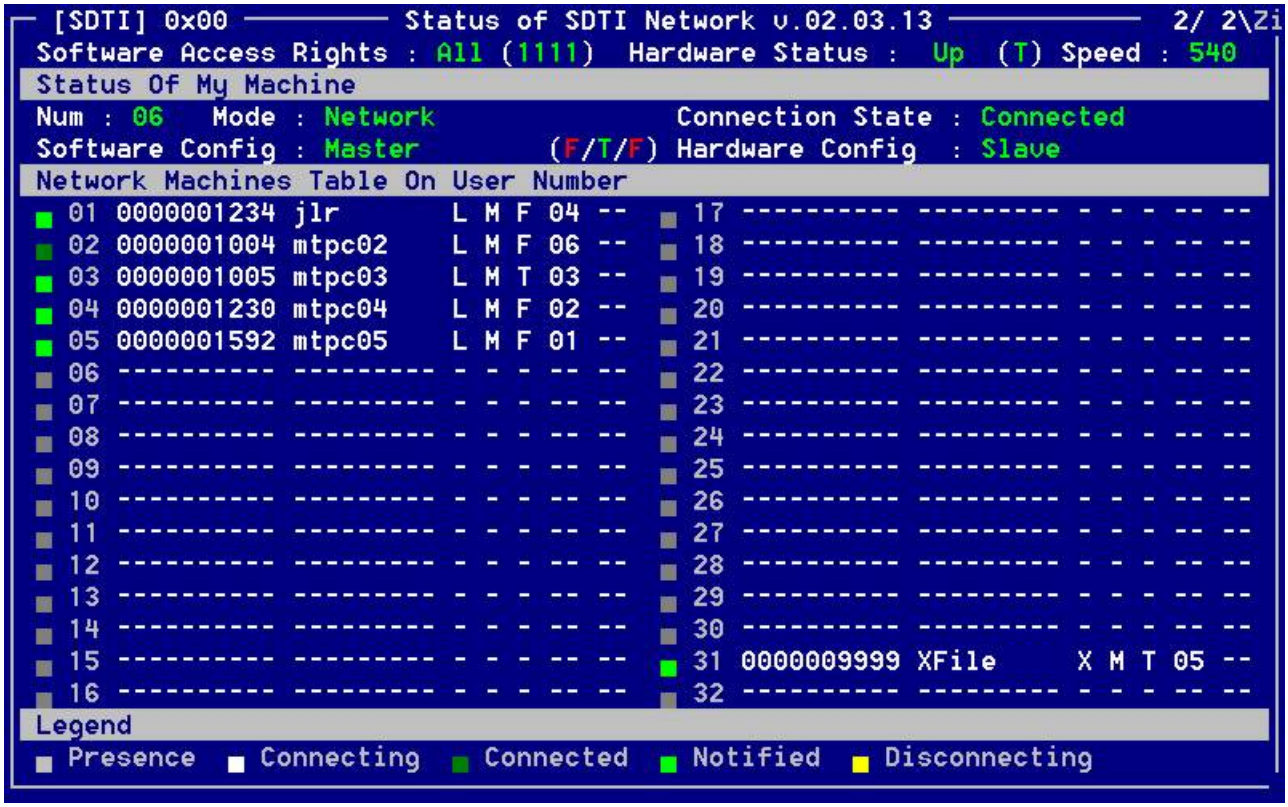
This function calls the Video Delay VGA screen. See "Video Delay Screen" section.

F8:Search

Calls the VGA Search Screen. Refer to the "Keyword Management" section for details.

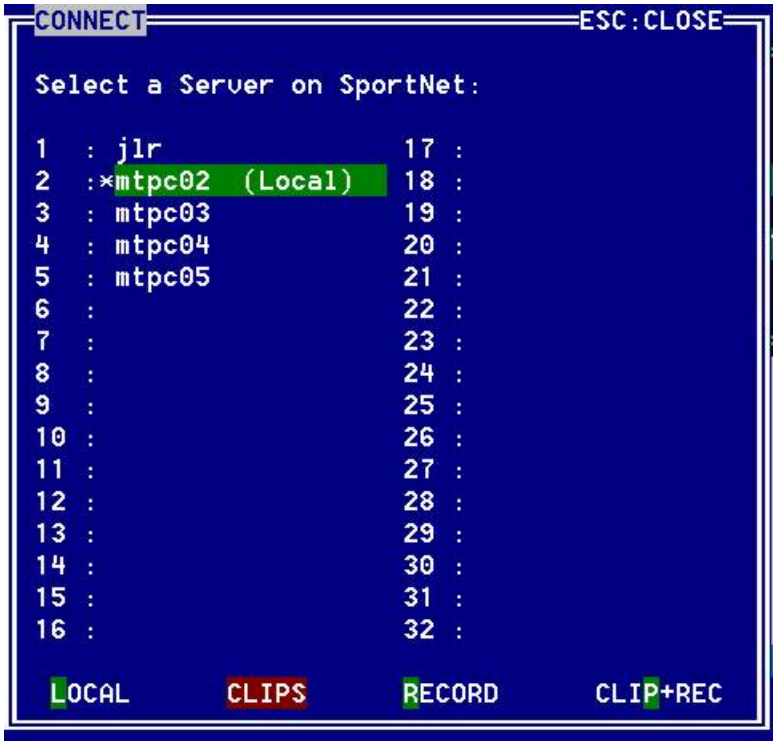
SHIFT+F8:Net

This option switches to the Network Status Screen and allows to monitor the status of the different machines connected on the network.



F9:Connect

Calls the CONNECT window. This window allows the operator to connect to the clips and record trains of other machine on the network.



ALT+L : return to LOCAL mode and close the CONNECT window
ALT+C : CLIPS mode - to connect to the clips of a remote machine
ALT+R : RECORD mode - to connect to the record trains of a remote machine
ALT+P : CLIP+REC mode - to connect to the clips and record trains of a remote machine.

After selecting CLIPS, RECORD or CLIP+REC mode either with the keyboard or by clicking with the stylus, select the machine you want to connect to : click on it with the stylus, or move with the arrow keys and press ENTER on the keyboard.

Pressing **ALT+L** or clicking with the stylus on "LOCAL" will close the CONNECT window and return to local clips and record trains.

To close the CONNECT window without changing the connection mode or remote machine, press ESC.

The "*" next to one of the machine in the list indicates which machine is the active network server. Refer to the "Network Management" chapter of this manual for details.

F0:Playlist

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

THE CLIP INFORMATION AREA

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.

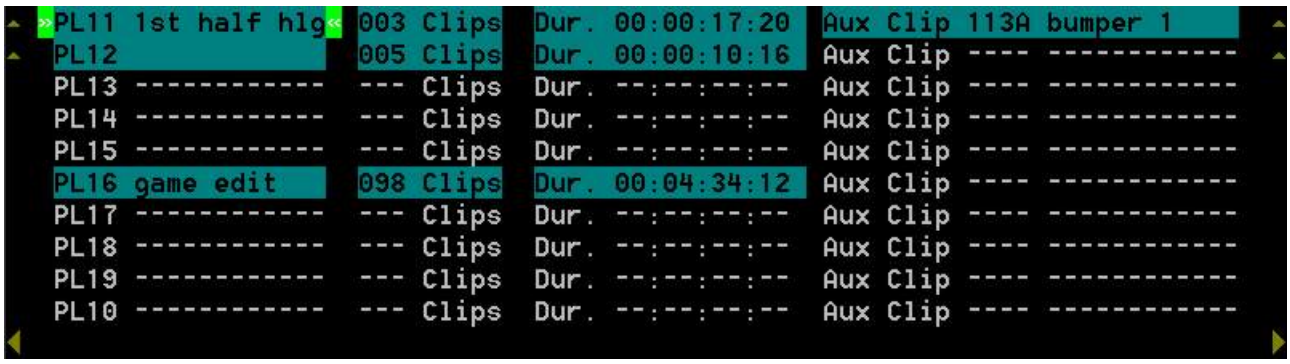
For each clip and camera angle, the following information is available :

- Clip ID. Ex : 111A
- Clip "rank" : primary ("*" next to the clip ID) ; secondary ("=" next to the clip ID)
- Clip name
- Archive Status :
  - if the clip ID is blinking green, the clip is flagged for archiving, but not yet archived
  - if the clip ID is permanently highlighted in green, the archiving of the clip has been completed.

Note: In the standard view (cameras A to D), if camera E and/or F exist for a particular clip, the D-column for this clip is replaced by the mention "**More Clips**" on blue background.

THE PLAYLIST INFORMATION AREA

Inside the Clip screen, scroll down to the last bank by pressing once the END key, or several times ALT + ↓ or to display the Playlist information area:



For each playlist the following information is displayed :

- Playlist ID. Ex : PL16
- Playlist name. Ex : "game edit" (12 char. maximum)
- Number of available clips in the playlist (unavailable network clips are not taken into account). Ex : 98 clips

- Total playback duration with available clips. Ex : 00:04:34:12
- Aux Clip ID and name of the audio auxiliary clip.

THE CLIP MANAGEMENT AREA

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.

- **ALT+P:▶ /■** : play at 100% speed except for super motion clips which are played back at 33% speed; and pause playback on the current picture.
- **ALT+R:RECUE**: jump to the SHORT IN point.
- **ALT+T : SET TC**. Restripes the time code of the current clip.
  1. recall the clip by moving the cursor on the desired clip and pressing ENTER, or by clicking on it with the stylus;
  2. press ALT + T on the keyboard to call the SET TC function
  3. type in the new time code for the SHORT IN point of the clip. In 59.94Hz modes (NTSC), the operator can also select between DROP FRAME and NON DROP FRAME modes by pressing the space bar.
  4. Press F2 to select CAM or CLIP mode. In CAM mode, only the timecode of the camera angle loaded on the primary channel will be changed. In CLIP mode, the time code of all camera angles of the clip will be changed.
  5. Press ENTER to confirm, or ESC to cancel.
  6. The entire clip is updated according to the new time code value so that the time code remains continuous inside the whole clip.
- **ALT+Z:>ARCHIVE** : allows the operator to flag a clip to place it in the archive queue of the Xfile[3] defined in the setup menu (p.3.3 F1) or in the Setup Screen. When a clip is flagged for archiving, but has not yet been archived, its ID will be BLINKING GREEN in the Clip Screen. It is PERMANENTLY highlighted GREEN when the archiving of the clip is completed. Depending on the mode selected with the F2 key (CLIP/CAM), the >ARCHIVE flag is assigned only to the camera angle of the clip selected with the green cursor (CAM mode), or to all camera angles of the clip (CLIP mode).

- **PGM X** : located in the bottom right corner of the clip screen, this field is only visible if the "Call Channel VGA" function has been enabled in the Setup Menu (p. 3.1 – F5) or in the Setup Screen, and is only effective in CAM mode, not in CLIP mode. It allows the operator to select on which channel clips called using the keyboard/tablet and VGA should be loaded. Press ALT + F1 on the keyboard to select PGM1, ALT + F2 for PGM2/PRV, ALT + F3 for PGM3, etc. This function is useful to load clips on channels that can not be controlled by an EVS remote panel, or to allow an AP to browse clips on a play channel not used by the main operator. Note that if that channel is in PLST EDIT mode with a PRV, the clip will automatically cue up on the PRV.

MOVING AND COPYING CLIPS AND PLAYLISTS

Clipboard field: This area displays the content of the clipboard : clip/playlist number, network number if the copied clip/playlist is a remote clip/playlist, and the selected camera(s) for a clip.

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/playlist to "cut" from the Clip Screen
2. Press CTRL + X on the keyboard or click on the corresponding area on the screen.

CTL+C: COPY

1. Move the cursor to the clip/playlist to copy
2. Press CTRL + C on the keyboard or click on the corresponding area on the screen.

CTL+V: PASTE

1. Move the cursor to the clip/playlist location where the content of the clipboard should be copied.
2. Press CTRL + V or click to the corresponding area on the screen.

Notes:

- If the clip board was filled using the CUT function, the original clip(s) is(are) deleted after being pasted to the new location.
- In CAM mode, only the selected camera of the clip is CUT/COPIED/PASTED
- In CLIP mode, all camera angles of the clip are CUT/COPIED. For the PAST function in CLIP mode, only the available camera locations inside the destination clip will be pasted. If some camera angles already exist for the destination clip, these will not be overwritten by the corresponding camera in the clipboard.

Important notes :

- A "Cut & Paste" of a clip is equivalent to a MOVE CLIP, meaning that any reference to that clip inside playlists will be updated to the new location of that clip. This is not the case when doing a "Copy & Paste", then deleting manually the original clip.

- Playlist can only be pasted to local playlist locations. It means that network playlists can only be copied by "pulling" them from the remote machine to the local machine.
- Copying a playlist using the CUT/COPY/PASTE functions from the Clip Screen will only copy the "EDL" (i.e. the list of clips) but the clips themselves will remain in their original location. If the operator wishes to create a local copy of all network clips contained in the playlist, the copy of the playlist must be performed from the EVS remote panel. Refer to the "Playlist Management" chapter of this manual for further details.

CTL+DEL:DELETE

1. Move the cursor to the clip/playlist 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.

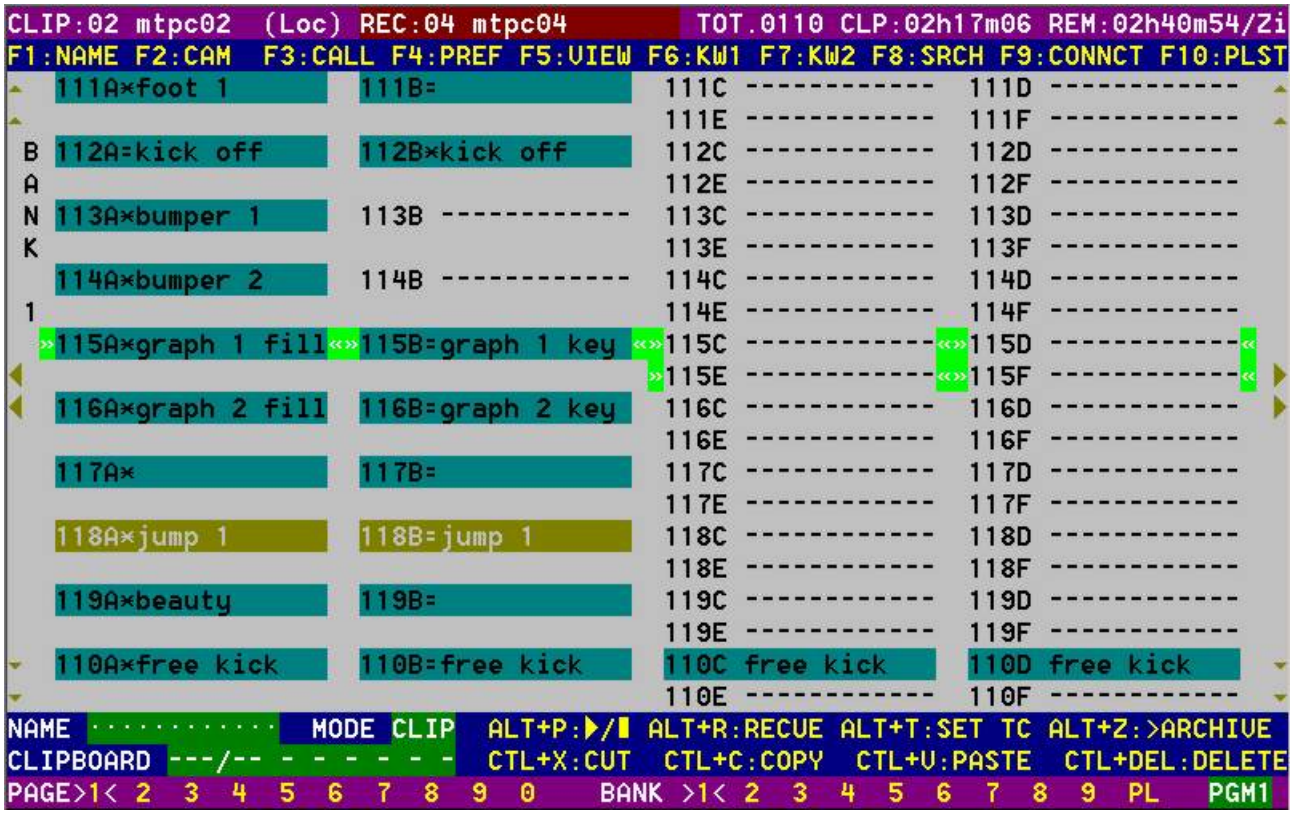
A clip/playlist cannot be deleted while it is on air.

Notes:

- When a clip is deleted, all playlists are scanned and that clip is removed from all of them.
- When a clip is protected, or when the "Confirm Delete Clip" is set to "Yes" in the setup menu (p.3.1 F2), a confirmation is required to delete the selected clip(s).

CLIP SCREEN – EXTENDED VIEW

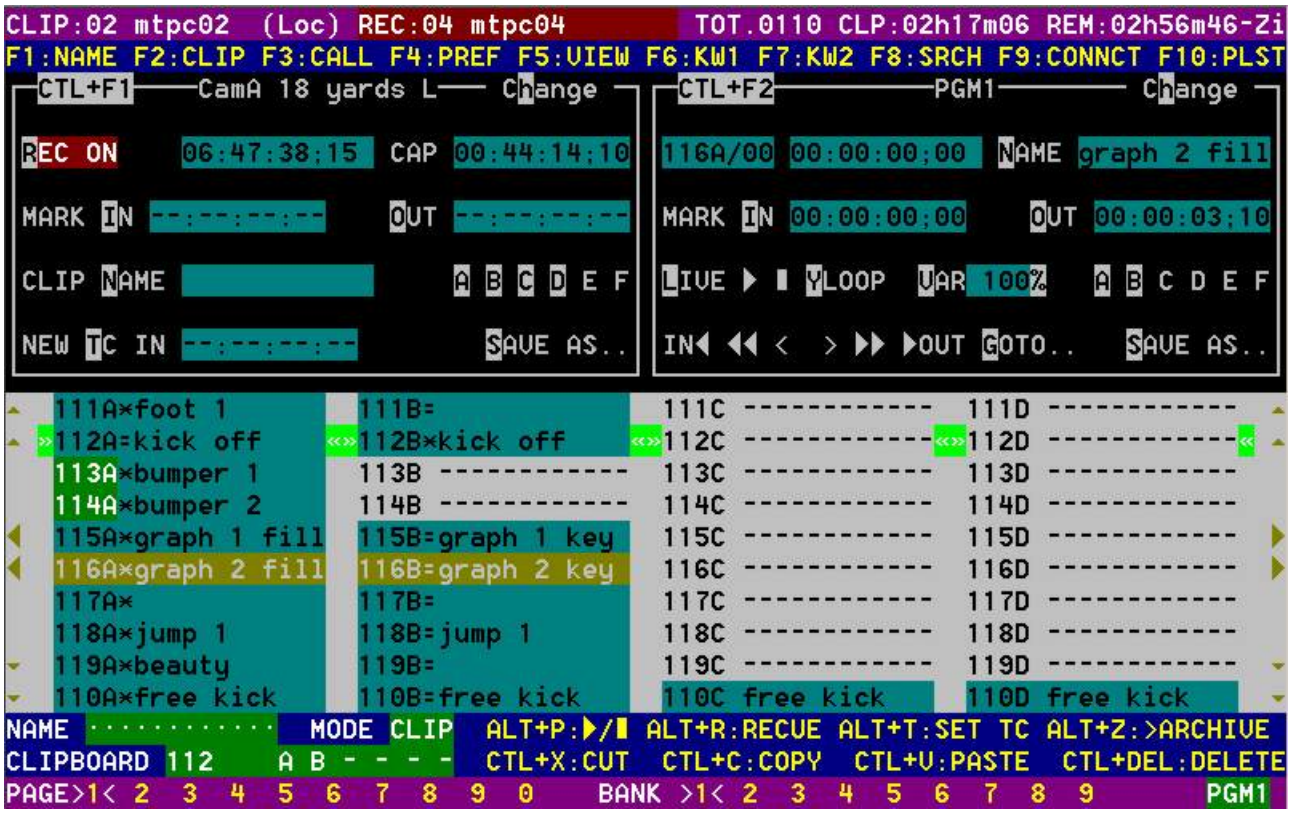
The extended view shows cameras A to F instead of A to D. Only 1 bank can be viewed at a time. The switch between standard and extended view is done by pressing F5 on the keyboard or by clicking on the "F5:VIEW" area on the screen.



Using the VDR Panel.

The VGA VDR Panel is accessed from any VGA screen by pressing **SHIFT+F9** on the keyboard. The lower section of the VDR Panel is similar to the clip screen, with the same functions. The upper section of the VDR Panel features 2 windows that can each take control of one channel of the server.

Pressing **SHIFT+F9** in the VDR Panel returns the VGA to the Clip Screen mode.



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VDR PANEL – LOWER SECTION

The browsing of clips, the viewing modes (normal or extended), the way clips are recalled, moved and copied, etc. in the VDR Panel is strictly the same as in the Clip Screen. The CONNECT window is called with **F9**, and allows to connect to other servers on the network.

VDR PANEL – UPPER SECTION

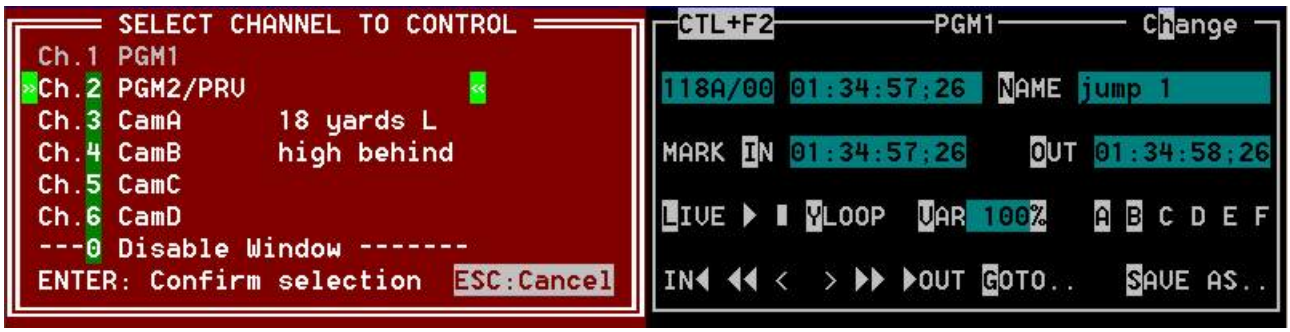
The two windows of the upper section can be assigned to a different channel of the server. When entering the VDR Panel for the first time after starting the application, the control of both windows is disabled.

Press **CTRL+F1** to gain control of the left window, or **CTRL+F2** to gain control on the right window. The frame around the corresponding window becomes green. Note that only one window can be active at a time.

Inside the active window, letters/numbers highlighted in GREEN indicate the keyboard shortcut to the corresponding function : press ALT + the highlighted letter/number. All functions are also available by clicking with the stylus.

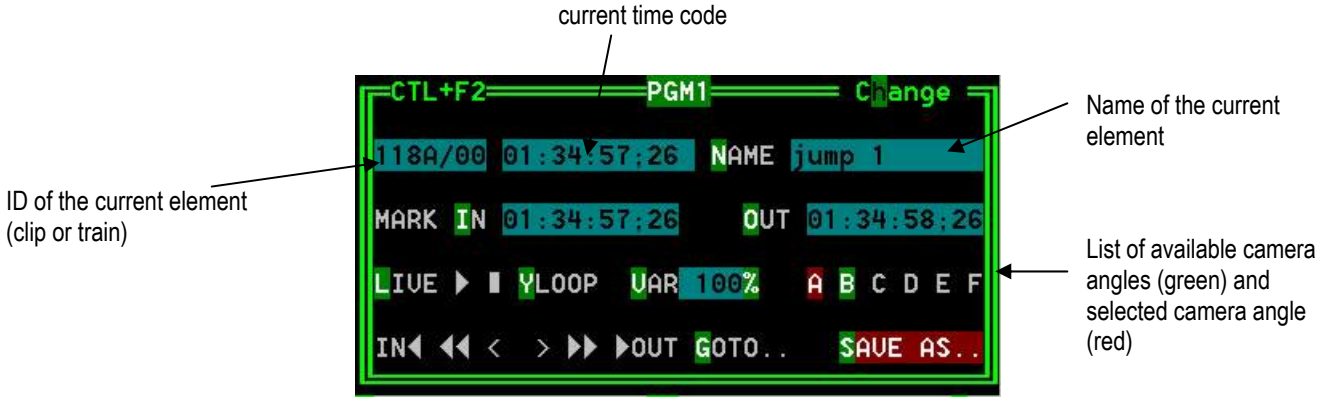
Important note : The control of a channel from the VDR Panel is concurrent to any other controller that might be assigned to that channel : EVS remote panel or external protocol. A command sent from the VDR Panel to a channel will overwrite whatever the channel was doing at that time.

The name of the channel currently assigned to each window is displayed on the top of each of them. To assign a new channel to this window, press **ALT+H**. A new window appears on the other side to allow the selection of a new channel.



Use the ↑/↓ arrow keys to select the channel and press ENTER, or directly press ALT + the number of the channel as highlighted in green. The PLAY channels already assigned appear in grey and can not be selected. Select "0 – Disable Window" if you don't want to assign any channel to the window. Depending whether a PLAY or RECORD channel is assigned to the VDR Panel window, ist content is automatically updated.

VDR PANEL – PLAYER WINDOW



To load a record train: Press ALT+L to go in LIVE mode (or click on the LIVE function), then press ALT + the letter of the desired record train (A/B/C/D/E/F), or click on it. The letters corresponding to the available record trains are highlighted in GREEN, and the letter of the current record train in RED.

To load a clip: use the arrow keys to move the cursor inside the lower section of the VDR Panel to the desired clip and press ENTER, or click on the desired clip with the stylus, or type the desired clip ID and press F3. To select a different camera angle inside a clip, press ALT + the letter of the desired camera (A/B/C/D/E/F), or click on it. Available camera angles are highlighted in GREEN, the current camera angle in RED.

Playing/Browsing the current element:
- ALT+P : Play from / Pause on the current picture.
- ALT+Y : Play the current clip in endless loop mode. The play will start from the current picture until the Short OUT point of the clip, then will automatically loop back to the Short IN point and keep playing, and so on...
- ALT+V : Play Var at the speed specified in the adjacent field. To edit the Var speed, press ALT + % (without SHIFT key), type the desired value and press ENTER to confirm.
- < / > (without SHIFT key) : move 1 field backward / forward
- SHIFT + < / > : Move 1 second backward / forward
- CTRL + < / > : Fast Rewind + Fast Forward. The browsing will continue after the keys are released.
- ALT + < / > : Goto IN / OUT
- ALT + G : Goto time code

Creating a clip with the VDR Panel Player :
- Load a record train on the player
- Browse the record train to reach the desired Short IN or Short OUT point and press ALT+I / ALT+O to mark the Short IN / Short OUT point on the current picture. The cursor is automatically placed in the adjacent field, so that the operator can manually enter the time code of the desired Short IN / OUT point if needed[1]. Press ENTER to confirm, or ESC to cancel.
- Repeat this operation for the complementary Short IN / Short OUT point. This is not mandatory. If only a Short IN or a Short OUT point is marked, the "Default Clip Duration" defined in the setup (p.2.2 F2) will be used to define the missing point.
- Press ALT + S to save the clip. The SAVE AS window opens, giving the operator the opportunity to name / rename the clip if needed. Pressing ENTER will save the clip to the current cursor location in the lower section of the VDR Panel. When the SAVE AS window is open, the operator still has the possibility to browse the database, select a different page and bank, and even connect to another machine on the network using the CONNECT window. Pressing ALT+U will save the clip to the first available clip location[2] in the current server.

Editing a clip with the VDR Panel Player:
- Load the desired clip.
- ALT+N : Rename the clip. Type the desired name and press ENTER to confirm or ESC to cancel.
- ALT+I / ALT+O : Mark a new Short IN / Short OUT point on the current picture. The cursor is automatically placed in the adjacent field, so

[1] If the operator knows the time code of the IN / OUT point, he does not need to browse to that picture. He can press ALT+I on any picture, then enter the time code of the IN / OUT point and confirm with ENTER.
[2] The first available clip location is the first one where no camera angle is already present.

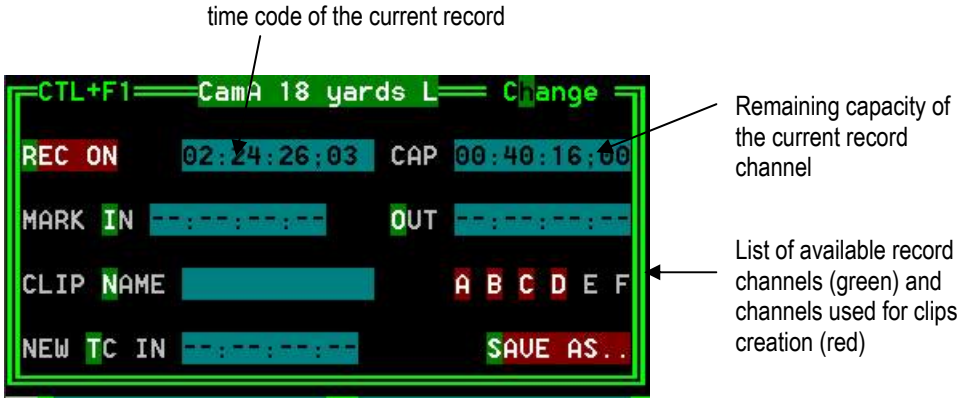
that the operator can manually enter the time code of the desired Short IN / Short OUT point if needed. Press ENTER to confirm, or ESC to cancel.

Making a copy of a clip with the VDR Panel Player :

- Load the original clip
- Press ALT+S to save the current clip to another location. This will create a copy of the clip. The operator has the opportunity to rename the clip during this operation. He can then save the clip to the current cursor location by pressing ENTER, or to the first available clip location on the current server by pressing ALT+U.

Note: The CUT / COPY / PASTE functions are available at any time to move and copy clips in the lower section of the VDR Panel, even when one of the upper windows is active.

VDR PANEL – RECORDER WINDOW



The VDR Panel Recorder can be used to start/stop the record, and to create clips from the local record trains. For example, it allows the creation of clips on a server that has no PLAY channel.

To start/stop the record : Press ALT+R to start or stop the record on the record channel assigned to the window. No confirmation is required.

Important note : In LSM mode, all recorders will be stopped at once to keep the synchronization between all record channels.

Creating clips with the VDR Panel Recorder :

- Press ALT+I / ALT+O to mark a Short IN / Short OUT point on the last recorded picture. The time code appears in the adjacent field, and the cursor is automatically placed on that field to allow the operator to edit the time code of the Short IN / Short OUT point if desired. Press ENTER to confirm or ESC to cancel.
- Repeat this operation for the complementary Short IN / OUT point. This is not mandatory. If only a Short IN or a Short OUT point is marked, the "Default Clip Duration" defined in the setup (p.2.2 F2) will be used to define the missing point.
- Select from which record train(s) the clip(s) must be created : press ALT + the letter (A/B/C/D/E/F) of a record train to select / de-select it. Letters highlighted in RED means that a clip will be created from the corresponding record train ; letters highlighted in GREEN means that

the corresponding record train is available but will not be used to create a clip.

- To define the name of the clip before saving it, press ALT+N, type the desired name and validate with ENTER.
- The operator can also restripe the time code of the IN point of the clip to a new value. Press ALT+T, type the desired value and confirm with enter. When creating the clip, this time code will replace the original time code of the Short IN point.
- Press ALT+S to save the clip(s). The operator still has the opportunity to rename the clip during this operation. He can then save the clip to the current cursor location by pressing ENTER, or to the first available clip location on the current server by pressing ALT+U.

12. KEYWORD Management

Each clip of the server can be assigned 3 keywords and a ranking. Values for ranking are : –, *, **, ***. The keywords are selected from a user defined keywords file that can contain up to 200 keywords of 12 characters.

These information (keywords, ranking) can then be combined with other criteria (time code, dates) to search the server's database for matching clips.

The keyword and ranking assignment, and the search functions, can be performed using the EVS remote panel or the VGA screen and PC keyboard. This functions are only available if license codes 124 (database search functions) and 125 (keyword assignment functions) are installed on the server.

Creating and Selecting the Keyword File.

The keyword file is a simple text file with a name of 8 characters and a .KWD extension. All keyword files must be located in the MULTICAM\KWD directory of the server. A sample keyword file (SAMPLE.KWD) is provided by EVS when installing Multicam 6.01.43. The content of a keyword file is similar to the following :

```
1 = action_1
2 = action_2
3 = action_3
4 = action_4
5 = action_5
6 = action_6
7 = action_7
8 = action_8
9 = action_9
10 = action_10
11 = action_11
12 = action_12
13 = action_13
14 = action_14
15 = action_15
16 = action_16
17 = action_17
18 = action_18
```

```
19 = action_19
20 = action_20

21 = player_A1
22 = player_A2
23 = player_A3
24 = player_A4
25 = player_A5
26 = player_A6
27 = player_A7
28 = player_A8
29 = player_A9
30 = player_A10
31 = player_A11
32 = player_A12
33 = player_A13
34 = player_A14
35 = player_A15
36 = player_A16
37 = player_A17
38 = player_A18
39 = player_A19
40 = player_A20

41 = player_B1
42 = player_B2
43 = player_B3
44 = player_B4
45 = player_B5
46 = player_B6
47 = player_B7
48 = player_B8
49 = player_B9
50 = player_B10
51 = player_B11
52 = player_B12
53 = player_B13
54 = player_B14
55 = player_B15
56 = player_B16
57 = player_B17
58 = player_B18
59 = player_B19
60 = player_B20
```

...etc... until

```
200 = last keyword
```

Each keyword can have up to 12 characters, including blanks. Avoid accentuated and special characters since most of them will not be recognized by the Multicam application. If a keyword is longer than 12 characters, only the first 12 characters will be used and the end of the keyword will automatically be truncated.

CREATING THE KEYWORD FILE FROM A PC

Creating a keyword file can be done on any PC with a simple text editor. Make sure the file name does not exceed 8 characters, that all characters in the file name are legal, and that it has a .KWD extension. The file can then be imported from a floppy disk onto the server, either manually from the DOS, or by using the "Import/Export Keywords Files" from the EVS Maintenance Menu (refer to the "XT Technical Reference" for more details about this option).

SELECTING THE CURRENT KEYWORD FILE

In the Multicam application, the keyword file can be selected either from the VGA Setup Screen, or from the Setup Menu of the EVS remote panel (p.3.2 F1). The operator can select any file from all the .KWD files present in the MULTICAM\DIRECTORY. If the machine is connected to other systems on the EVS SDTI network, the Network Server will automatically distributes its current keyword file to all other users on the network. For each system on the network, the operator can choose to work with the file coming from the Network Server (set the "Keywords File" parameter to "SERVER"), or with a local file.

Note: In a normal situation, the Network Server is the machine that has been defined as such in the EVS Configuration Menu. However, if for any reason the network has been interrupted or the machine designated as the Network Server is not available, another machine on the network (the Master machine with the highest serial number) will automatically take over this job, including the distribution of the keywords file. Even if the original Network Server reconnects, he will not necessarily become the actual Network Server again. The machine that actually assumes the role of Network Server can easily be identified from the CONNECT window on the VGA or from the Network Menu on the EVS remote panel, thanks to the "*" displayed next to its name. That machine only has the ability to distribute its current keyword file to the others on the SDTI network.

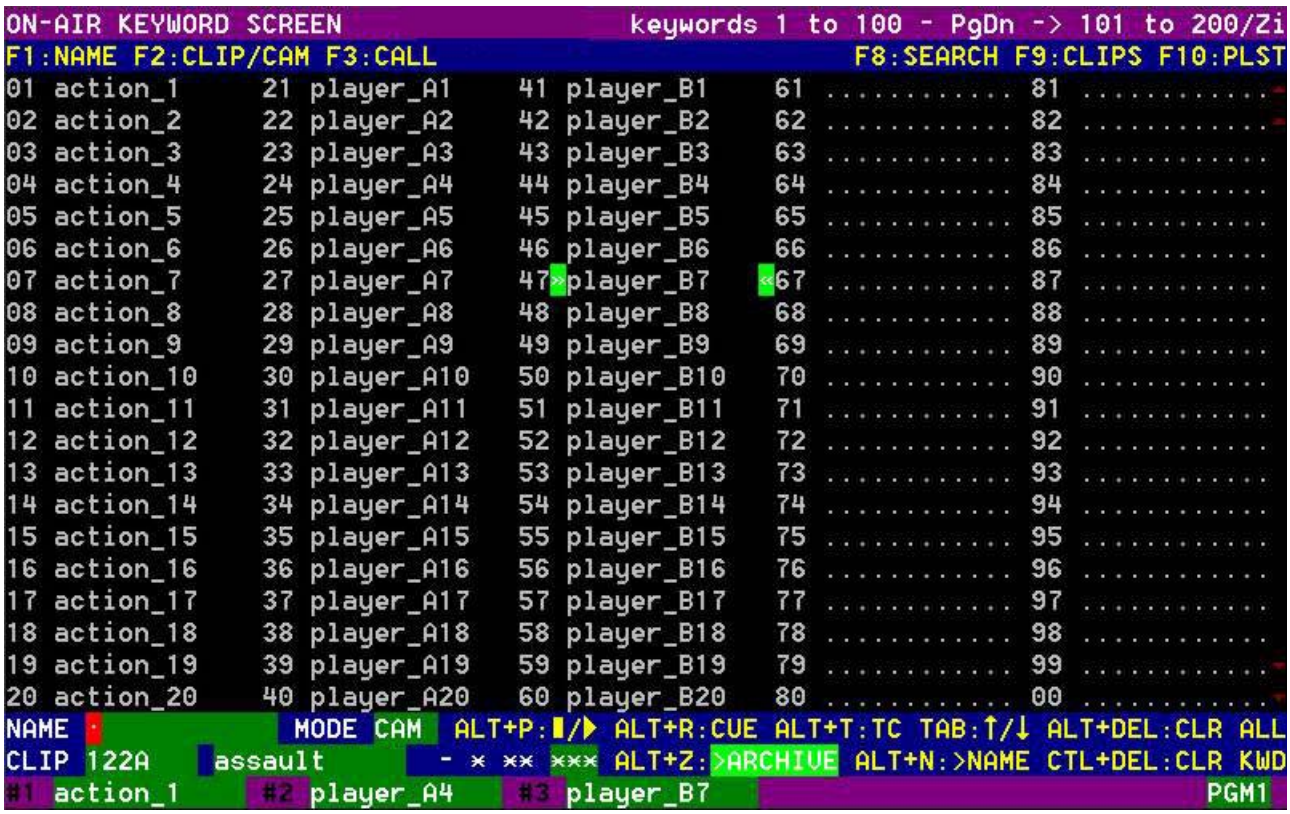
Assigning Keywords using the VGA Screen.

Keywords can be assigned to clips using the On-Air Keyword Screen (**F6:KW1**), or the Off-Air Keyword Screen (**F7:KW2**).

The On-Air Keyword Screen is used to assign keywords to the clip loaded on the primary channel of the 1st user, meaning that a play channel is used during this operation.

The Off-Air Keyword Screen is used to assign keywords to the clip selected with the green arrows in the Clip Screen or in the VDR Panel, even if this clip is not loaded on any play channel. This can be useful to allow someone to assist the main operator for logging operations, without taking any play channel from the system

The operation of both On-Air and Off-Air Keyword Screens is entirely similar.



Many functions for clip management are similar to the Clip Screen : F1:NAME ; F2:CLIP/CAM ; F3:CALL[1], ALT+P:PLAY/PAUSE, ALT+R:RECUE, ALT+T:SET TC; ALT+Z:>ARCHIVE, ALT+Fx:select the

[1] When calling a clip with the F3 function in the Off-Air Keyword Screen, the system will automatically switch to the On-Air Keyword Screen, since the clip to assign keywords to has been loaded on a play channel.

Call Channel from VGA is enabled. Refer to the description of the Clip Screen for details about these functions.

The ID and name of the clip that keyword are going to be assigned to is displayed at the bottom on the screen, along with the keywords, ranking and archive status already assigned to that clip.

To assign a keyword to a clip :
Move the cursor to the desired keyword and press ENTER, or click on the keyword with the stylus. The keyword will be assigned to the first available keyword location on the last line of the screen. Repeat this to assign more keywords (up to 3) to the current clip.

Depending on the CLIP/CAM mode, the keywords will be assigned to the current camera angle only (CAM mode), or to all camera angles of the current clip (CLIP mode).

If 3 keywords are already assigned to the clip, the operator has to clear some of them to be able to assign new keywords.

To clear a keyword with the keyboard :
Press TAB to move the arrow cursor to the lower area of the screen. Red arrows will appear around one of the keywords or ranking values. Use the ←/→ arrows to select the keyword to remove, and press CTRL+DEL. Press the TAB key again to move the arrow cursor back to the keywords list.

To clear a keyword with the stylus :
Click on the keyword to remove on the last line, the click on the "CTRL+DEL:CLR KWD" area on the screen, or press CTRL+DEL.

To edit the ranking of the current clip with the keyboard :
Press the TAB key to move the cursor to the lower area of the screen Use the ←/→ arrows to select the desired ranking, and press ENTER. The selected ranking is highlighted in green.

To edit the ranking of the current clip with the stylus :
Click on the desired ranking, it becomes highlighted in green.

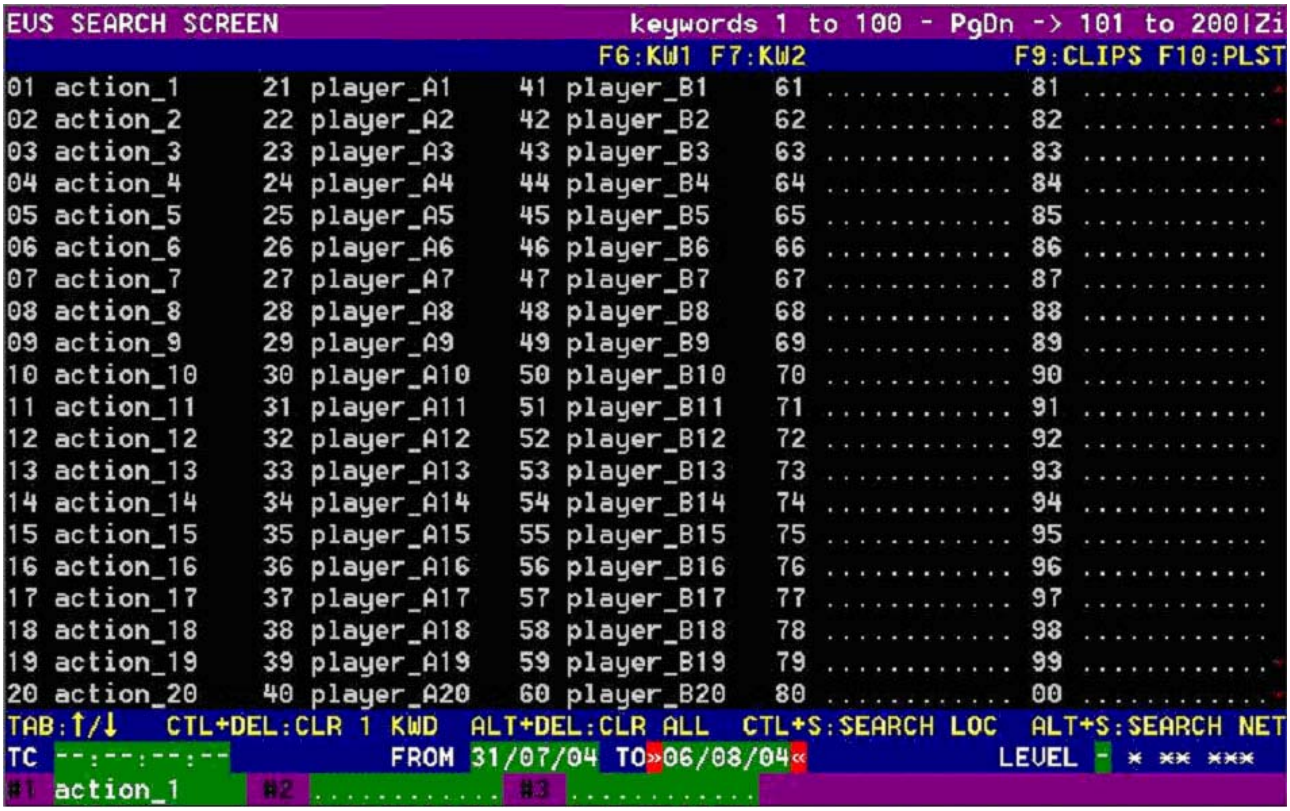
To clear all clips and the ranking of a clip :
Press ALT+DEL or click on "ALT+DEL:CLR ALL" : all keywords assigned to the clip will be removed, and the ranking will be reset to the lowest level ("–").

To name a clip using the keywords :
Move the cursor to the desired keyword and press ALT+N. The keyword is added at the end of the current name if there is enough space left.

Note: To clear the name of a clip, press ESC to empty the NAME field, then press F1 to assign this "empty name" to the clip.

Searching the Database using the VGA Screen.

Press **F8** to access the Search Screen. The name of the current keywords file is displayed against a red background in the center of the Title Bar.



DEFINITION OF SEARCH CRITERIA

Different criteria can be combined to search the database :

1. **Time code** : if a time code value is defined, only the clips containing that time code will be considered. To define a time code, type the desired value when the red text cursor is visible in that field. If the red cursor is located on another field in the lower part of the screen, press the ← arrow key until it comes back to the TC field. The BACKSPACE key can be used to clear the last digit entered.

2. **Date from / to** : restricts the search to clips created between these 2 dates. If only "Date to" is defined, all clips created before that date will be considered ; if only "Date from" is defined, all clips created after that date will be considered. To define a date, press the TAB key to move the red cursor to the bottom of the screen, then press the ←/→ arrow keys until reaching the "Date from" or "Date to" field, and enter the desired date(s). The BACKSPACE key can be used to clear the last digit entered. Press the TAB key again to move the cursor back to the keywords list.

3. **Level / Ranking** : only the clips with a ranking equal or higher to the ranking defined in that screen will be considered. Press the TAB key to move the cursor from the keywords list to the bottom of the screen, then press the ←/→ arrow keys until reaching the desired ranking, and press ENTER. The selected ranking is highlighted in green. Press the TAB key again to move the cursor back to the keywords list.
4. **Keywords** : only clips containing all keywords defined in this screen will be considered. To assign a keyword, move the cursor to the desired keyword and press ENTER, or click on the keyword using the stylus.

A maximum of 3 keywords can be used as search criteria. If all 3 keyword locations are already occupied, the operator needs to clear some of them to select new keywords.

To clear a keyword with the keyboard :
Press TAB to move the arrow cursor to the lower area of the screen. Use the ←/→ arrows to move the cursor to the keyword to remove, and press CTRL+DEL. Press the TAB key again to move the arrow cursor back to the keywords list.

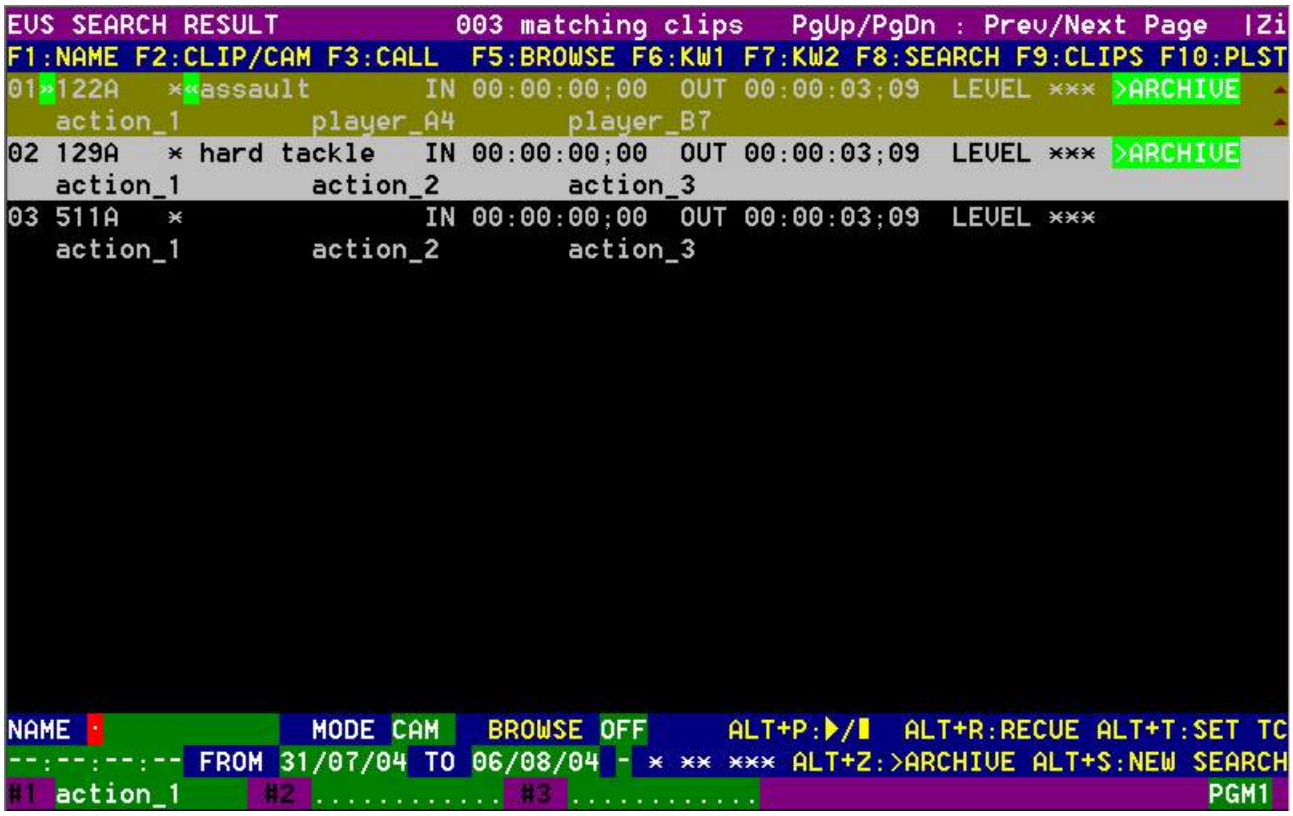
To clear a keyword with the stylus :
Click on the keyword to remove on the last line, the click on the "CTRL+DEL:CLR KWD" area on the screen, or press CTRL+DEL.

To clear all criteria at once :
Press ALT+DEL or click on "ALT+DEL:CLR ALL" : all keywords, time code, "Date from" and "Date to" fields assigned as search criteria will be removed, and the ranking will be reset to the lowest level ("–").

When performing the search, only the clips matching all criteria defined by the operator will be included in the search results. Press CTRL+S (or click on the corresponding area) to search the local database, or press ALT+S (or click on the corresponding area) to search the entire network database.

SEARCH RESULTS

The results of the database search is displayed in the Search Results Screen.



At the bottom of the Search Results Screen, the search criteria are displayed for information.

In the center of the screen, a list of all matching clips is displayed. The operator can browse this list with the ↑/↓ arrow keys, PgUp, PgDn, Home and End keys. If the BROWSE mode of that screen is ON (**F5:BROWSE**), the clip will be loaded on the primary play channel as soon as it is selected. If the BROWSE mode if OFF, the operator must press ENTER after selecting the clip to load it.

For each clip, the following information is displayed :
- position in the list
- Clip ID
- Clip Name
- Time code of Short IN and Short OUT points
- Ranking
- Archive Status
- Current Keywords.

If new clips are created after the search, that match the search criteria, they will be automatically added to the list. To add a clip from that list to the current playlist, call up the clip, then press INSERT or ENTER on the remote panel.

Many functions from the Clip Screen are also available from the Search Results Screen : F1:NAME ; F2:CLIP/CAM ; F3:CALL ; ALT+P:PLAY/PAUSE ; ALT+R:RECUE ; ALT+T:SET TC, ALT+Z:>ARCHIVE.

To return to the Search Screen to perform a new search, press ALT+S or F8. The previous search criteria are kept until the operator selects new criteria.

Assigning Keywords using the EVS Remote Panel.

A keywords file must be selected in the Setup to enable the keyword assignment functions on the EVS remote panel.

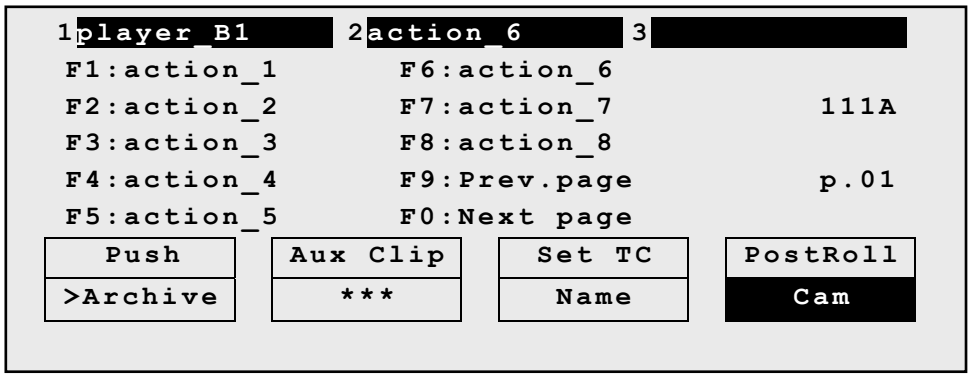
In the Setup Menu of the remote, the operator can choose between 2 different keyword modes : "List" (default) or "Numeric".

In LIST mode, the list of keywords will appear on the LCD display by group of 8 keywords, and the operator can select the keyword by pressing the corresponding F_ key. The advantage is that the keywords are visible to the operator, but this mode can be slow if he has to browse through a long list of keywords.

In NUMERIC mode, the list of keywords is not visible on the LCD display, and the operator selects a keyword by entering its position in the list with the F_ keys. He can know the position either from a hardcopy of the keywords list, or by looking at one of the VGA Keywords Screens, or still from his memory... This mode is faster to operate, but in most cases the operator will need to have the complete list of keywords available next to him.

ASSIGNING KEYWORDS IN NUMERIC MODE

To assign keywords to a clip in numeric mode, recall the clip, then press MENU to access the secondary clip menu on the remote panel.



The LCD display a page containing 8 keywords. Press F9/F10 to access the previous/next keywords page. To assign a keyword to the current clip, press the F_ key corresponding to the desired keyword on the LCD display.

Depending on the CLIP/CAM mode defined by the D key, the selected keyword will be assigned only to the camera angles loaded on the channels fully controlled by the operator at that time (CAM mode), or to all camera angles of the clip (CLIP mode). The keyword will be assigned to the first available keyword location on the 1st line of the LCD display. If the "Keyword Info" parameter of the Setup is set to "Yes", it will also appear on the OSD of the corresponding monitoring outputs if the current picture is the Short IN point of the clip.

If all 3 keywords location are occupied, the operator has to clear some of them to be able to assign a new keyword to that clip.

To clear one of the keywords already assigned, press CLEAR + F1 / F2 / F3 in the secondary clip menu.

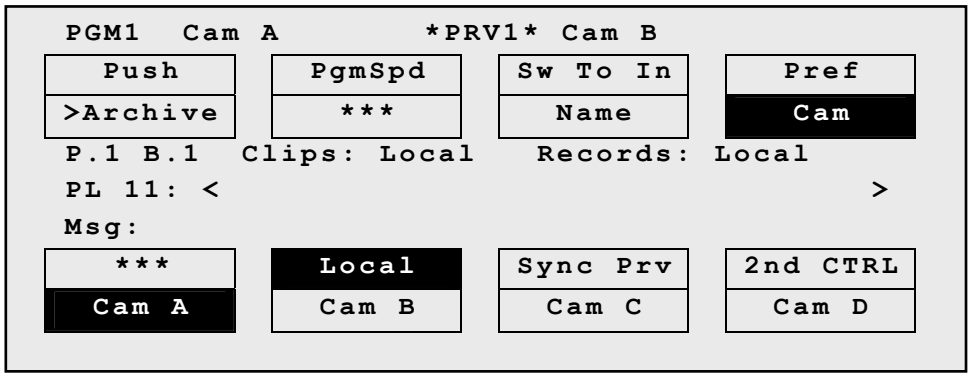
The clip can also be named based on the keywords. Press the NAME function (C key) in the secondary menu, then select keywords. The keywords will be added to the name of the clip, up to 12 characters. In this mode, the name of the clip is visible on the OSD. It can also be edited with the following keys :

- CLEAR : erase the last character
- SHIFT+CLEAR : insert a blank
- SHIFT+F1-F10 : insert a number (1, 2, 3, ..., 8, 9, 0)

Once the name is complete, press ENTER to validate or MENU to cancel.

While the operator is in the secondary menu, he has full control of the current clip with the LEVER, PLAY key and JOG DIAL, so he can browse the clip and start a replay at any time.

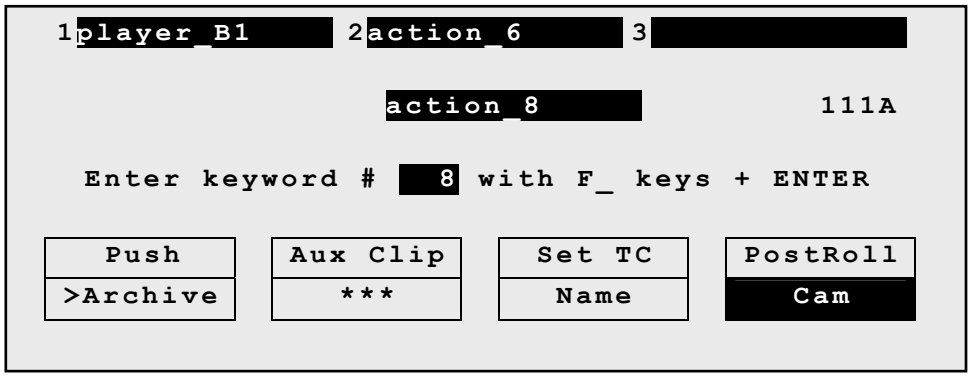
It is also possible to assign keywords and ranking to a clip before it is created. Indeed, when a record train is loaded, as soon as the operator marks an IN or OUT point, the main and secondary menu changes to make the keyword functions available.



The SHIFT+A function of the main menu, normally used by the RESET CAM function, can be used to define the ranking, without entering the secondary menu. For additional functions like selecting keywords, flagging the future clip for archiving, marking it to be pushed to another machine, defining its name from the keywords, they can be performed from the secondary menu, exactly the same way as for a clip already stored. All these settings are memorized and will be applied to the clip when it is created.

ASSIGNING KEYWORDS IN LIST MODE

To assign keywords to a clip in numeric mode, recall the clip, then press MENU to access the secondary clip menu on the remote panel.



Enter the keyword position in the list using the F_ keys. Every time a new digit is entered, the corresponding keyword is displayed in the highlighted area in the center of the LCD screen, to allow the operator to validate the entry before confirming it. If a wrong digit is entered, press the CLEAR key to delete it. Once the right keyword is found, press ENTER to confirm or ENTER to cancel.

The rules for keyword assignment and deleting keywords are identical between LIST and NUMERIC modes.

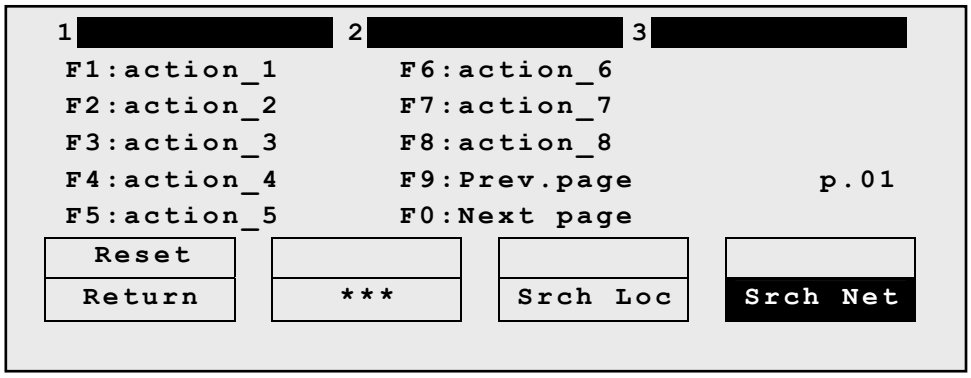
Searching the Database using the EVS Remote Panel.

Keywords and ranking assigned to keywords can be used to search the clips database.

When the current element on the primary channel is a record train, the SEARCH function is directly available from the C position in the secondary menu. To call it, press MENU to enter the secondary train menu, then press once the C key.

When the current element on the primary channel is a clip, the SEARCH function is still available from the same location, but it is "hidden" behind the NAME function. To call it in this case, press MENU to enter the secondary clip menu, then press twice the C key.

In both cases, the LCD display becomes (in LIST mode) :



Keywords can be selected for use as search criteria the same way they were selected to be assigned to a clip, in LIST or NUMERIC mode. Up to 3 keywords can be selected as search criteria. If all 3 keywords locations are used, some of them must be cleared before selecting a new keyword. Press CLEAR + F1 / F2 / F3 to clear to corresponding keyword location.

A ranking can also be used as the only search criteria, or can be combined to the keywords as an additional criteria. Press the B key several times to select the desired ranking.

The RESET key (SHIFT+A) can be used at any time to clear all 3 keyword locations and reset the ranking to the lowest level.

The RETURN key (A) is used to exit the SEARCH function without performing any search.

Once the search criteria are defined, press SRCH LOC (C) to search the local clips database, or SRCH NET (D) to search the entire network database.

The matching clips are the ones that contain all keywords used as search criteria, and that have at least the requested ranking.

If matching clips are found, the remote will automatically be in BROWSE mode (the BROWSE key is red), allowing the operator to quickly view the Short IN of each clip corresponding to the search criteria by rotating the jog dial. To be able to jog inside a clip, disable the BROWSE mode by pressing on the BROWSE key and move the jog dial. To return to the BROWSE mode inside the search results, press the BROWSE key again.

Search results are reset when going by to LIVE mode, or when a new search is performed.

If no matching clips are found, a message notifies the operator.

13. Playlist Management

Standard mode

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, PAGE 3 contains 30 to 39,..., and so on.

Playlists from PAGE 10 are not available from the EVS remote panel. These playlists are reserved for external protocols (Odetics, Louth VDCP, EVS AVSP).

The access to playlists from other machines on the SDTI network is similar : select the machine from the Network Menu on the remote, then access the playlist bank of that machine, and select a playlist.

Important notes when accessing network playlists :

- Playlists information is not permanently refreshed on the network. The playlist information for a remote playlist bank is only transferred when entering that bank. If you are already connected to a remote playlist bank, press SHIFT+F10 again to refresh the playlist information for this bank.
- Remote playlists are available as "Read Only", and can not be edited. If you want to modify a network playlist, you have to create a local copy on your machine first. This operation is done instantly if the clips remain in their original location. Refer to the next paragraph for details about copying playlists.

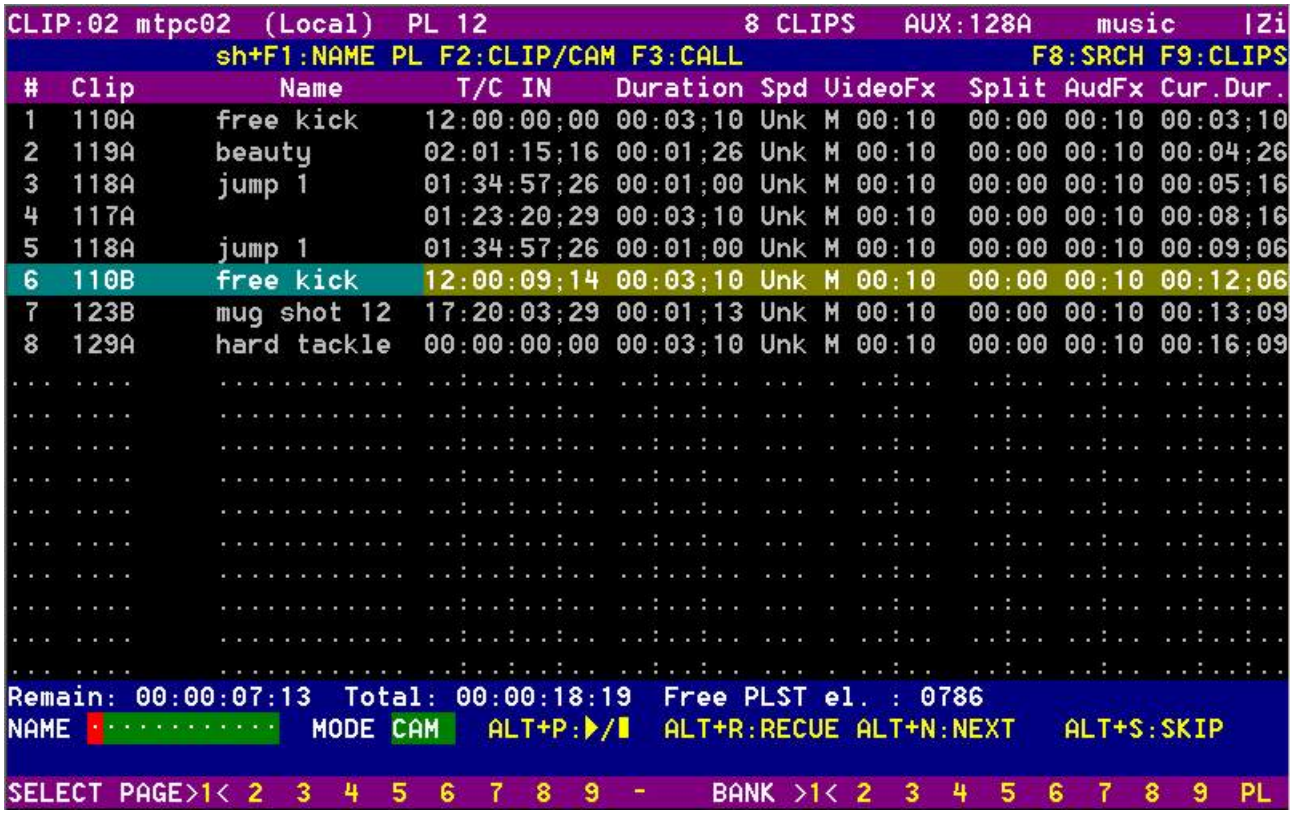
HOW TO COPY A PLAYLIST?

Go to PLAYLIST bank (local or from another machine on the network), select the original playlist to copy by pressing the corresponding **F_** key on the remote, then select an empty playlist location on your local machine.
A confirmation message is displayed on the remote and the OSD. Accepting the copy will copy the EDL only : the clips inside the playlist remain on the remote machine.

Note: It is not possible to copy a playlist to a remote machine. Copying a playlist from a system to another system on the network must always be a PULL process.

VIEWING THE VGA PLAYLIST SCREEN

Pressing F10 on the keyboard calls the VGA Playlist Screen.



The following operation can be performed from the VGA playlist screen :

TO NAME A PLAYLIST: type the desired name on the keyboard. It appears in the name field at the bottom of the screen. Use **Backspace** to delete the last character, or **ESC** to clear the entire field. Use **SHIFT + F1** to assign the new name to the current playlist. The playlist name will appear in the title bar next to the playlist number.

To use the following commands, you must be in Playlist Edit or Playlist

Diffusion mode. Press the **PLST** key on the EVS remote to enter the Playlist Edit mode. The LCD screen of the remote display the information about the previous, current and next 3 clips of the playlist. Press the **PLST** key again to enter the Playlist Diffusion mode.

TO NAME THE CURRENT CLIP IN THE PLAYLIST: this function is only available when the PLST EDIT or PLST DIFF mode is active on the EVS remote panel. Type the desired name for the current clip in the NAME field, and press F1 to name the current clip in the playlist.

Note: Naming the current clip of the playlist will affect the original clip.

PLAY/PAUSE: press **ALT + P** to start the playback / pause of the playlist from the current position.

RECUE: press **ALT + R** to recue to the beginning of the playlist and pause.

NEXT: press **ALT + N** while the playlist is playing to force immediately the transition to the next clip in the playlist.

SKIP: press **ALT + S** while the playlist is playing to skip the next clip. The current clip will play until the defined OUT point, than the playlist will skip the next one and play the one after instead.

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 parts 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.

When in Playlist Edit or Playlist Diffusion mode, you can recall a new playlist by selecting the playlist bank (**SHIFT + F10** on the remote), and pressing the desired **F_** key. If the new playlist is empty, the system will ask you whether you want to copy the current playlist at this new location. If the new playlist is not empty, it is automatically loaded and

becomes the current playlist.

HOW TO BROWSE QUICKLY THROUGH A PLAYLIST?

When the operator is neither 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.

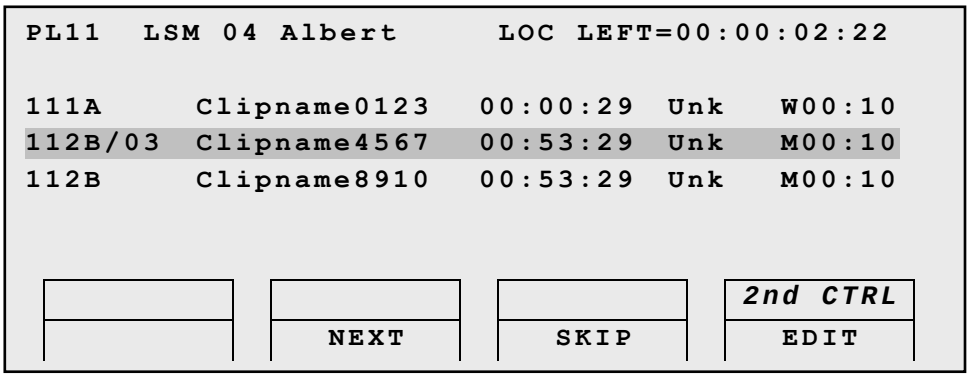
The operator can of course also activate the Browse mode directly from the Playlist Edit mode.

HOW TO NAME A PLAYLIST?

Each of the 50 playlists can be named. On the playlist screen, you will notice that **SHIFT + F1** shows «NAME PL».

Simply type the name on the keyboard. The name will appear in the lower left corner of the VGA screen, next to the "**Name**" label. When the name is complete, press **SHIFT + F1** to validate. The name of the playlist is shown in the center of the title bar of the VGA screen.

HOW TO ROLL A PLAYLIST?



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. The duration displayed in the top right corner of the LCD screen in Playlist Diffusion mode is the remaining duration until the end of the playlist.

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 go on-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.).

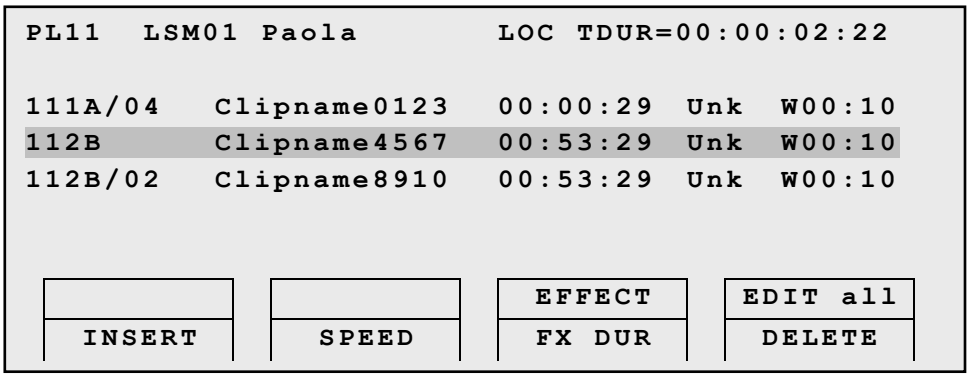
Edit: Selecting this function will get the operator back to the «Edit» mode of the playlist.

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, the pre-set speed for the current clip is canceled and set by the lever position only. The playlist will return to pre-set speed mode as soon as another clip with a pre-set speed is found.

If the speed for a Super Motion clip is set to "UNK", pressing the PLAY key on that clip will start the playback of the playlist at 33%.

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.



In Playlist Edit mode, the duration displayed in the top right corner of the LCD screen is the total duration of the playlist, from the beginning to the end.

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%.

FX 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. A confirmation message will appear if that option has been enabled in the setup menu.

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. A confirmation message will appear if that option has been enabled in the setup menu.

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.

Important note: In PLST EDIT mode with a PRV channel, when PRV CTL is enabled, the operator as full control of the PRV channel while the playlist remains loaded on the PGM channel. On the PRV channel, he can perform all clip-related functions, including database search using time code, keywords and ranking, from the VGA Search Screen as well as from the secondary clip menu of the remote panel. Once the desired clip(s) are found, they can easily be inserted in the playlist that is still loaded on the PGM output. By switching PRV CTRL ON or OFF, the operator can very easily combine playlist editing and database search functions.

HOW TO TRIM CLIPS INTO A PLAYLIST?

Every clip inside a playlist can be trimmed independently 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 end of the guardbands of the clip.

THE AUXILIARY AUDIO CLIP

The Aux Clip option allows you to add a new stereo audio track to the original video clips. For example: sport comments, music, jingles, ambient sound... This additional stereo audio track is available on the PVW output and on analogue outputs 7/8 or on digital outputs 15/16. The selection of the track output is done via the SETUP menu – Page 5.1 - F5. The original audio tracks are still available on outputs 1/2 (3/4). The auxiliary audio clip selected is always played back with normal speed (100%), whatever the selected playback speed for the video.

When the playback of the playlist is not started from the beginning, the system calculates the offset between the current position and the beginning of the playlist, and applies the same offset to the Aux Clip, so that it can remain synchronized with the playlist. 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. This can be done outside of the PLST EDIT mode, or in PLST EDIT mode with PRV CTRL ON. You will see the "Aux Clip" option appearing in the secondary menu on the LCD of the remote panel.
2. Then press MENU to call the secondary menu, then "Aux Clip" button (SHIFT+B): the ID of the Aux Clip appears in the title bar of the Playlist screen (F10)
3. To remove the current Aux clip, load the Aux Clip, call the secondary menu by pressing MENU, then press CLEAR + SHIFT + (B) ("Aux Clip") on the remote.

HOW EXIT THE PLAYLIST MODE?

Press the RECORD key to exit the playlist mode and return to E2E mode.

Split Audio Mode

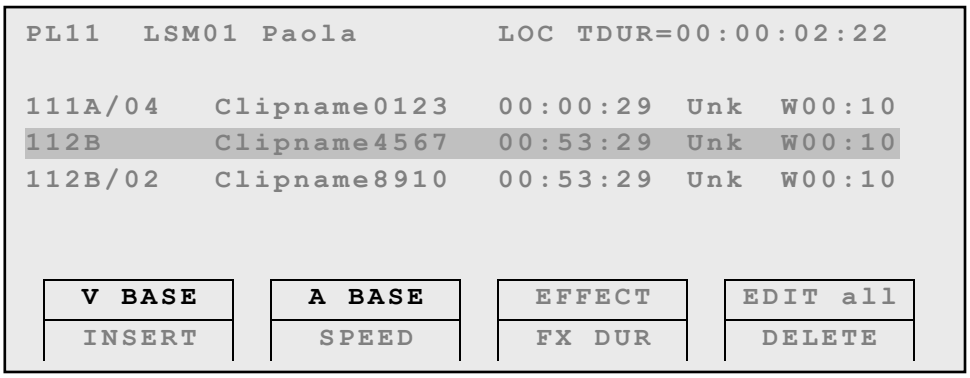
HOW TO ENABLE SPLIT AUDIO EDITING ?

Enter the setup menu as described in section 4 - SETUP Menu, and enable the Split Audio mode on Page 4.2, function key F1. This option requires a specific license code. If that code is not installed on the server, this option can not be turned on.

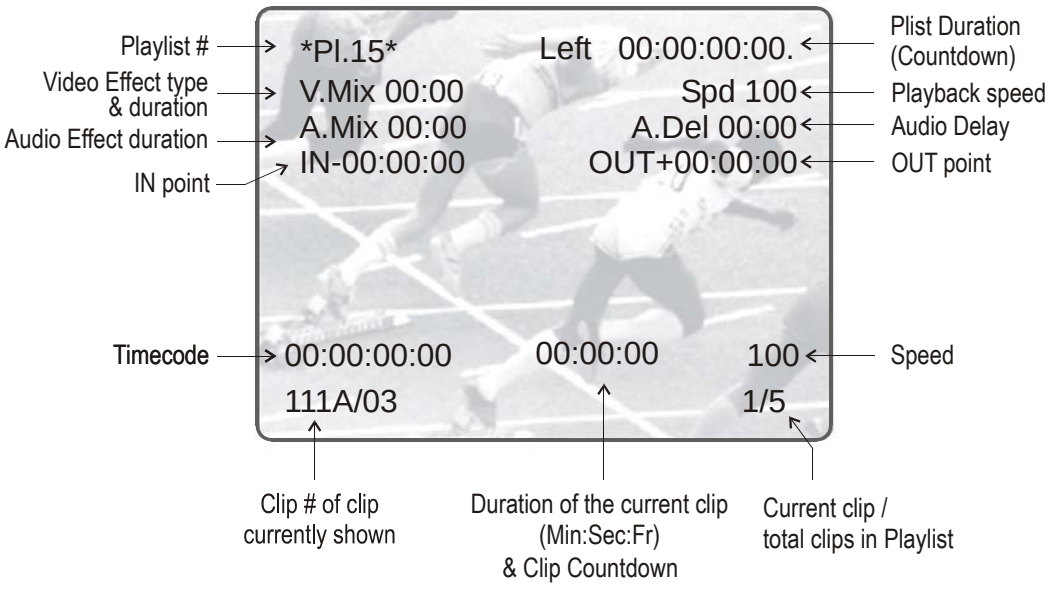
Please note that when you play a playlist containing a spit audio, the speed can not be adjusted while playing. Changing the speed has to be set in the playlist itself.

Note that the value of the "Audio Effect Duration" parameter of the Setup menu (p. 4.1, F2 key) is only taken into account when the Split Audio mode is enabled. Otherwise, the audio effect duration is always locked to the video effect duration, whatever the value of these parameters.

In playlist edit mode the LCD screen will now display additional functions:



Additional information will be display on the monitoring output as well:



HOW TO SET DEFAULT VIDEO AND AUDIO TRANSITIONS?

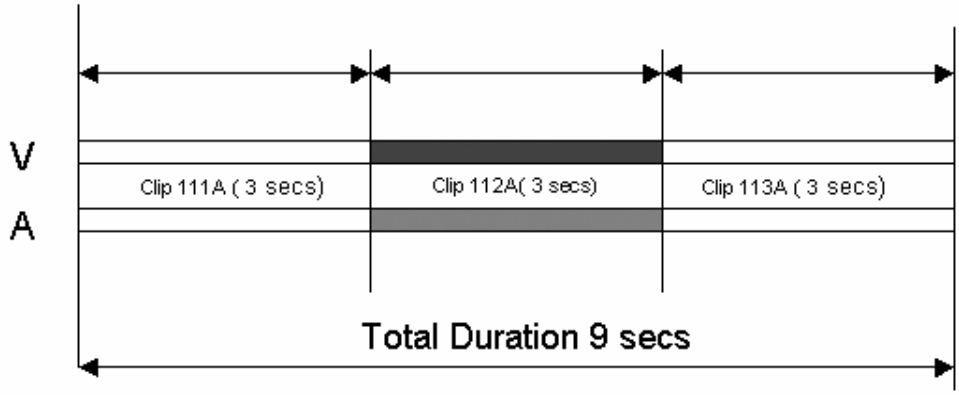
The simplest type of Split Audio edit that can be performed on an LSM is to make the Video and Audio Transitions at the beginning of the clip have different Durations, such as a 12 Frame Video Mix with a 2 sec Audio crossfade.

A default value for each can be entered in the Setup Menu so that each time a clip is entered or inserted into a playlist the Default values are used.
Vid. Effect duration is on page 4.1, function key F1 (range up to 20:00 secs)
Aud. Effect duration is on page 4.1, function key F2 (range "Lock to video", then up to 20:00secs)

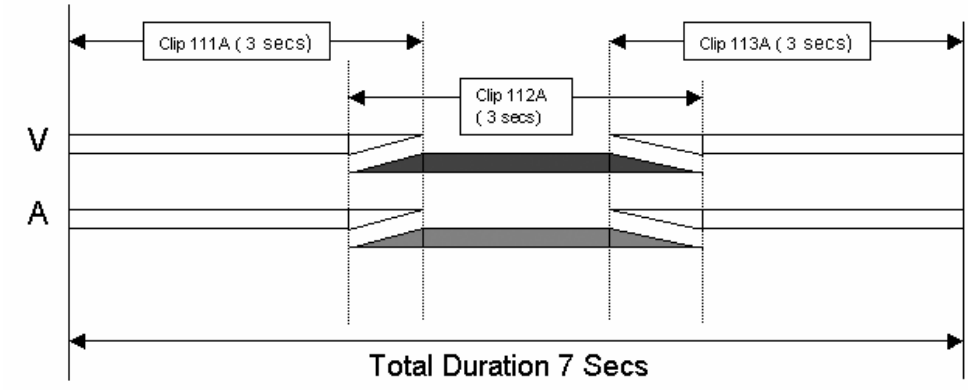
Important note: If the "Audio Effect Duration" parameter in the setup is set to "Lock to video", it will never be possible to adjust independently the duration of the audio and video transitions. If you want to adjust one of these transitions and the other one follows, please check the "Audio Effect Duration" in the setup, and make sure it is NOT set to "Lock to Video".

In an LSM playlist the Video and Audio effects end at the out point of a clip, so the duration of clips is shortened by the length of the effect.

Normal Playlist with Cuts



Playlist with 1:00 sec Effect Duration



HOW TO CHANGE VIDEO EFFECT DURATION?

1. Enter the Playlist Edit mode.
2. Browse to the desired clip in the playlist.
3. Press Shift+ A BASE to enter A BASE mode
4. Press to highlight V Fx Dur **(C).**
5. Move the T-bar to adjust the value

HOW TO CHANGE AUDIO EFFECT DURATION?

1. Enter the Playlist Edit mode.
2. Browse to the desired clip in the playlist.
3. Press Shift+ V BASE (A) to enter V BASE mode
4. Press to highlight A Fx Dur (C).
5. When you move the T-bar to adjust the value.

HOW TO SET THE DEFAULT MODE FOR EXTENDING A TRANSITION ?

Whenever you make a Video or Audio Split, the transition originally set is changed. In the setup menu, page 4.2, key F2, the default mode for extending transition effects can be set :

- Center (on) Cut : the transition is extended equally in both directions
- End (on) Cut : the transition is extend to the left, so that the end of the transition is not changed.
- Start (on) Cut : the transition is extend to the right, so that the start of the transition is not changed
- Ask : ask the operator to choose one of the 3 options above every time he edits a transition

HOW TO PERFORM A ' V BASE' EDIT?

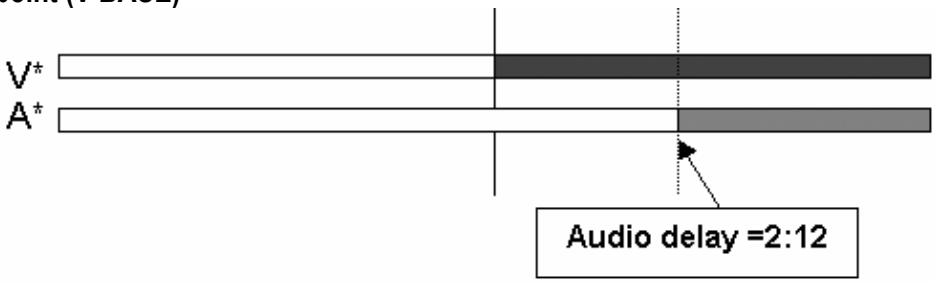
Audio can be advanced or delayed compared to the Video in/out points of a clip in a playlist.

Audio Delay

1. Enter the Playlist mode.
2. Browse to the desired clip in the playlist.
3. Press to highlight V Base (shift+A)
4. Press to highlight A delay (B)
5. Enter a value on the 'F' keys including leading zeros (0+2+1+2= 2:12), OR move the T-BAR and press enter.

The value entered will be present on the PRV SCREEN when the clip is next to play in a playlist.

Edit point (V BASE)



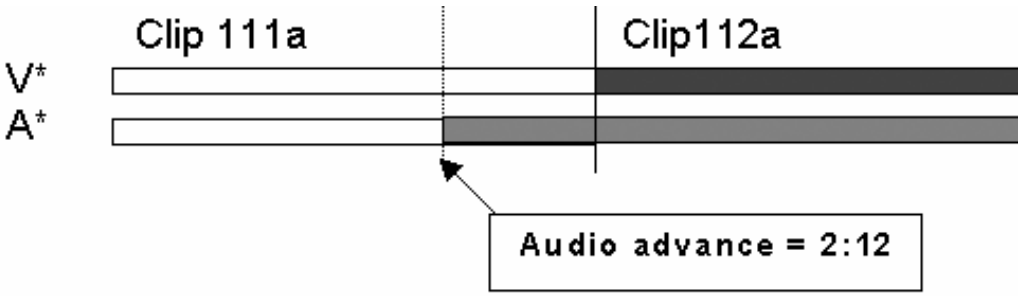
Audio is extended from the end of the previous clip and the audio on the clip being edited is shortened.

Audio Advance

1. Enter the Playlist mode.
2. Browse to the desired clip in the playlist.
3. Press to highlight V Base (shift+A)
4. Press to highlight A ADVANCE (A)
5. Enter a value on the 'F' keys including leading zeros (0+2+1+2= 2:12), OR move the T-BAR and press enter.

The value entered will be present on the PRV SCREEN when the clip is next to play in a playlist.

Edit point (V BASE)



Audio is shortened on the previous clip and the beginning of the clip being edited is extended.

Note: When editing using the Video In/out as the reference point (V BASE) the Video will be the top line on the OSD display. When editing using the Audio In/out as the reference point (A BASE) the Audio will be the top line on the OSD display.

Audio Split

1. Enter the Playlist mode.
2. Browse to the desired clip in the playlist.
3. Press to highlight V Base (shift+A)
4. Press to highlight A SPLIT (D)
5. Jog to the point where you want to set your transition and mark an out point if you do an audio delay or mark an in point if you do an audio advance.

The value entered will be present on the PRV SCREEN when the clip is next to play in a playlist.

HOW TO PERFORM AN 'A BASE' EDIT?

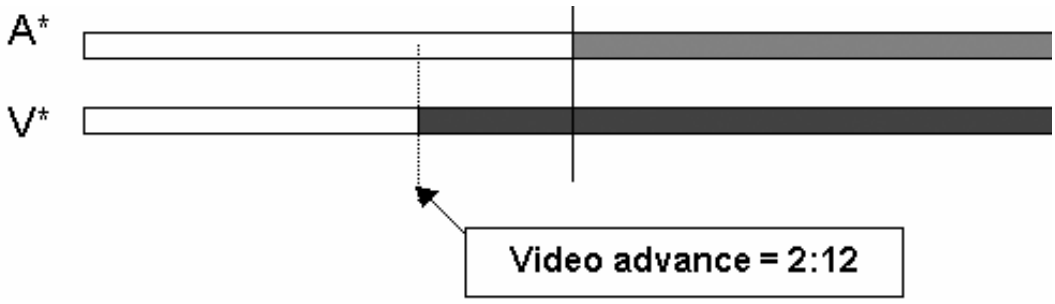
When in A BASE mode the browse function searches between AUDIO IN/OUT points and NOT video

Video Advance

1. Enter the Playlist mode.
2. Browse to the desired clip in the playlist.
3. Press Shift+ V BASE (A) to enter A BASE mode
4. Press to highlight V ADVANCE (shift+B)
5. At the on screen prompt, enter a value on the 'F' keys including leading zeros (0+2+1+2= 2:12), OR move the T-BAR and press enter.

The value entered will be present on the PRV SCREEN when the clip is next to play in a playlist.

Edit point (A BASE)



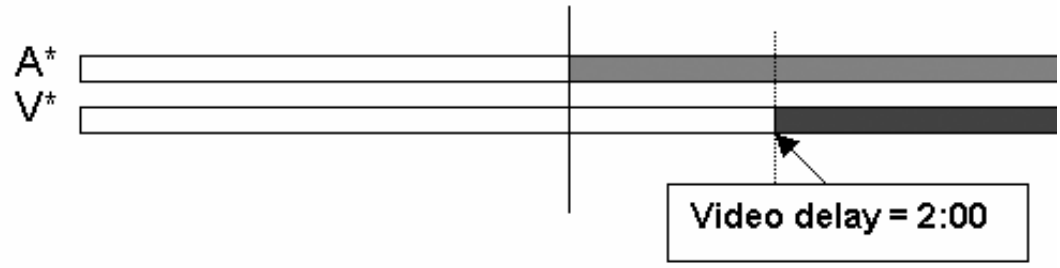
Video is shortened in the previous clip and the video from the clip being edited is extended.

Video Delay

1. Enter the Playlist mode.
2. Browse to the desired clip in the playlist.
3. Enter A BASE mode by pressing Shift + V BASE (Shift + A, the button now flashes Red)
4. Press to highlight V DELAY (shift+B and shift+B again)
5. At the on screen prompt, enter a value on the 'F' keys including leading zeros (0+2+1+2= 2:12), OR move the T-BAR and press enter.

The value entered will be present on the PRV SCREEN when the clip is next to play in a playlist.

Edit point (A BASE)



Video from the previous clip is extended and video from the clip being edited is shortened.

Note: When editing using the Video In/out as the reference point (V BASE) the Video will be the top line on the OSD display. When editing using the Audio In/out as the reference point (A BASE) the Audio will be the top line on the OSD display.

Video Split

1. Enter the Playlist mode.
2. Browse to the desired clip in the playlist.
3. Press to highlight A Base (shift+B)
4. Press to highlight V SPLIT (D)
5. Jog to the point where you want to set your transition and mark an out point if you do a video delay or mark an in point if you do a video advance.

The value entered will be present on the PRV SCREEN when the clip is next to play in a playlist.

'IN' Button Colours in Playlist mode.

When the Playlist is sitting on the Video and Audio IN point of a Clip the IN button will light RED.

When the Playlist is sitting on the Video IN point of a Clip the IN button will also light RED.

When the Playlist is sitting on the Audio IN point of a Clip the IN button will FLASH RED.

If the Playlist is a position where the Audio and Video are Sychronous the IN/OUT buttons will be GREEN

If the Playlist is a position where the Audio and Video IN points have been Split the IN button will FLASH GREEN

'OUT' Button Colours in Playlist mode.

When the Playlist is sitting on the Video and Audio OUT point of a Clip the OUT button will light RED.

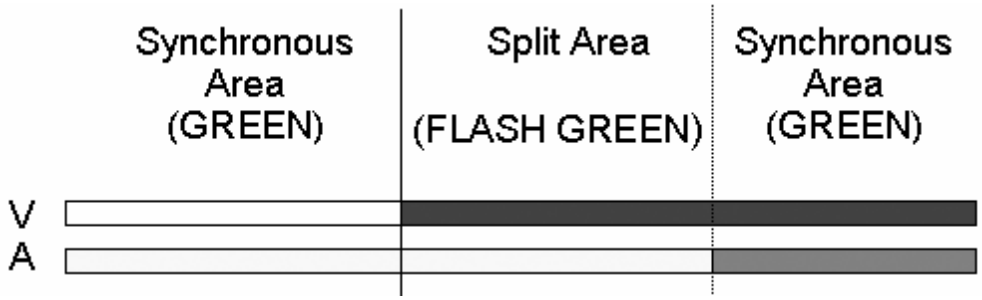
When the Playlist is sitting on the Video OUT point of a Clip the OUT button will light GREEN.

When the Playlist is sitting on the Audio OUT point of a Clip the OUT button will FLASH RED.

If the Playlist is a position where the Audio and Video are Synchronous the IN/OUT buttons will be GREEN

If the Playlist is a position where the Audio and Video OUT points have been Split the OUT button will FLASH GREEN

Example on Audio Delay Edit:



HOW TO INSERT A CLIP INTO A PLAYLIST WITH SPLIT AUDIO?

Note: Transitions are reset to Zero on INSERT and DELETE functions.

1. Enter the Playlist mode.
2. Browse to the desired clip in the playlist.
3. Press to highlight V Base (shift+A)
4. Press to highlight A SPLIT (D)
5. Jog to the point where you want to set your transition and mark an out point if you do an audio delay or mark an in point if you do an audio advance.

Swap Audio Tracks Mode

INTRODUCTION

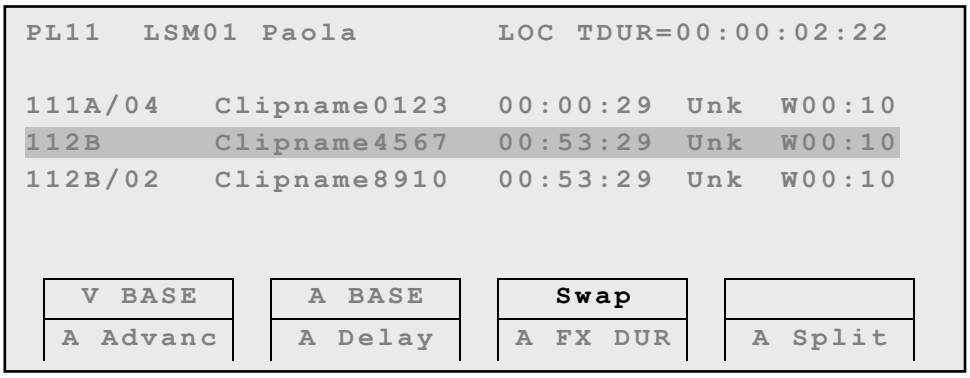
The swap audio tracks mode allows swapping audio tracks between two points in a playlist.
The 'auto' mode replaces audio tracks 1&2 by audio tracks 3&4 in four audio mode. It replaces audio track 1 by audio track 2 in stereo mode.
The 'manual' mode lets you choose which tracks to replace.

HOW TO ENABLE THE AUDIO SWAP MODE ?

Enter the setup menu and select the Swap Audio Tracks mode on Page 4.2, function key F3. You can choose between 'Auto' and 'Manual'. Please note that the Split Audio Editing has to be enabled in the setup menu on Page 4.2, function key F1. This option requires a specific license code. If that code is not installed on the server, this option can not be turned on.

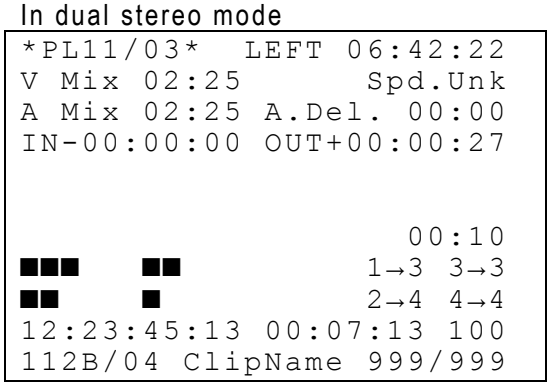
USING THE SWAP AUDIO TRACK MODE IN AUTO MODE

In playlist edit mode, select the Video Base mode (V Base). The LCD screen will now display additional function :



Press the Swap button.
Jog your playlist until you reach the point where you want to change the audio tracks. Mark an in point.
The OSD screen indicates the following information :

In dual stereo mode



In stereo mode

```
*PL11/03*  LEFT 06:42:22
V Mix 02:25       Spd.Unk
A Mix 02:25 A.Del. 00:00
IN-00:00:00 OUT+00:00:27


                    00:10
■■■                   1→2
■■                    2→2
12:23:45:13 00:07:13 100
112B/04 ClipName 999/999
```

Press the Swap button again. Jog your playlist until you reach the point where you want to reset the original audio tracks. Mark an out point.
The OSD indicates the original tracks settings.

In dual stereo mode

```
*PL11/03*  LEFT 06:42:22
V Mix 02:25       Spd.Unk
A Mix 02:25 A.Del. 00:00
IN-00:00:00 OUT+00:00:27


                    00:10
■■■   ■■          3→1 3→3
■■    ■           4→2 4→4
12:23:45:13 00:07:13 100
112B/04 ClipName 999/999
```

In stereo mode

```
*PL11/03*  LEFT 06:42:22
V Mix 02:25       Spd.Unk
A Mix 02:25 A.Del. 00:00
IN-00:00:00 OUT+00:00:27


                    00:10
■■■                   2→1
■■                    2→2
12:23:45:13 00:07:13 100
112B/04 ClipName 999/999
```

One can set as many swap points as needed.

If only an 'in' swap point is set for one clip, the audio tracks will be reset by default for the next clip in the playlist.

Please note that when a swap point is set, a cross-fade is played between the original audio track and the new track. The duration of the cross-fade is the default audio transition.

When a swap point is present in a playlist, the display on the VGA and on

the OSD changes : a "*" is added next to the audio Fx information.

Display on the VGA

```
CLIP:04 Name5678(Loc)    PL:11 PlistName_12   999 CLIPS    AUX:111A/01 AuxClip_Name
F1:NAME CLIP  Sh+F1:NAME  F2:CLIP/CAM  PL F3:CALL              F8:SRCH  F9:CLIPS
 #  Clip     Name         T/C In      Duration Spd VideoFx Split AudFx Cur.Dur.
001 111A/01 ClipName_12 hh:mm:ss:fr mm:ss:fr 100 M ss:fr ss:fr ss:fr hh:mm:ss:fr
002 111A/01»ClipName_12«hh:mm:ss:fr mm:ss:fr 100 M ss:fr ss:fr ss:fr*hh:mm:ss:fr <-
003 111A/01 ClipName_12 hh:mm:ss:fr mm:ss:fr 100 M ss:fr ss:fr ss:fr hh:mm:ss:fr
```

Display on the OSD

```
*PL11/03*  LEFT 06:42:22
V Mix 02:25       Spd.Unk
A Mix*02:25 A.Del. 00:00
IN-00:00:00 OUT+00:00:27

        LOOP


12:23:45:13 00:07:13 100
112B/04 ClipName 999/999
```

USING THE SWAP AUDIO TRACK MODE IN MANUAL MODE

If the manual mode is selected in the setup menu, page 4.2, function key F3, the swap functions in a similar way but asks the operator which track to swap when setting the swap points.

First the operator is being asked :
In Stereo mode : "Select original track : 1 2 or Menu to Cancel".
In Dual Stereo mode : "Select original track : 1 2 3 4 or Menu to Cancel".
The functions keys are used to select the track to change.

When the choice is made, the operator selects by which track the selected one has to be replaced :
In Stereo mode : "Select new track : 1 2".
In Dual Stereo mode : "Select new track : 1 2 3 4"

Several swap points can be set on the same timecode (e.g. : 1 -> 3, 2 -> 4).

DELETING SWAP POINTS

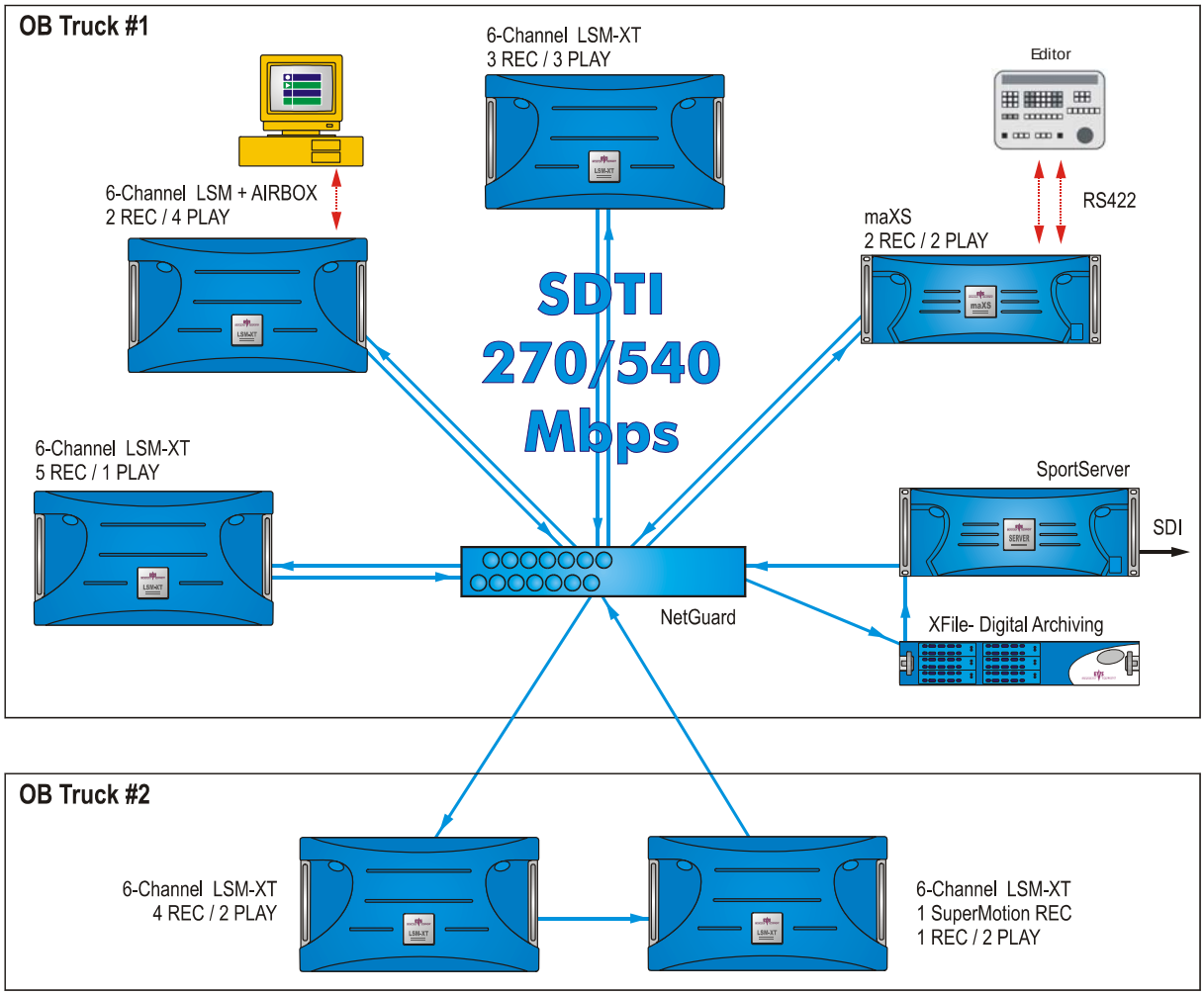
If the operator is on a swap point, pressing 'CLEAR' + 'IN/OUT' deletes the current swap point. All swap points for that timecode are deleted.

If the operator is not on a swap point, pressing 'CLEAR' + 'IN/OUT' brings up a confirmation message to delete all swap points for the current clip.

14. SportNet SDTI Network

Overview

The Sportnet network is composed by several XT servers 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 XT servers. This doesn't require an extra server, but it has to be assigned to 1 server on the network. If this system disconnects, another XT server will automatically take over. These settings can be found in the Configuration option of the EVS Maintenance menu. For details about the setup of SportNet, please refer to the XT Disk Recorder Technical Reference.



Minimal Hardware & Software configuration

Only XT servers 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 to use the functions described in this manual is:

- EVS version 00.12.10 or higher,
- Compatible Multicam version (6.01.43 or higher)
- the Sportnet option.

Note: SDTI network in multicam 6.01.43 is not compatible with previous versions. All systems on the network should run version 6.01.43 to be able to connect.

EVS menu configuration

The configuration of the different XT servers 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 XT servers 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 XT servers

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 also assigned to the system, but it is recommended to easily identify all servers connected to Sportnet.

Net Number:
The Net number defines the machine number on the network. This number is user-defined and must be unique for each system on the network. When entering a new number if this number is already assigned to another machine, an error message will warn the user.

Type:
(Client / Master / Server)
Defines the type of system. One and only one XT server 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 XT servers on the network can be set either to MASTER type if they need to access clips from other servers, or to CLIENT type if their clips must be available on the network but they don't need to call clips from other servers.

Connecting to Sportnet

When entering the Multicam application, the system looks for the EVS sportnet server. The message **>Net** appears on all monitoring outputs and then disappears when the connection to the Sportnet is successfully done.

During operations, the SDTI network or one XT server on the Sportnet might become unavailable. In this case the message **Source LSM disconnected** appears on the monitoring outputs and the system automatically switches to the LOCAL mode for Clips or/and Records trains. If Clips are inserted in a playlist, those clips will be temporarily considered as unavailable and will be skipped during playback.

Disconnecting

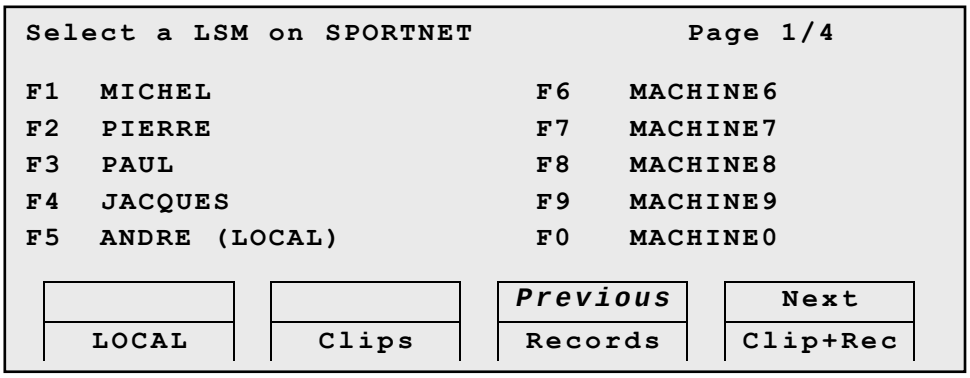
When exiting the Multicam application the system checks if other systems are still connected to your XT server, then the following message appears:

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

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

Selecting a Server on Sportnet

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



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 XT servers.

The PREVIOUS and NEXT keys appear only when some machines are not visible on the current page.

LOCAL MODE

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.

CLIPS MODE

The CLIP key allows the operator to connect to the Clips Banks of another LSM connected to the network. i.e. the VGA clip screen and the F_ keys of the remote show the clips from the selected LSM. If the operator presses the RECORD key, he goes in live mode on the local record trains.

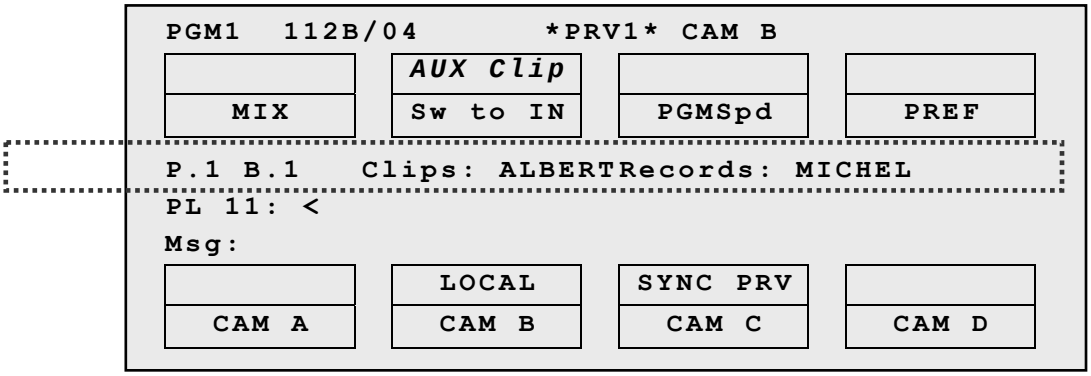
RECORDS MODE

When the operator selects one of the LSM in the network menu, he connects the record trains to this LSM, i.e. the next time he presses the RECORD key, the active channels will go in live mode (or near live mode for remote trains[1]) on the record trains of the selected LSM. The clips remain connected to the LSM they were connected to.

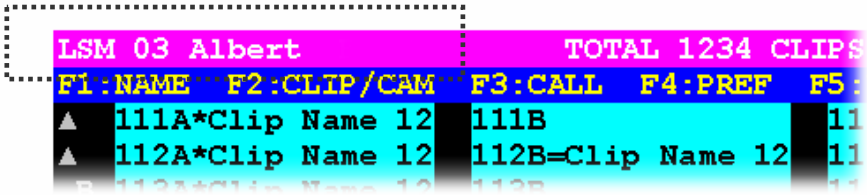
CLIPS+RECORDS MODE

The Clip+Rec allows the operator to both connect to the Clips Banks and to the Record Trains of a remote XT server. The VGA clip screen and the F_ keys of the remote show the clips from the selected XT server, and the next time the operator presses the RECORD key, the active channels will go in live mode (or near live mode for remote trains) on the record trains of the selected LSM.

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



The names of the remote systems are 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 or remote trains is similar to the operations on LOCAL system.

HOW TO RECALL/PLAY BACK A REMOTE CLIP?

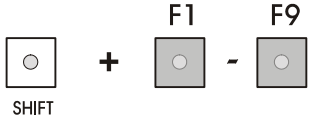
1. Select the CLIP mode in the Network Menu
2. Then select the REMOTE LSM from the list

> **Note:** The LCD display returns to the normal mode

3. Select the CLIP PAGE 1, 2, 3, ... to 10 (PAGE key).

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

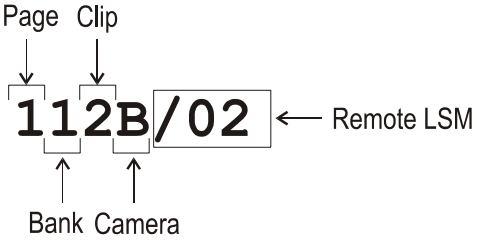
4. Select the BANK in which the desired CLIP is located



5. 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 CLIP mode in the Network Menu
2. Select the REMOTE LSM in the list.
3. Go to the clip screen on the VGA, all banks of remote system are now displayed.
4. Select the clip to name.
5. Type the desired name on the keyboard.
6. 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.

Note: To be able to rename a clip on a remote server, the parameter "Clip edit by network" must be enabled in the Setup Menu.

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

Recall the desired clip, browse inside the clip until you reach the desired frame, press IN / OUT to mark a new SHORT IN / SHORT OUT point.

Note: To be able to trim a clip on a remote server, the parameter "Clip edit by network" must be enabled in the Setup Menu of the remote machine.

HOW TO INSERT REMOTE CLIPS INTO A PLAYLIST?

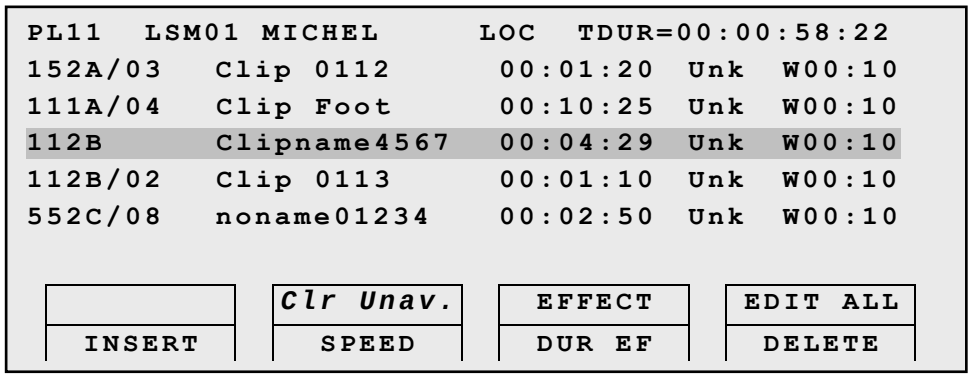
1. Select the REMOTE LSM via the Network menu.

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.



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 Clr Unav. function (SHIFT+B) in Playlist Edit mode. Note that this function is only visible when unavailable clips are present and with Split Audio Editing turned off.

HOW TO CREATE LOCAL CLIPS WITH REMOTE RECORDS TRAINS?

1. Select the RECORDS mode in the Network Menu
2. Then select the REMOTE LSM in the list.

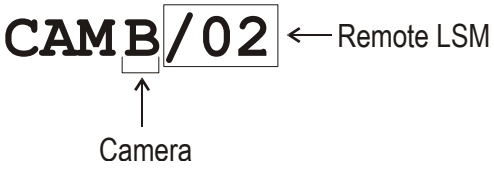
Note: The LCD display returns to the normal mode

3. Press the RECORD key to select the LIVE mode


A 2 to 3-second delay to LIVE has been defined to ensure safe operations.

4. Use the JOG knob to go in search mode.
5. Change camera angles if necessary. Note that changing camera angles on network train will always switch in pause on the new camera.

Note: The label of the remote camera is different in order to identify it easily



6. Press the IN key to mark your SHORT IN point of the clip
7. Search the SHORT OUT point and then press the OUT key to mark it also.
8. Now select the location of the clip to store and press the corresponding F key.

Note: The key flashes during transfer. When the key lights green, the transfer is completed and the clip is available for playback from the local system.

15. 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 F2 - page 6.2 will toggle between tablet / touch screen (only when the touch screen is available). The touch screen must always be connected to the RS422 port #6 and defined on page 7.2 (F6) of the Setup.

The use of the LOOP function allows the operator record the effect back into the 1st record channel of the server, and 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 / BROKEN LINE DRAWING

Select **L,** you will be prompted to enter the first point of the line.
Place the pen at the start point and press lightly. Then place the pen at the next point and press lightly again. A straight line appears to connect these 2 points. Repeat this as many times until the line is complete, then place the pen over the "ESC" area in the top right corner of the OSD and press lightly. 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 **ESC**ape 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 form 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

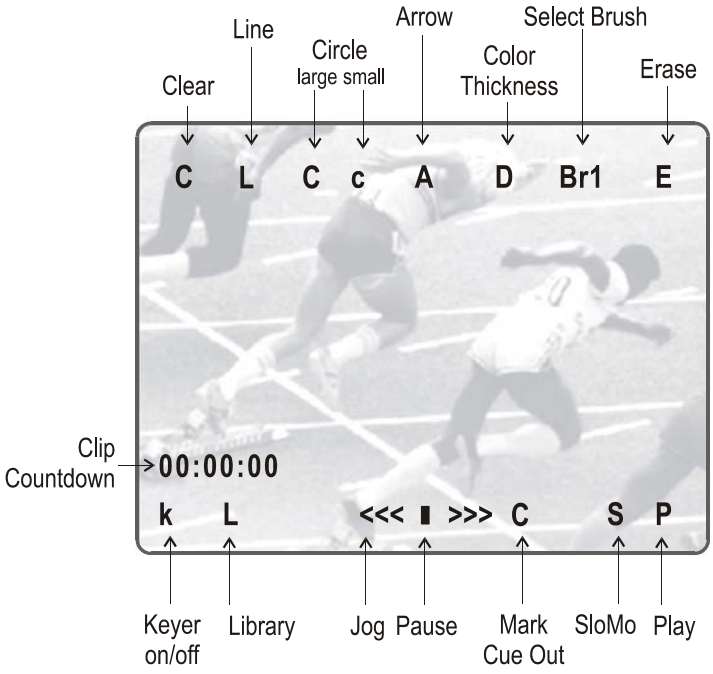
Loop mode is used to loop the video program output of the LSM into the first video input. This feature allows the operator to create sophisticated effects in successive steps. Press shift + PLST to enable this mode

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.

16. Target Mode

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

This software option enables the tracking of an object/action by use of a circle, arrow, ellipse or rectangle (*), focusing the attention on certain details. The user can choose the size, color and thickness of the 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 F2 – page 6.2 will toggle between tablet / touch screen (only when the touch screen is available). The touch screen must always be connected to the RS422 port #6 and defined on page 7.2 (F6) of the Setup.

(*) in this chapter, we use the words "tracking object" to refer to the type of shape selected by the operator (circle, arrow, ellipse or rectangle)

Creating a Target Track:

Begin by selecting all the appropriate type of tracking object, its size, color, etc.

Selecting the type of tracking object : the character on the left of the "T" letter on the 1st line of the OSD shows the current object.

- O (letter "o") indicates a circle (default option)
- 0 (zero) indicates a ellipse
- ↓ / ↑ / → / ← indicates an arrow
- ▉ indicates a rectangle
- Z indicates the zoom mode is active (circle only available in this mode)

T:	Select the background shade	(**T**ransparency level)
E:	Select the border thickness	(**E**dge)
S:	Select the size of the tracking object	(**S**ize)
C:	Select the border color	(**C**olor)

Note: To select the size of the tracking object when it is a rectangle or an ellipse, click on the S on the first line of the OSD. You must define the position of 2 opposite corners of the rectangle (in case of an ellipse, you must define the opposite corners of the rectangle the ellipse in enclosed in). When these 2 corners are defined, the system draws the resulting rectangle or ellipse. You can confirm by clicking on "OK" or clear the screen by clicking on "Clear" and redefine a new shape.

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 the tracking object will appear on the screen

Note: If the tracking object is an arrow, it will appear slightly off the cursor position, so that the object remains visible.

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.

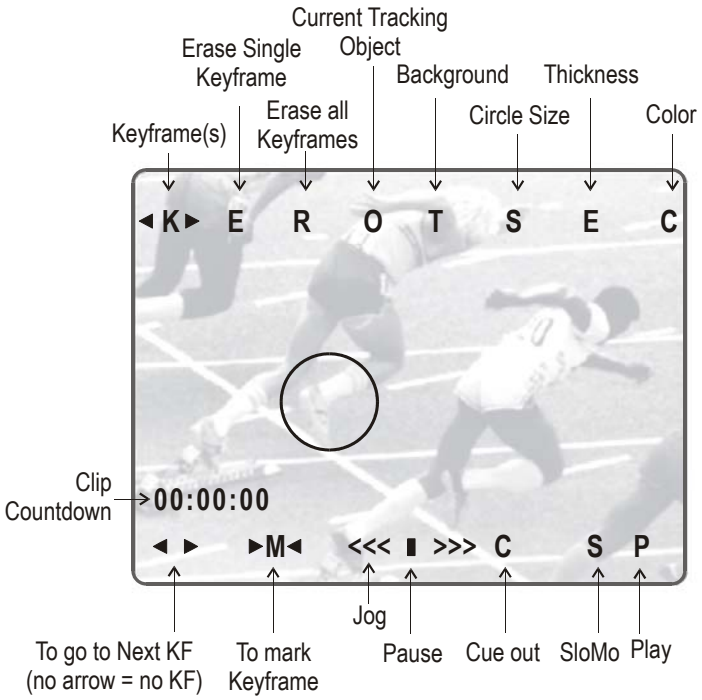
2. If, when a replay is viewed, the action is not accurately followed, stop the replay where the tracking object has drifted away from the target and use the pen to move the circle to the correct point, marking an additional keyframe. This can be done as many times as necessary.

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.
Z	Toggles between Zoom and normal highlight.
◄ ► (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 Prg 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 tracking object to be changed to the ZOOM function. Thee circle will magnify 4x the highlighted area of 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.

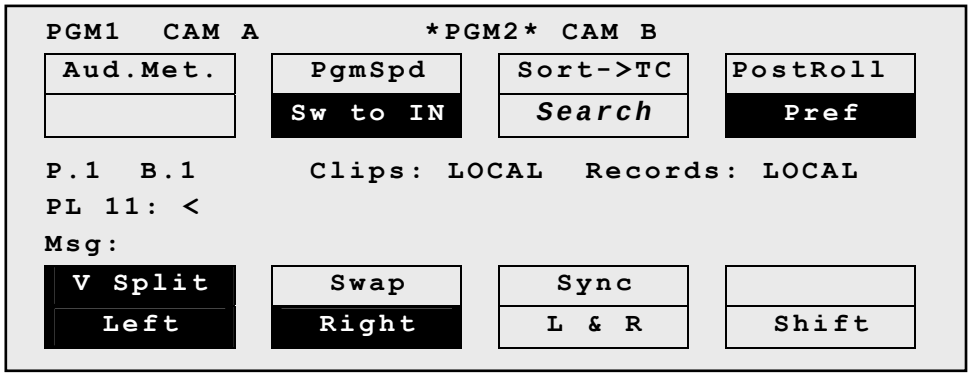
Selecting ZOOM again will switch back to highlight mode. Keep in mind, when making these selections, the software will take a few seconds to make the change.

17. Split Screen mode

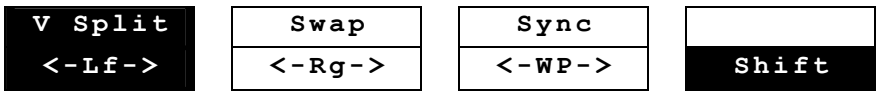
Note: The Split Screen Mode is a software option.

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) or mixed together on the entire screen (Split Mix mode). The Split mode also allows for DVE-like adjustment of the video within the split effect, for optimum positioning of the material.

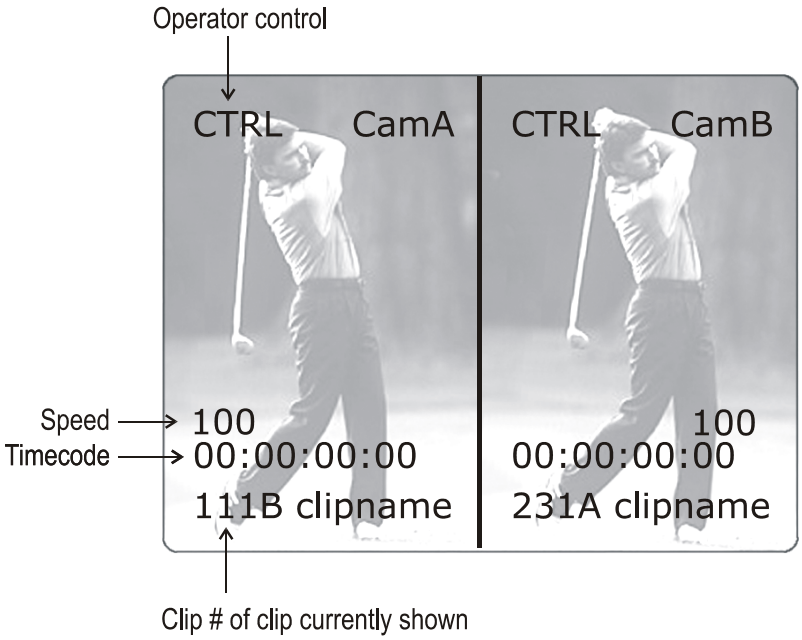
VERTICAL SPLIT



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.

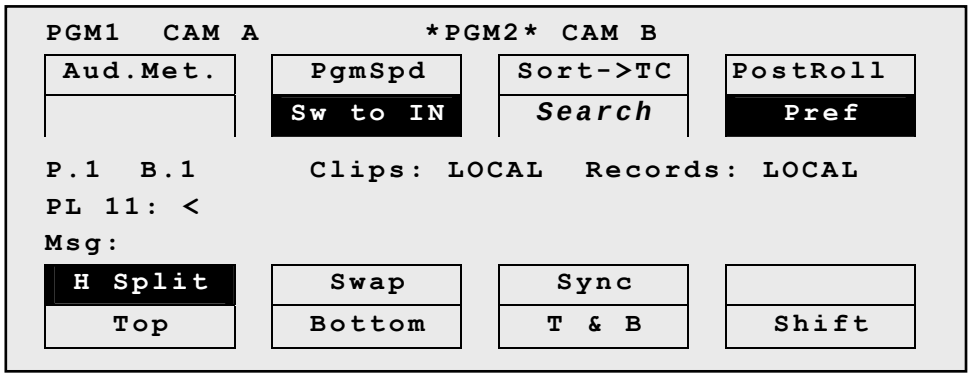


Press **LEFT** key to take control of the left side of the screen, and recall the desired clip for this side. Use the command knob to search inside the clip until the desired picture is reached.
Press **RIGHT** key to take control of the right side of the screen, and repeat the same operation with the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

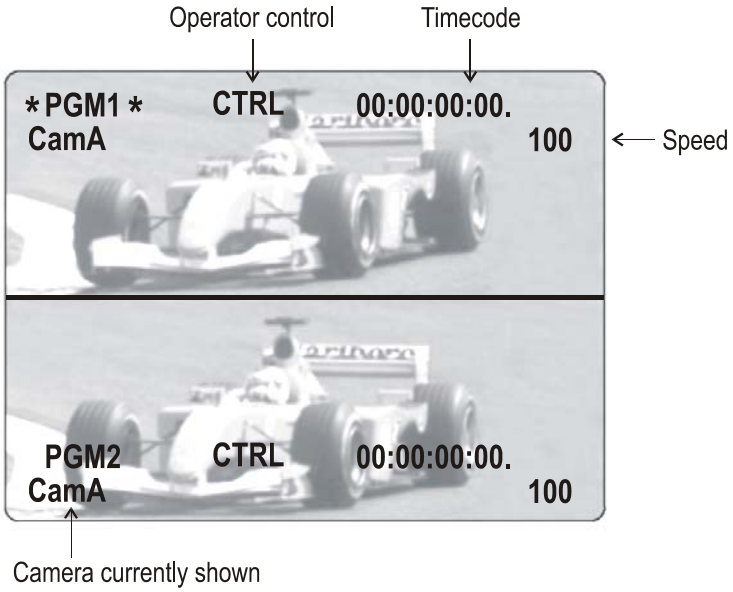
Pressing ← **WP** → key allows moving the border. To restore the default position of the border, press CLEAR + ← **WP** →.
To exit the SHIFT mode, press the **SHIFT** key (D) again.

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

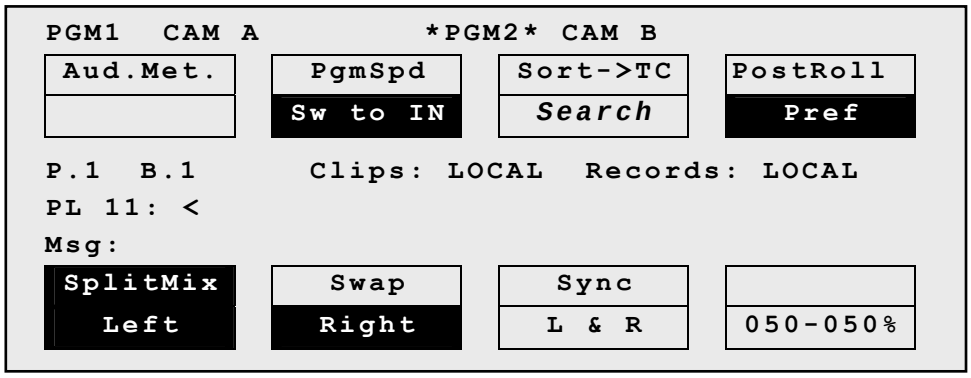
HORIZONTAL SPLIT



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



SPLIT MIX



This mode works similar to the H and V Split modes, except that there is no position adjustment since both pictures are shown full frame.

The D key allows the operator to adjust the mix percentage between the two sources. Press the D key to highlight the function, then move the lever to adjust the mix level between the two sources.

AUTO-TRACKING MODE

The Auto-tracking mode applies only to the VERTICAL SPLIT mode, and 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).

18. Sony, XtenDD35, Odetics & VDCP Protocols

These protocols allow the XT server to be controlled by external devices.

The Sony BVW75 protocol allows the server to be seen as a VTR by the controlling device. On a playback channel, all usual transport commands (play, play var, pause, goto timecode, pause, stop, etc...) are supported. On a record channel, only Rec and Stop commands are supported.

This protocol is the simplest one but does not support clip management. It should be used when the controlling device does not support the XtenDD35, Odetics or Louth VDCP protocols (ex : edit controllers, NLE applications, some video switchers, VTR controllers, etc.)

The XtenDD35 protocol is based on the Sony BVW75 protocol for all standard transport commands. It has extended commands so that it supports clip management : using this protocol, the controlling device can create, name, recall and delete clips.

This protocol can be used with Thomson/GVG XtenDD range of switchers, and with DNF ST300-EVS and 4040CL-EVS controllers.

The Odetics protocol is based on the Sony BVW75 protocol for all standard transport commands. It has extended commands so that it supports clip and playlist management : using this protocol, the controlling device can create, name, recall and delete clips, but it can also manage playlists.

This protocol can be used with many different control devices and automations software, including DNF ST300 and 4040CL controllers.

Non standard commands in Sony, XtenDD35 and Odetics protocols on the play channel of an EVS server :

- REC : when a REC command is sent to a play channel, this channel will return in E2E mode on its default record train. If the default record channel associated to that player is currently stopped, it will jump to the last recorded picture and pause.

- EJECT : if the play channel is not yet in E2E mode when the command is sent, it will return to E2E mode on its default record train (similar to receiving a REC command). If the play channel is already in E2E mode, it will switch to the next record channel available (A→B→C→...→A→...). This is for example useful with a BVE edit controller to allow the editor to select the record train he wants to work with.

The Louth VDCP protocol is a more complex protocol mainly used by automation systems but also by Sony switchers. It is not based on the Sony BVW75, and can handle clips as well as playlists.

Notes

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